HIGHER EDUCATION: HANDBOOK OF THEORY AND RESEARCH

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JOHN C. SMART

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Why Financial Aid Matters (or Does Not) for College Success: Toward a New Interdisciplinary Perspective

Sara Goldrick-Rab, Douglas N. Harris, and Philip A. Trostel

Introduction

Economic and social success in American life increasingly requires a college degree. Fourteen percent of children from poor families may reach the top 40% of the income distribution if they do not earn a college degree, but holding a bachelor's degree nearly triples (to 41%) their chances of attaining that goal (Haskins, 2008).[1] Despite substantial investments on the part of federal and state governments over the last 60 years, family income and college attainment are more closely linked than ever (Ellwood and Kane, 2000; Haveman and Smeeding, 2006). Today, within the relatively advantaged group of high school graduates going on to college, there is a 40-percentage-point gap in the bachelor's degree completion rates of individuals from the bottom and top income quartiles (Haveman and Wilson, 2007; Kurlaender et al., 2007).

The persistence of such disparities despite nearly $100 billion of annual investments in need-based aid raises some obvious questions about the value of that spending. Does it mean that financial aid is ineffective, or that other factors are responsible for lower levels of college attainment among poor children? Historically, the role of money in educational decision-making has been relatively muted in much higher education research. For example, Vincent Tinto's (1987) widely known theory explaining college success – an interactionalist approach to student departure – initially omitted finances altogether as a factor influencing whether students finished college, since the initial decision to attend was made and therefore it appeared that financial need was met. In a revision of his model, Tinto (1993) integrated finances into the initial adjustment into college and yet, as others have noted, this was not embraced by many of those using Tinto's perspective, who continue to omit finances when considering the factors that might predict completion (St. John et al., 2000).

Other researchers frame the issue as a debate with only two sides. For example, in an essay asking "Do we really have a college access problem?" influential education

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[1] Here, being poor means having an income in the bottom 20% of the overall distribution.

researcher Clifford Adelman (2007) writes of money "as the easy part" and points to inadequate high school preparation as the root cause of disparities in access. While recognizing the interactions between family income and academic preparation (describing them as "synergistic"), and expressing support for increasing the maximum Pell grant, Adelman places substantial emphasis on an "achievement template" that "almost ensures" college persistence. While he is correct that more than 90% of students who fit his template finish college, regardless of family background, an important question remains about what can and should be done to improve academic preparation for low-income students or to make up for the absence of preparation in other ways, such as financial aid.

An alternative economic approach is to compare the costs and benefits of different programs. For example, are there programs at the K–12 level that could improve academic preparation for low-income students at a reasonable cost, or would increasing financial aid be a more effective approach? By this logic, the debate about financial aid versus academic background requires a comparison of financial aid with specific programs aimed at improving preparation at the K–12 level (Harris forthcoming-a). Certainly, Adelman partly recognizes this and mentions "pre-collegiate advisory, motivational, mentoring, and tutorial" programs, but he acknowledges that there is no evidence that these are more cost-effective than financial aid (2007, p. 51). We argue that it is unproductive to contend that academic background is the central factor or "predictor" without first identifying programs that have proven success in changing that predictor. In other words, the fact that academic background is the strongest predictor of college success is far from sufficient to guide policy decisions about financial aid, or even preparation itself.[2] Further, although money may be "the easy part," state and federal policies have actually done much less than commonly believed to address financial inequities in college success.

Using evidence to guide policy decisions requires careful attention to the difficulties of identifying the causal impacts of programs, which is critical for making legitimate comparisons across programs. Later in this chapter, we discuss the challenges of identifying causal impacts of financial aid and summarize the studies that have been best able to address these difficulties. In short, it is difficult to separate the role of factors influencing eligibility for aid (especially family income) from the impact of aid itself. A simple correlation between aid receipt and college success is likely to be negative because students from low-income families, in the absence of aid, are for a variety of reasons less likely to succeed. Unless researchers can convincingly account for all of those reasons – and we argue that very few do – the estimated effects of aid are likely to look smaller than they really are.

While the role of financial aid in promoting college attainment has been given short shrift in many well-known studies, and many statistical estimates of the effects of aid are less sound than they need to be, a review of the existing evidence

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[2] As St. John puts it, "hundreds of thousands of low-income, college-prepared students are left behind each year, unable to go to 4-year colleges because they cannot afford to attend" (2006, p. 1604).

reveals that the most rigorous studies indicate a significant positive impact of aid (there are a few exceptions, e.g., Stinebrickner and Stinebrickner, 2004; Herzog, 2008). Moreover, there is a general consensus that financial aid *should* positively affect college success. Therefore, central to any future higher education policy agenda is the need for a clear and thorough understanding of precisely how and why financial aid affects student behaviors and outcomes. What are the mechanisms through which aid exerts its effects? Is the impact direct, such that simply by lowering the cost of college more students will finish a degree? Or is the effect largely indirect, via effects on time spent working or studying? Equally important, are the impacts of financial aid the same for all students and if not, why? Prior research indicates some important differential effects, including those by race and gender, yet existing studies are unable to account for those effects. Closing substantial achievement gaps in college completion requires much more knowledge about the effectiveness of aid in that effort.

All of these questions, regarding *why* financial aid should affect college success, lack solid empirical answers. We partly attribute this to insufficient theorizing, and partly to insufficient testing of existing theories. In this chapter, we contribute to a new agenda in financial aid research by exploring and building upon several theories about college success and their predictions about how aid should impact (or fail to impact) that outcome. We discuss the common theories in the next section and then, after the discussion of existing rigorous evidence, present several new concepts drawn from the social sciences which might explain other types of financial and life decisions and therefore might help explain and improve upon the limitations in existing theories.

First, we consider variations in the basic human capital theory, such as aversion to risk, short time horizons, heterogeneity in disposition toward work, compounding effects in the accumulation of skill, heterogeneity in the expected monetary return to college, and imperfect information. We also draw on work from behavioral economics that emphasizes aversion to losses and to ambiguity (distinct from aversion to risk) and on work from economic psychology. Finally, we use theory and evidence from sociology about relative risk aversion, the social meaning of money, the centrality of work, the advantages and disadvantages of strong social ties, and the transition to adulthood. Overall, by combining the most rigorous evidence with the most recent advances in social science theory, we hope to create a richer understanding of how aid works that can be used to design more effective aid policies.

Common Theories About the Impacts of Financial Aid

Since aid is a financial intervention, researchers often approach it from the perspective of the standard economic model, under the labels of human capital and net price theory. However, as we will illustrate, this model does not explain certain anomalies in empirical research and this has led researchers to propose other types of models.

Human Capital Theory

The application of human capital theory (Becker, 1975) to financial aid and tuition is discussed at length in prior research (for a thorough, recent review see DesJardins and Toutkoushian, 2006). The basic model assumes that people behave rationally and are well informed about their choices. While people might not be able to predict perfectly the costs and benefits of a college degree, they are assumed able to form unbiased expectations about what will happen under each scenario and therefore make choices that maximize their expected happiness, or "utility," accumulated over time. Because individuals tend to prefer more immediate gratification, they maximize the expected present discounted value of utility, so that future benefits and costs are reduced in value (or discounted) for decision-making purposes.

In this model, utility is generated by leisure (i.e., nonwork time) and consumption (i.e., products and services), and leisure is determined by the amount of time spent working – which generates income and therefore consumption. These relationships create a clear trade-off between consumption and leisure. They also mean that the direct costs of attending college (e.g., tuition, fees, room and board) are not the only costs – the time spent studying rather than engaged in paid work or leisure creates an "opportunity cost." In the basic version of the human capital model, the benefit from college is the higher wages that employers pay college-educated workers. By sacrificing short-term income, individuals with college degrees can increase their consumption and/or leisure in the future.

An important implication of this simple version of the human capital model is that students from low-income families enjoy just as much access to college as anyone else. Certainly by definition they have less money to start with (i.e., smaller "endowments"), but the basic model also assumes that capital markets work perfectly so that students can borrow money to pay for college. Their incentives to invest are not smaller than those for students with larger endowments, since wealthier students forgo the interest earnings they would have accrued if they had invested their money in other ways rather than spend it on college. In the basic theory, the interest rates received by the wealthy and paid by low-income borrowers are the same – therefore the total real cost of college education is also the same for both groups. Thus, in this framework, the decision to attend college depends solely on the expected return to college compared to the interest rate on borrowing and saving, both of which are assumed to be independent of family income.

Why then do so many young people, particularly those from low-income families, attend college and why are failure rates among college-goers so high? Literally hundreds of studies have demonstrated a substantial economic payoff to a college credential (for reviews of this literature, see Ashenfelter et al., 1999; Card, 1999; Harmon et al., 2003; Psacharopoulos and Patrinos, 2004). The American evidence suggests an average real rate of return of about 10%, although there is variation in the estimates (several percentage points) across different

econometric specifications.[3] Few investments, if any, can systematically match the average return to a college education.

Moreover, financial reward is certainly not the only reason for going to college. There are numerous benefits from a college education other than money, and for many students, the value of the expected nonmonetary benefits could easily exceed the expected financial benefits. Research quantifying many of these nonmarket effects from education have been summarized in several excellent surveys (examples include Haveman and Wolfe, 1984; Cohn and Geske, 1992; Wolfe and Haveman, 2001, 2003; Baum and Payea, 2004; Grossman, 2006). Following the categorization of Wolfe and Haveman (2001, 2003), some of the private nonmonetary benefits of education (as opposed to broader social "spillover" benefits to others) documented in the literature include: higher nonwage remuneration (i.e., better fringe benefits and working conditions), improved intrafamily productivity (i.e., spouse's education has a positive effect on the other's earnings independent of marriage selectivity), children's greater cognitive development and education attainment, better children's health, lower rates of teenage pregnancy better own health (including mental health and life expectancy), better spouse's health (including life expectancy), improved efficiency in consumer decision making, improved efficiency in job searching, better marriage matches, and more likely attainment of desired family size. In addition, Blanchflower and Oswald (2004) find that education has a positive effect on happiness and life satisfaction (independent of its effect through income). Given this laundry list of private benefits from education, the average total return to education is almost certainly much larger than the average real monetary return of about 10%.

But problem with the basic human capital model is that several of its assumptions fail to hold. First, it assumes that the costs of college are the same for all students. Much evidence indicates this is not the case. For example, wealthy parents may place pressure on their children and are likely to give them more money if they go to college –creating a financial incentive in much the same way that a higher salary would. In addition, it is clear that low-income students cannot borrow at the same rate that wealthy students can invest. One reason for this is that human capital is

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[3] A central concern in studies about the return to education is the issue of causation. Simply put, the correlation between education and earnings does not necessarily mean that greater education creates greater earnings. More able individuals may progress further in schooling and have higher earnings independent of their higher schooling. Thus, there is a potential omitted-variables bias (frequently referred to as "ability bias" in this context), and the ordinary (multivariate) correlation between education and earnings may overstate the causal effect of education. This issue has been at the forefront of the returns-to-education literature practically from its inception. Despite the plausibility of the ability-bias hypothesis, the evidence generally indicates that the ordinary (multivariate) correlation is not misleading about the causal effect of education. Griliches (1977) first summarized this issue and concluded that the bias in the ordinary correlation is either nil or negative (i.e., the estimated return understates the causal effect of education). Research since then, summarized by Card (1999, 2001), has only reinforced this conclusion. The small positive bias from omitted ability appears to be roughly offset by a small negative attenuation bias from errors in measured education.

different than other forms of capital (e.g., buildings and machines) in that the capital itself (labor) cannot be held as collateral, increasing the risk to the lender that the loan will not be paid back. In other words, if students borrow money to finance their education and do not repay it, the lender cannot reclaim the "education" that they received. This makes lending to finance education riskier, and is partly why the discussion of credit constraints – a topic we return to later – has played such a significant role in the debate over financial aid.

Another way in which the costs of college-going differ by family income is that low-income students are, on average, less academically prepared for college than otherwise comparable but wealthier students (Nora and Rendon, 1990; Gamoran et al., 1997; Cabrera and La Nasa, 2000, 2001; Cabrera et al., 2003). Less than one third of high school students from disadvantaged socioeconomic backgrounds complete the minimum academic requirements for college (Walpole, 2008). In poor urban school districts, the numbers are even more dismal; one longitudinal study of Chicago public school (CPS) students revealed that only 9% of CPS graduates "had sustained exposure to rigorous coursework that … prepare[d] students for college-level work" (Roderick et al., 2006). Even if they are able to get into college despite poor academic preparation, these students therefore have to put forth greater effort to obtain the same grades. In the process, they also incur what economists call "psychic" or "psychological" costs – the frustration and strain of having to sit through lectures and do readings that are hard to comprehend. The fact that academic preparation explains a lot of the variation in college success (Adelman, 1999, 2006) may be partly attributable to the larger psychological costs incurred by less well-prepared students. It may also therefore explain why low-income students are less likely to enter and graduate from college.

We should note, however, that while there are limitations of human capital theory, its main prediction in the present context – that reducing the financial cost will make students more likely to attend and finish college – is supported by the most rigorous research evidence (see the later summary of evidence). This is also the main prediction laid out by researchers such as Leslie and Brinkman (1987) in what has come to be known as "net price theory." An important difference, however, is that net price theory focuses only on the direct costs of college and neglects other, arguably more important, costs. First, much of the total cost of college involves the opportunity cost of working fewer hours and earning less income during the college years. College takes time, and time is money. In 2006, high school graduates between the ages of 19–22, with no college experience and working full time (at least 40 hours per week) earned an average of $22,903 annually (calculated from the Current Population Survey). This is close to three times higher than the 2006/07 average full-time tuition and fees of $8,055 ($4,101 at in-state public institutions – both figures are from the U.S. Department of Education's 2007 *Digest of Education Statistics*, Table 320). This opportunity cost to tuition ratio of 2.84:1 suggests that reducing tuition by 10% would only reduce the total cost of college-going by 3.5% (1.8% in the case of public institutions only). This partly explains why changes in tuition and aid typically have smaller impacts than one might expect – and why large changes in tuition and aid might be necessary to generate significant changes in college attendance and graduation.

Since we have focused on financial considerations to this point, it is worth returning to the discussion of earlier theories about college success that gave either no role or a much smaller role to finances. As we have shown, there are good reasons to expect that financial aid generally improves college success and we will show later that empirical evidence supports this conclusion. Thus, we take issue with the many models of student success that minimize or omit aid and college costs more generally. There is also misunderstanding about why aid might matter. While the focus of debate tends to be on helping students pay the direct costs of college, these may account for a very small proportion of the costs and dilemmas that students face. While many scholars have recognized these other costs, and have pointed out that they are hard for policymakers to control, the debate misses the fact that financial aid may help to offset these other costs and make college a more desirable proposition, even for students who can already minimally afford it. This is important because it means that policymakers can indirectly address problems that are outside their immediate control – and that it is misleading to say that the problem of college success is "not about the money."

Human Capital Theory and Types of Aid

The standard human capital model also informs how different types of aid impact student outcomes. In some ways, we might expect loans to exert only a small influence on student behavior. The basic human capital model assumes that students have full access to credit and make college decisions to maximize the net present value of their lifetime income. With credit imperfections, though, a small increase in net price can lead to a large response in educational attainment by making it impossible to make beneficial human capital investments (e.g., Cameron and Taber, 2004). Therefore, for someone with access to few resources, a relatively small loan can make a big difference on college decisions.

On the other hand, unlike grants, loans must be repaid with interest. This means that they are not worth as much to the borrower as implied by their stated value. This is the motivation behind programs that replace loans with grants. Consider a student receiving a $3,500 grant to cover college-related costs. If he could put the money ($3,500) in the bank to earn 4% interest, then 10 years later he would have $5,181 (principal plus interest). In contrast, a student who took a $3,500 loan at 6% interest and put the money in the bank at 4% interest would end up owing $1,087 (because the loan principal would have to be repaid and he would be paying a higher interest rate to the lender than he/she would be receiving from the bank). The point here is that students are much better off with a grant – in the example, $6,268 better off to be exact. For the same reason, Kane (2001a) reports that a dollar of support for the federal Pell grant program costs the government roughly six times more than an additional dollar of eligibility for the Stafford loan program. Because students pay back loans, the government really only pays the interest subsidy, interest and principal on loans of students who default, and the costs of administering the program. With loans, the government

contribution is small and so is the value to the student. For this reason, we would expect the measured impact of loans on college completion to be substantially smaller than that of grants. We discuss evidence regarding this and other hypotheses later.

Sociological and Psychological Explanations

Given the limitations of prominent economic models regarding how aid should work, it seems appropriate to turn to theories stemming from other social science disciplines. One prominent example of an attempt to integrate multiple disciplinary perspectives is the "financial nexus theory" developed by Paulsen and St. John (1997, 2002). According to their approach, the ability of financial aid to affect the decisions made by college students depends on the availability of aid and student *perceptions* of college costs. The primary purpose of financial nexus theory is to provide "insights into the ways students respond to student aid in different settings" (St. John et al., 2005, p. 547). Differences in the observed size of effects of aid are explained by differences in how students initially perceived college costs. Researchers in higher education (including economists) have long recognized that information on both topics is widely available but unevenly received, but what distinguishes this from the economic model is the emphasis on perceptions. The federal application for aid is notoriously onerous and requires a high level of financial knowledge on the part of the applicant (Dynarski and Scott-Clayton, 2006). Students well connected to parents, peers, or others in the community with information on how to complete the form as well as knowledge of sources and amounts of assistance are more likely to receive aid and thus lower their net price. But the role of relationships and the information provided by social networks are generally overlooked in human capital theory.

Others have also emphasized the roles of cultural and social capital in shaping how students respond to prices and how those responses affect their decision making (e.g., Hossler et al., 1999; Berger, 2000). Similarly, Cabrera et al.'s (1990) "ability to pay" model seeks to account for financial factors which might moderate the adjustment of students to college. According to that model, students with a greater ability to pay for college become more integrated into college life, and are thus more likely to succeed.

Perna (2006) notes that disparities in the extent to which knowledge of college prices and aid affect college decisions are poorly accounted for in existing economic theories. Instead, she argues that an integrated model inclusive of human capital theory as well as cultural and social capital theories that recognizes "multiple layers of context influence an individual's college-related decision-making" provides a better basis for understanding those disparities (p. 1621). In particular, she posits that both institutional practices and differences in familial relationships and students' beliefs and dispositions contribute to information differentials among racial groups. It therefore follows that if all groups had access to the same information about aid, then aid would exert the same impact on all students.

Dowd's (2008) thorough discussion of the state of financial aid research highlights many of the problems we raise here. In particular, she clearly recognizes the

need to move beyond rational choice models of decision making, since much evidence indicates that the model does not fit reality. She is especially concerned with the limitations on individuals' "capacity" to engage in rational choice processes, since that capacity is constrained by a lack of belief or confidence in the opportunities available. Therefore, Dowd points to the need to include assessments of students' "locus of control" and self-efficacy in relation to their decisions about financial aid, especially with regard to loan-taking. According to this model, those with stronger senses of self and correspondingly higher educational expectations ought to behave more like econometricians when making decisions. Dowd's hypothesis has not been empirically evaluated. However, we suspect that while controlling for "locus of control" might slightly reduce the differentials in aid's effects, it will not go far toward accounting for them. Simply put, Dowd's theoretical model still places a premium on the notion that a rational choice is identifiable and clear, if only individuals knew of-and believed in- it.

Each of these theories (e.g., those of Paulsen and St. John, 1997, 2002; Berger, 2000; Perna, 2006; Chen, 2008; Dowd, 2008) and several others have made substantial efforts to consider thoroughly how and why aid matters, and for whom. They have worked hard to draw on sociological conceptions of capital, and integrate them with economic understandings. But unfortunately, as we describe in the next section, none of these theories seems to explain the key anomalies that have arisen in empirical research.

Empirical Evidence on Aid Impacts

While we can make intuitive judgments about the plausibility of each theory just discussed, a basic scientific tenet is that theories should be tested through empirical observation. Next, we describe the difficulties in identifying causal impacts of financial aid, a requirement for testing any theory intended to inform policy or practice. First, we note two important limitations of both theory and research. While most educators recognize that students' responses to interventions vary, both theory and research on financial aid tends to focus on the average causal impact, neglecting the potential for heterogeneity in effects. Second, while policymakers are most interested in the long-term impacts of interventions with high costs – for example, college graduation rather than a single year of persistence – many of the empirical studies focus only on short-term outcomes, and theories tend to ignore any temporal differences in plausible effects.

The Methodological Challenge

Researchers have had great difficulty identifying causal effects of aid on college completion because there are many reasons to expect poor students to have lower rates of entry and persistence – from lower levels of parental education to inferior

elementary and secondary school preparation. Further, because the neediest students receive the most aid, it is difficult to separate the likely benefits of aid from the educational outcomes associated with being from a low-income family. This means that a simple correlation between student financial aid and persistence may substantially understate the true benefits of aid, and holding constant student financial background and other factors in a regression analysis is still likely to miss important, but unmeasured, ways that students differ (Dynarski, 2003; Cellini, 2008). This is why nonexperimental studies probably suffer from selection bias, which means that the usual estimated effects of need-based aid could be inaccurate (Curs and Singell, 2002; DesJardins et al., 2006; Alon, 2007; Cellini, 2008). As Alon notes:

> On the one hand, the same factors that enhance need-based aid eligibility – such as economically disadvantaged family background – are negatively related to persistence and graduation. On the other hand, amounts of financial aid are expected to enhance persistence and graduation. Hence, the negative effect of need-based aid eligibility may mask the positive impact of aid quantity on college success. (2007, p. 297)

Omitted-variables bias is a common problem throughout financial aid research, and stems from limitations of both data sets and analytic techniques. As Edward St. John and his colleagues cogently describe in essays appearing in a volume of *Readings in Equal Education* (2004), the problem extends to analyses published by the National Center for Education Statistics, and the data sets they produce – which in turn, by virtue of their wide use, influence subsequent analyses. For example, the national data set most commonly used to study financial aid, the National Postsecondary Student Aid Study and its cousin the Beginning Postsecondary Study, contains relatively few measures of either high school academic preparation or college performance. On the other hand, the data set most often used to study college completion while accounting for high school preparation, the National Educational Longitudinal Study, lacks any reliable measures of financial aid. As a result, omitted variable bias is a common – but still insufficiently recognized – problem in nearly all analyses of the effects of academic preparation and financial aid which rely on National Center for Education Statistics (NCES) data (Becker, 2004; Heller, 2004).

For these reasons, then, it is difficult to have much faith in the conclusions of studies which claim to identify effects of financial aid by simply comparing the outcomes of recipients and nonrecipients, a common approach used in literally dozens of studies over the last several decades (for but a few examples see Cabrera et al., 1992, 1993; St. John et al., 1994; Kaltenbaugh et al., 1999; Hu and St. John, 2001; DesJardins et al., 2002). Many of the dominant theories of financial aid have been tested using this insufficient method.

Quasi-experimental methods can be (and often are) employed to attempt to address this problem, but even they are limited in their ability to support causal claims in general (Shadish et al., 2002) and specifically those about whether financial aid causes an effect on college graduation (Cellini, 2008). Randomization of aid recipients allows for more convincing estimates of the causal impacts of aid, which (as described earlier) addresses a significant limitation of past research. By using a lottery, researchers can create control and treatment groups that systematically differ

only in the receipt of aid. This therefore allows for greater confidence that any observable differences in outcomes between the two groups are caused by aid (Titus, 2007).

Of course, financial aid is a topic examined by literally hundreds of researchers in higher education and we are far from the first to attempt to advance understanding of how and why it exerts effects. What is more distinctive about this review is that we focus on the most rigorous studies and the unexplained anomalies that are important for the development of useful theories. Failure to address the selection-bias problem is due to the inherent difficulty of measuring the full range of important factors affecting college success and an apparent willingness among researchers to assume that the selection-bias problem is small. This is a critical point because it means that many studies, while widely cited, are insufficient to draw causal inferences or to make convincing policy recommendations. Therefore, below we focus our attention only on the most rigorous research and what it says about the various theories.

Main Empirical Findings

The prediction of the human capital theory – that more aid leads to increased college entry and completion – is generally supported by empirical evidence. Using national, state, and institutional samples, social scientists have used quasi-experimental methods or natural experiments to explore the impact of aid on college access and generally found positive and statistically significant effects (e.g., Light and Strayer, 2000; van der Klaauw, 2001; Bound and Turner, 2002; Seftor and Turner, 2002; Bettinger, 2004; Singell, 2004; Singell and Stater, 2006). Nearly all of these studies find that financial aid positively impacts college success. Kane notes: "[G]enerally, a $1,000 difference in tuition is associated with a six percentage point difference in college attendance" (2001b, p. 65). A few have identified null or even negative impacts of aid on access, but these results have been attributed to model misspecification and lack of good aid measures (e.g., Somers, 1993; Kane, 1994; Alon, 2005; Pascarella and Terenzini, 2005). Seldom do researchers interpret null findings to mean that aid is simply ineffective as policy and not worthy of investment (one exception is Hansen, 1983).

Compared with effects on entry, there is considerably less evidence regarding the direct impact of aid on college completion, even though retention is an explicit goal of federal aid programs (Burgdorf and Kostka, 2006; Goldrick-Rab, 2007; Goldrick-Rab and Roksa, 2008) and researchers have long been interested in effects of aid on persistence (Astin and Cross, 1979; Iwai and Churchill, 1982; Jensen, 1981, 1984; Stampen and Cabrera, 1988; Voorhees, 1985). While fewer in number, the more rigorous studies suggest positive impacts. For example, Dynarski (2003) found that $1,000 in aid increases first-year retention by 3.6 percentage points and the amount of education by 0.16 years. Singell (2004) found that a $1,000 increase in aid was associated with a 1 to 5 percentage-point impact on yearly retention. Alon

(2007) came up with a similar estimate for the average student (1.5 percentage points), and Dynarski (2005) found that the Arkansas and Georgia Helping Outstanding Pupils Educationally (HOPE) scholarships increased the percentage of students who obtained bachelor's degrees in those states.

As others have noted, a random assignment experiment evaluating the impact of financial aid policy would greatly improve our knowledge on the subject (Kane, 2001b; Dynarski, 2002; Kurlaender et al., 2007; Cellini, 2008). Experimental evidence of this sort on the topic of financial aid is quite limited, however. Despite large federal investments, at the time of this writing the U.S. Department of Education has never funded a randomized experiment with financial aid.

But two small experimental trials of financial aid have been conducted. The first, conducted by MDRC, distributed $2,000 grants to 264 older Black mothers on welfare attending two community colleges in New Orleans (Brock and Richburg-Hayes, 2006). Continued receipt of the "Opening Doors" grant was contingent on maintaining at least half-time enrollment and a C average; therefore, the grant was partly merit-based. Over a period of seven semesters, those receiving the grant exhibited higher rates of retention and slightly higher rates of credit attainment (earning on average three more credits than nonrecipients). An expansion of the Opening Doors grant program is now being replicated in New Mexico (one college), New York (two colleges), and Ohio (three colleges). An intermediary model will also be tested in California, where students can attend the college of their choice (Rimer, 2008).

The Student Achievement and Retention (STAR) demonstration project conducted at a large Canadian university involved randomly assigning merit-based financial aid and academic services (peer advising and facilitated study groups) to college freshmen (Angrist et al., 2007). The financial assistance was contingent upon achieving specific grade point averages and was set separately for each student depending on their high school grades. At the end of their second year, women who received both money and support services earned higher grades than women who received neither, but there were no effects on the academic performance of men.

Consistent with the possibility of credit constraints, potential students from low-socioeconomic-status (SES) backgrounds are generally significantly more responsive to net price than those from more affluent families, all else equal (for empirical evidence of this, see the literature surveys by Leslie and Brinkman, 1987 and Heller, 1997). As stressed by Hansen and Weisbrod (1969) and Hearn and Longanecker (1985), relatively more students from affluent backgrounds are likely to attend college without public support. Public support for students who would go to college anyway has no effect on access. Relatively more students from poor households are on the borderline of college attendance, hence, they are relatively more responsive to net price. Thus, a bigger return per public dollar can be expected for support targeted toward students from low-SES backgrounds.

There is some evidence that the composition of net price, and not just its level, affects college access. Specifically, student responses to equal amounts of tuition and financial aid are not the same, particularly for low-SES students. The

response to grants appears to be smaller than the response to tuition, although the evidence is somewhat mixed. Moreover, the response appears to differ among types of financial aid. In particular, the response to the federal Pell grant program is evidently smaller than for other forms of financial aid. Leslie and Brinkman (1987) and Dynarski and Scott-Clayton (2006) review this evidence. Dynarski and Scott-Clayton (2006) argue that the probable cause of this tentative conclusion is the complexity of federal financial aid formula. Students, particularly those from low-income backgrounds, may be relatively uninformed about financial aid in comparison to tuition. Another possible explanation is the way that the federal financial aid formula penalizes working students. The financial aid formula imposes a substantial "tax" on students' earned income (the current formula for federal need-based aid implicitly imposes a 50% "tax rate" on earnings), thus reducing potential working students' incentives to attend college compared to nonworking students. For every $1,000 a student earns, her financial aid is reduced by $500. Therefore, the financial gain of aid for working students is smaller than for nonworking students. Given this, a smaller response to federal financial aid than to tuition would not be surprising.

Consistent with human capital and net price theories, there is some evidence that need-based grants are more successful than loans in promoting persistence (Perna, 1998; DesJardins et al., 2002; Alon, 2007). One of the stronger tests of the effects of loans would be to evaluate what happens to student behavior when loans are replaced with grants. Some wealthy colleges have begun to substitute grants for loans (beginning in 1998 with Princeton University), but to date none of those programs have evaluated effects on college success.

There is substantial consensus that one of the primary difficulties with current financial aid policy is that it is poorly understood by nearly all of its constituents (Goldrick-Rab and Roksa, 2008). With the exception of the relatively small population of financial aid directors at colleges and universities, the vast majority of the general public does not know what opportunities for aid exist, how to access the various programs, and what one can expect to receive. Low-income parents and students are less likely to receive high-quality information about financial aid opportunities, and as a result are less likely to file a federal application for student aid or apply to more expensive colleges (which may, in fact, offer them a better financial aid package) (Long, 2008). Upper-income students receive information about college from a variety of sources, while low-income students rely on their high school counselors, largely because their parents and siblings did not attend college (Cabrera and La Nasa, 2000). As a result, students from poor families who would likely qualify for all or nearly all of the aid required to finance college fail to even apply, since they have limited access to information about how to apply for aid, little assistance in filling out the extraordinarily complex application, and substantial (and warranted) fears that college is unaffordable. Students from middle-class families who are insufficiently educated as to the variation in quality among college financing strategies and frustrated by the time-consuming nature of the application process, unwittingly take on high-interest private loans, credit cards, or off-campus employment without complete knowledge of the consequences. As a

result, children from socioeconomically disadvantaged families decide college is simply not possible for them, and subsequently count themselves out of opportunities (such as advanced placement courses) which could increase their chances of college admission and success (Cabrera and LaNasa, 2000).

Credit Constraints

The evidence on loans is related to the larger debate about credit constraints. The issue, from an economics perspective, is whether existing loan programs cover the direct costs of college – whether college is "affordable." Most economists believe that students are not credit constrained in this sense (Dynarski and Scott-Clayton, 2006). Stinebrickner and Stinebrickner (2003, 2004, 2007), for example, study Berea College which charges no tuition and serves low-income students. Even in this extreme case of a near-zero price, the graduation rate during the time of their study (47%) was similar to the graduation of low-income students at other colleges (Horn and Berger, 2004), and there remained a relationship between income and college graduation. But the graduation rates at Berea began to outpace the national average in subsequent years: last year, it was nearly 60%, while the national average remained the same (Berea College, 2007). While far from conclusive, this evidence of the widening gap between the two suggests that borrowing constraints may have become more important predictors of degree completion as direct costs have grown (at colleges other than Berea). Further, even when attending a school where no tuition is charged, students still report that a lack of spending money provides an impetus to drop out of college (Stinebrickner and Stinebrickner, 2007).

Even if students are not credit constrained, however, this does not mean that financial aid is unimportant. As we argued earlier, financial aid can offset other perceived costs of college, e.g., the psychological costs of struggling through college. We point this out because the conclusion that credit constraints are absent is often – misleadingly – used to conclude that financial aid does not matter. The fact that evidence largely rejects credit constraints is entirely consistent with the evidence that increased aid leads to greater college success. The issue of credit constraints is only a very small piece of the larger aid debate, and the two issues should not be confused.

Differential Effects of Aid

One of the most central but poorly understood findings in higher education research is the greater sensitivity of minorities and women to financial aid. Numerous studies identify differential effects by race (e.g., Kane, 1994; Heller, 1998, 1999; Ellwood and Kane, 2000; Kim, 2004; Lisenmeier et al., 2006; Alon, 2007) and gender (Dynarski, 2005; Angrist et al., 2007), but very few offer much in way of explanation of those differences. Moreover, others have contrary evidence disputing the claim of racial differences (Cameron and Heckman, 2001; Cameron and Taber, 2004; Christian, 2007).

We illustrate the challenge presented by research into this area – ripe with unexplained anomalies – with a recent example. In 2005, St. John and his colleagues produced an empirical test of the power of nexus theory to explain racial differences in the effects of financial aid on semester to semester college persistence (St. John et al., 2005). Using National Postsecondary Student Aid Survey (NPSAS) data from 1987, the authors estimated a series of blocked or sequential logistic regression models separately for samples of African-American and White undergraduates. Their conclusions about the effects of financial aid, and in particular the differential effects of financial aid, are based on the results of this model, and comparisons of the size of estimated effects across the two models. They find a larger effect of grant aid for blacks than for whites (consistent with prior research – however, notably, that effect is *negative* in their study – an anomaly they do not account for). The authors interpret this evidence to mean that African-American students are particularly responsive to aid and therefore offer the policy suggestion that grant aid be increased because it has the potential to close racial gaps in achievement. Their recommendation is consistent with those offered by numerous other analysts.

But we identify several concerns with the design of the St. John et al.'s analysis and others like it. First, as discussed earlier, the authors do not estimate effects of aid in a way that could reasonably allow for causal inferences to be drawn. While they are careful to use the term "association," they make policy recommendations that require these associations to represent causal impacts. Unobservable factors abound in the study – for example, as the authors admit, data limitations preclude the use of controls for high school grades or coursetaking, which other studies show predict college success (Adelman, 2006). This means that the impacts – including the difference in impacts between racial groups – cannot be interpreted as causal. Based on typical standards of evidence, a more reasonable interpretation of this evidence is that there is a significant selection-bias problem that creates a negative association and therefore the results cannot be used to draw conclusions about policy.

But most importantly, while financial nexus theory is supposed to explain why some students respond differently to financial aid, in fact no such explanations are offered by the actual empirical analysis. Of course, St. John and his colleagues are far from alone in finding challenges to explaining racial differences in aid's effects. For example, while there is some evidence of variation in the economic returns to education (i.e., income gains attributable to education) by gender and race, it is too small to explain the large differences in responses to aid. Differences in the types of information about aid possessed by students may play a factor, but if that is the case it has not been well demonstrated (Perna, 2006). Finally, many studies have recognized the complexity of students' responses to aid, noting that they seem to go beyond direct financial effects particularly for minority students, but have been unable to do much more than label these "intangible" or "unobservable" responses (e.g., Cabrera et al., 1993; Nora and Cabrera, 1996; Nora et al., 1996).

Our point here is that far too little is known about precisely *how and why* financial aid works, and especially how differential effects operate. This is not a case where what we already know is sufficient to inform policymakers. The many explanations proffered by higher education analysts today deserve serious and more rigorous

testing, and the possibility of additional and more powerful explanations must be explored. Therefore, below we discuss other branches of social science theory which we posit will help better explain existing empirical findings.

Toward a New Interdisciplinary Theory of How and Why Aid Matters

To get a sense of how students make decisions about college, and how aid might affect those decisions, it is important to consider evidence about other decisions that involve similar considerations. As it turns out, financial aid decisions are not the only ones in which results vary in ways not predicted by typical theories. For example, Beattie (2002) finds evidence of race, class, gender, and cognitive variation in the extent to which students use labor market information (specifically, returns to the college degree) to make educational decisions. That is, calculations made by "adolescent econometricians" vary widely, with only poor white men with low cognitive abilities acting as the human capital model would predict (Manski, 1993; Beattie, 2002). Since the decisions related to college also involve many of the same economic calculations, this finding may be applicable to financial aid. More importantly, this points to some limitations of the standard economic model in explaining some aspects of human behavior.

In this section, we build on earlier theories of the relationship between financial aid and college success by describing some more sophisticated notions of decision making posited by economists within the traditional economic model, as well as theory and evidence from behavioral economists and sociologists that challenge some of the main behavioral assumptions of the standard economic theory – in ways that are likely to apply to college students and explain variation in aid impacts. Figure 1 illustrates how the concepts we describe in the subsequent sections are intended to further elucidate empirical findings on the effects of financial aid to date. We focus primarily on factors that might account for unexplained differential effects of aid – these are what we call "moderators." In some cases, we also introduce factors which could "mediate" average effects of aid. The model does not include the moderators and mediators typically included in financial aid research, as we take these as a starting point. Instead, the figure lists the factors typically omitted in studies of aid which – if included – we posit might reduce or eliminate differential effects.

Variations on Rational Choice Models

As described earlier, the simple human capital theory is based on calculations of the expected costs and economic return to college education and does not recognize differences among individuals or the general uncertainty involved when even well-informed people make educational decisions. Below, we consider a more nuanced
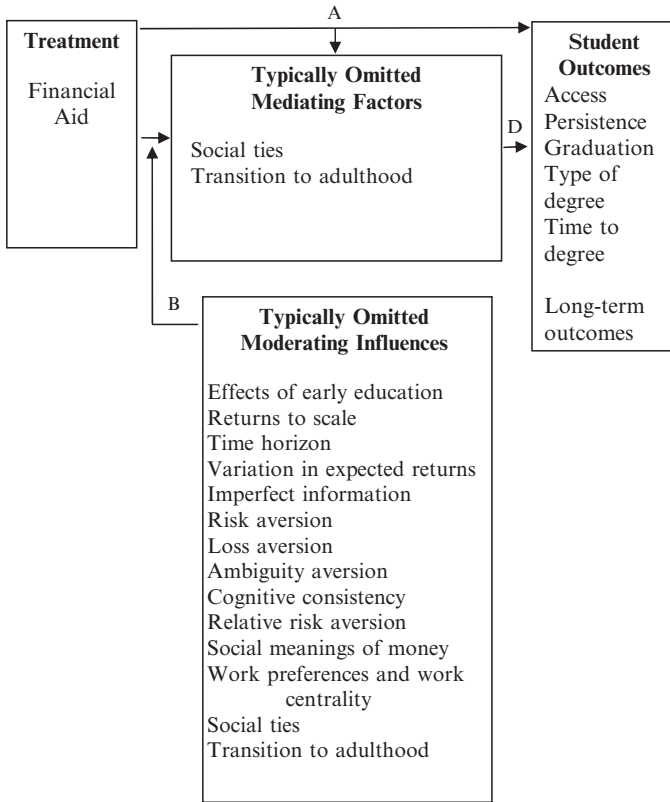
Fig. 1 Unexplained anomalies in financial aid research: A framework for investigation

economic theory that accounts for compounding effects in human capital production, and variation in how people value the future as much as they value the present (time horizon), risk-taking (risk aversion), preferences about work, expected return to college education, and access to important information about the benefits that education will provide them (imperfect information). We posit that students from low-income families, the primary target of aid, may differ along these dimensions.

Compounding Effects of Early Education

The more skills one learns, the easier it becomes to learn additional skills. In other words, human capital has a self-productive aspect. Furthermore, the impact of investment in human capital at a particular time in the life cycle affects – and is affected by – investments in human capital at other times in the life cycle. This "dynamic complementarity" in human capital investments is analogous to the "miracle of compound interest" with financial investments.

Initially formalized by Ben Porath in 1967, the compounding effect of human capital accumulation has essentially been taken as stylized fact in the literature for decades. However, particular attention has been placed on this compounding aspect of human capital in recent years (see especially, Carneiro and Heckman, 2003; Cunha et al., 2006; Cunha and Heckman, 2007a) with the growth of empirical evidence indicating the importance of early childhood experiences to later outcomes, such as academic performance, health, risky behaviors, education attainment, and success in the labor market. In particular, early childhood education programs targeted toward at-risk populations have been shown to generate substantial beneficial effects over time (for reviews of this literature see Barnett, 1995; Karoly et al., 1998; Currie, 2001; Blau and Currie, 2006; Cunha et al., 2006). The many positive later-life outcomes demonstrated by the randomized small-scale trials such as the Perry Preschool Program and Abecedarian Program have gained particular publicity (e.g., Belfield et al., 2006; Barnett and Masse, 2007).

Of particular interest here is the extent that precollege experiences influence the likelihood of college attendance. Most of the literature quantifying the effects of early childhood and adolescent interventions focuses on outcomes that indirectly affect the probability of going to college, such as achievement tests, grades, grade repetition, arrests, and high school completion. Those results generally point toward a substantial positive effect on college readiness and college-going; indeed, several studies have quantified a direct link between precollege interventions and college attendance. For example, by age 27, one third of graduates of the Perry Preschool Program had earned postsecondary education credits, compared to 28% of the control group (Schweinhart et al., 1993). In the Carolina Abecedarian project (another early childhood program), the treated group was almost three times as likely as the control group (36% versus 14%) to have attended a 4-year college by age 21 (Campbell et al., 2002).

Two studies have attempted to quantify the effect of Head Start (a long-standing federal program to promote school readiness) on college attendance. Oden et al. (2000) did not find a statistically significant effect at age 22, although the constructed control group was less disadvantaged than the treatment group. Garces et al. (2002), however, used a much larger sample of people between the ages of 18 and 30 and found a statistically significant effect of Head Start on college attendance. After controlling for family SES characteristics, participation in Head Start was estimated to raise the probability of college attendance by 7.5 to 9.2 percentage points.

An exceptionally large effect on college enrollment was found from the privately funded "I Have a Dream Program" that, along with providing various support services, promised sixth-grade students college scholarships to those graduating from high school (Kahne and Bailey, 1999). By the fall following scheduled high school graduation, 65% of the treatment group enrolled in college, more than three times more than the estimated 19% of the control group.

A significant positive effect on college enrollment was also found from Sponsor-a-Scholar, a privately funded program designed to encourage college preparation and attendance through mentorship and support services through high school and college, as well as some funding for college expenses (Johnson, 1999). In the year

following high school, 85% of the treatment group attended college, compared to 64% of the control group. The results of this program are notable in that it, unlike the other programs discussed here, was not targeted toward a disadvantaged population.

Finally, a positive influence on college enrollment was found in the Quantum Opportunities Program (Pilot) for disadvantaged youths entering high school (Hahn et al., 1994). Six months after scheduled high school graduation, 37% of the control group had attended college, compared to 14% of the control group. Moreover, this difference was even larger (57% versus 25%) two years after scheduled high school graduation (Lattimore et al., 1998). A similar but smaller impact on college enrollment was found in its successor, the Quantum Opportunity Program (Demonstration) (Schirm and Rodriguez-Planas, 2004). Within three years after scheduled high school graduation, 37% of the treatment group had attended college, compared to 30% of the control group.

While there is variation in the program designs, targets populations, and measured effects in the above studies, they all point at the same direction – toward the conclusion that precollege experiences are crucial for getting young people into college. Indeed, Carneiro and Heckman (2002, 2003), Cunha et al. (2006), and Cunha and Heckman (2007a) contend that precollege experiences are much more important barriers to college attendance than credit constraints.

However, there is also empirical evidence to indicate that the returns to early investments in human capital depend on the extent of later investments. In other words, the high apparent returns to early interventions are contingent on continued investments. An analogy is useful here: when riding a bike, while effort at the steepest part of the hill may be the most crucial, continued effort all the way up is needed to reach the summit. Even past the point where the slope starts becoming less steep, coasting and losing momentum can still lead to failure.

Therefore, it is probably not coincidental that the largest of the impacts on college attendance described above (from the I Have a Dream Program) had the longest intervention duration. Similarly, Barnett (1992), Lee and Loeb (1995), and Currie and Thomas (1995, 2000) found that the initial gains in academic achievement tests from participation in Head Start "faded out" in elementary school because the former Head Start participants generally attended poorer schools.[4] It is sustained, rather than short-term, investments that create a compounding effect.

A variation on the idea of compounding effects is that students may have to reach a certain minimum level of education or achievement in order to get much or any return from further education. In other words, the main benefit to investments in primary and secondary education may be that they make it possible for some students to go on to higher education. Those who never go beyond a high school degree might not benefit at all compared to those who leave school. Several researchers studying the economic returns to education find evidence that is consistent with this idea (Card and Krueger, 1992; Heckman et al., 1996, 2006, 2008; Trostel, 2004, 2005).

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[4] On the other hand, Garces et al. (2002) find lasting effects from Head Start (as noted earlier).

Again to draw on the biking analogy, longer one delays getting to a particular height (for example of educational attainment) the steeper and harder the climb to the top. The time period to reap the return on investments in human capital is finite; thus, a long slow climb in not a rational option for those falling behind initially. Unfortunately, for some young people from disadvantaged backgrounds, the hill to a college degree may be quite steep.

Time Horizon

Economists theorize that students who have a long time horizon – those who give considerable weight in their thinking to their long-term well-being – are more likely to make investments with long-term payoffs. Higher education is just such an investment. In the short term, going to college requires spending time in class, which most students view as costly, and forgoing short-term consumption in order to pay for the cost of tuition and books. Instead of a new car or video game, students buy textbooks.

There is considerable evidence that time horizons vary, particularly by socioeconomic status. Lawrence (1991) shows that high-SES adults (those who are White and who have higher incomes) have longer time horizons. Specifically, high-SES adults evidently "discount" or reduce the value of future costs and benefits at a rate of 12% per year, whereas low-SES adults discount the future at a rate of 19% per year. Put differently, the time horizon of low-SES people is less than two thirds as long as high-SES people. These differences alone could explain the large differences in college outcomes between low- and high-SES students.

This could also explain some of the patterns in evidence about the impact of financial aid. If low-income students do have especially high discount rates, then the difference in impacts between grants and loans on decisions might be smaller than the earlier economic analysis suggested. Even though grants appear much more valuable, students with short time horizons might not attach much weight to the fact that loans have to be repaid – something that occurs far in the future. In effect, this means that the shorter time horizons of low-SES students reduce the distinction they see between grants and loans. For this reason, students might respond to grants and loans in ways more similar than what we would expect.

Work Preferences

According to many models, one intention of financial aid policy is to exert an indirect positive effect on college persistence by reducing rates of work among students (e.g., King, 2002). In other words, receiving aid is thought to change students' time calculations, freeing them to study instead of work. More than three fourths (78%) of undergraduates work. Among working students, the average number of hours worked is 30, with more than one third of all undergraduates working 35 hours or more per week (McMillion, 2005). Alleviating the stress of the work–college

combination is said by some to be one of the primary psychosocial benefits of financial aid, according to a model developed by Nora et al. (2006).

Unfortunately, a causal effect of work in college on increased chances for degree completion is very difficult to estimate and has not been demonstrated, partly because of the same types of selection-bias problems noted earlier. It may be, for example, that those who choose to work simply have better time management skills, so that they are able to work with less stress than students who chose not to work. If time management skills are not measured, and if students with time management skills are more academically successful, then the apparent effect of working may really reflect an effect of time management. The fact that different studies address this better than others may explain why some studies find that students who work part time (up to 20 hours per week) exhibit higher rates of persistence than students who do not work (King, 2002; Pascarella and Terenzini, 2005), and others find just the opposite (Stinebrickner and Stinebrickner, 2003; Bozick, 2007; Staff and Mortimer, 2007).

In the standard human capital framework, work and college decisions are interdependent and many studies find that they are mutually reinforcing (Ghez and Becker, 1975; Blinder and Weiss, 1976; Ryder et al., 1976; Heckman, 1976; Weiss and Gronau, 1981; Killingsworth, 1983; Killingsworth and Heckman, 1986; Trostel and Walker, 2006). That is, the more human capital a student has, the greater his or her incentive to work, and, the more he or she intends to work, the greater his or her incentive to invest in human capital. Given the mutually reinforcing aspect of these decisions, a positive empirical correlation between education attainment and hours of work (especially after college) should be expected.[5]

Of course, it is hardly surprising that those with more education (doctors, lawyers, scientists, etc.) generally work more (longer hours, less likely to be unemployed, and more likely to retire later) than those with lower credentials. What is not typically appreciated in the literatures on human capital and college attendance is that work preferences may also have a strong influence on the incentives to acquire a college education. Those who are willing to work longer hours are likely to invest more in their education because they are more willing to work and reap the rewards.

In fact, there is a strong correlation between education attainment and work. Trostel and Walker (2006) estimated that for each year of education in the United States, average weekly hours of work are 1.35 higher for men (3.8% of mean weekly hours for men) and 2.36 higher for women (10.0% of mean weekly hours for women). The size of the correlation between hours of work and four years of schooling is substantial, and it is even larger for college years (rather than for all education years) (Trostel and Walker, 2004).

It is unclear whether students with stronger work preferences for work more during college. In the short term, students with strong preferences for work will want to

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[5] The positive correlation between education and work is observed on both the intensive (hours per week conditional on working) and extensive (employment) margins, and in all extensive-margin dimensions (labor force participation, unemployment, and retirement). See Trostel and Walker (2006) and the references therein.

work more. However, looking at the long run, they might work less now to help
ensure that they finish college and get a job that might produce longer working hours
in the future. For this same reason, how the effect of aid varies by work preference is
difficult to predict. But it is easy to see how this might be important in general, and
we suspect that SES variation in work preferences do exist. Later in the chapter we
discuss that variation in relation to the sociological concept of "work centrality."

Variation in the expected returns

As discussed earlier, there is overwhelming evidence that investment in a college
education pays off substantially, on average. Obviously this does not necessarily
mean that college is a wise investment for all. Even if education produces human
capital rather than indicating natural abilities, background and abilities may affect
the expected return to college investments.

It is obvious to most that variation in the monetary return to education occurs –
not everyone reaps the same reward for his or her college degree – and this is important
because it means that the optimal investment for each individual also varies. What is
far from obvious, however, is whether variation is due to heterogeneity in returns or
uncertainty. In a recent series of papers, James Heckman and his colleagues devised an
empirical strategy to identify the variation in the returns to college into the part that
can be forecast before attending college (heterogeneity, i.e., variation in the expected
return to college) from the part that cannot (uncertainty) (Carneiro et al., 2003; Cunha
et al., 2005; Heckman et al., 2006; Cunha and Heckman, 2007b). Heckman and
colleagues find that most (half or more) of the variation in the return to college educa-
tion is attributable to variation in the expected return rather than to uncertainty.[6] This
is not to say that uncertainty about the return to a college education is unimportant,
but rather that most of the observed variation in postcollege earnings can be antici-
pated even before college-going decisions are made. Moreover, there is considerable
predictable variation in this return to a college education. Consequently, it appears
that for many individuals, not going to college may be a rational decision, since the
expected return evidently is not worth the cost.

That said, although there appears to be significant variation in the expected return to
a college education, by itself it does not appear to be a sufficient explanation for why
more young people do not make this highly profitable investment. Heckman et al. con-
tend that high psychic costs of college-going provide the rest of the explanation – that

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[6] To be more specific, Cunha et al. (2005) find that about 60% of the variation in the monetary
return to a college degree is predictable (in various versions of this line of research the proportion
ranges from 47% to 63%; see Cunha and Heckman, 2007b). Moreover, the average expected
return to a 4-year degree for those going to college is 16% greater than the expected return to those
not going to college. Nonetheless, the average *ex ante* financial return to a college education is still
quite high for many high school graduates not going to college. For high school graduates not
going to college, on average, a 4-year degree is expected to increase the present value (using an
annual discount rate of 3%) of their lifetime earnings by 116%.

is, high school graduates not going on to college generally have high psychic costs of college attendance. Cunha et al. (2005, p. 243) argue that "psychic costs (including expectational forecast errors) are a sizeable component of the net return, and they explain why agents who face high gross returns do not go to college." But for two reasons we are not entirely convinced that psychic costs are a sufficient explanation. First, this empirical approach imposes significant restrictions on preferences and market structures. While empirical testing thus far has found that relaxing some of those restrictions does not greatly affect the results, all potentially important factors have not yet been considered. For instance, perhaps heterogeneity in work preferences (as discussed above) is creating the appearance of heterogeneity in psychic costs and benefits. Second, the psychic-costs explanation begs the question of what causes the apparently substantial heterogeneity in psychic costs and benefits. One possibility, as we described earlier, is that students with weaker academic backgrounds have greater psychic costs and this may explain the empirical finding, emphasized by Adelman (1999, 2006), that academic background appears as a strong predictor of academic success.

Imperfect Information

As described earlier, the standard economic model also assumes that students have the information necessary to form accurate expectations about the costs and benefits of a college education. It is unlikely, though, that all students are reasonably informed about college costs and benefits. Indeed, there are evidences that they make significant errors in their expectations about both costs (e.g., Ikenberry and Hartle, 1998) and benefits (e.g., Betts, 1996; Dominitz and Manski, 1996). Moreover, for several reasons it seems likely that low-income youth are more likely to be less informed about college costs and benefits: they are less likely to go to college, and thus, it may be rational to spend less time and effort becoming informed about college; their parents are less likely to have gone to college and have experience of its costs and benefits; they are more likely to attend low-SES high schools and thus are less likely to learn about college from peers and counselors.

Despite the plausibility of this notion, there appears to be little evidence that low-income youth are more likely to be uninformed about the costs and benefits of a college education. Beattie (2002) provides some suggestive state-level evidence that is consistent with the notion that low-SES students underestimate the economic return to college education (we use the term "suggestive" because this macro-level evidence could be consistent with other explanations). But individual-level evidence does not support the hypothesis. Avery and Kane (2004) find evidence that students have relatively accurate estimates of the net economic return to education. Students tend to inflate the costs but this is offset by overestimation of the benefits in terms of future wages. Further, the net present value of college that they measured for students was not a strong predictor of students' eventual decisions to attend college. Moreover, Grodsky and Jones (2006) find that the upward bias in students' estimates of college costs is fairly uniform by race and family income, suggesting that this explanation could not explain the distinctive behavior of low-income students. Thus,

although the jury may still be out on this explanation for differential rates of college attendance across SES groups, most of the evidence suggests that this is relatively unimportant.

Risk Aversion

Information is also important in the sense that the costs, and even more so the benefits, of college occur far in the future and are therefore typically uncertain. Students might be able to make reasonably accurate calculations of the expected net present value of their decisions, but no one knows for sure what the actual net present value will be. Life is uncertain and so is the return to education (Carneiro et al., 2003; Cunha et al., 2005; Heckman et al., 2006; Cunha and Heckman, 2007b). In cases of uncertainty, economists theorize that decisions are affected by individuals' willingness or (unwillingness) to take risks – their "risk aversion." Further, the expected net present value no longer becomes the sole relevant metric and the potential deviations from those expectations – or the extent to which the "average" effect does not apply to every person – become important. For example, consider a student deciding whether to go to college. If she decides not to attend (and instead has only a high school diploma) she knows that she is assured of earning $30,000 per year. If on the other hand she goes to college, she realizes that while on average people get higher wages for holding a college degree (say, $40,000 per year), but when considering her academic abilities, she feels less confident that she will actually finish a degree, and therefore after spending a year in college she would still only earn $30,000 per year, the same amount she would have earned if she had chosen not to attend college at all. Moreover, she will have lost a year of income by spending time in college and will have to pay tuition and fees – making her worse off than if she had not attended at all. Therefore, even though the expected value of a college degree is positive (and she knows it), a risk-averse student might – rationally – choose to accept the guaranteed $30,000 and forgo college rather than run the risk of losing a year of income and having to go into debt with college loans.

There is evidence that risk aversion is determined partly by the environment in which students are raised. Hryshko, Luengo-Prado, and Sorensen (2007) provide evidence from the Panel Study of Income Dynamics (PSID), measuring risk aversion based on a set of survey questions probing respondents' willingness to accept jobs with various combinations of income probabilities. Risk aversion is inferred from the answers to these questions and the composite risk-aversion measure is regressed on a variety of background variables. The authors find that the best demographic predictors of risk aversion are age, gender, and parents' education, as well as whether they lived with both parents when they were younger. Most importantly here, males and children of more educated parents are less risk-averse. In a study by Burdman (2005), one college administrator responsible for low-income students put it this way: "Those [non-college educated] parents are very leery about loans. … Sometimes it filters down to a student" (p. 7). Interestingly, Hryshko et al. find

that income is not a predictor of risk aversion, though this is partly because parents' education and income are correlated; they do find a simple (negative) correlation between risk aversion as expected.[7]

Another study found that while some students come from high-income families, students generally tended to have low incomes and large debts with fairly high tolerance for debt and the longer a student was enrolled in college the less likely she or he was to be risk-averse (Davies and Lea, 1995). The increase in a student's debt load preceded a change in their feelings toward debt – more debt, more tolerance for debt. These along with other studies may explain why women were more responsive to grants in the Canadian STAR experiment (Angrist et al., 2007). Several studies have found women to be more risk-averse and therefore less likely than men to take out student loans (Davies and Lea, 1995; Hryshko et al., 2007) These findings are consistent with one another because loans increase the risk of college by making the long-term income levels more uncertain. Even if all students have the same expected economic returns to their educational investments, the fact that some students might be saddled with debt means that the downside for students with loans is larger and this may be a risk that some students – and apparently women in particular – are less willing to make.[8] A grant such as the one in the Canadian experiment would enable women to complete college with less debt.

Research from Behavioral Economics and Economic Psychology

While the concepts discussed in the last section elaborate on, but do not substantially depart from, the standard economic model, recent research raises questions about the most fundamental assumption of that model – that people (including high school and college students) behave rationally and that their well-being now has no direct impact on their well-being later.[9] As described by Weber and Dawes, behavioral economics applies lessons from psychology to take into account more ways in which "trajectories" influence individual decisions, writing that "how we get to the point of making a decision has almost as much of an effect on choice as the consequences of the decision" (2005, p. 101). Given the temporal dimensions of aid receipt and the effects of that receipt uncovered by others (see for example studies

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[7] They also conclude that parental risk aversion is the strongest predictor, but they draw this conclusion by measuring parental income by observed variation in income, based on the assumption that more risk-averse people will choose career paths with more stable incomes. While this may be true, it does not account for the fact that parents' income volatility might impact the risk aversion of their children directly – they may want to avoid the variation in consumption they experienced as children, independent of whether parents themselves are risk-averse.

[8] Rouse (2004) finds that the expected earnings benefits of a college education are roughly the same across SES groups.

[9] The fact that preferences are influenced by family background is inconsistent with the standard model (see above), but the presence of risk aversion is entirely consistent with it.

conducted by DesJardins and his colleagues) attention to the role of trajectories and other less "rational" factors affecting decisions about financial aid is warranted. Therefore, we elaborate on these ideas in this section, drawing on two lines of research from behavioral economics and one from economic psychology.

Loss Aversion

In the last section, we discussed the role of "risk aversion" in decision making. But behavioral economists also find evidence that people are more averse to *losing* what they already have, compared to missing the *opportunity to add* to what they already have. This is known as "loss aversion" and might also be considered a bias toward the status quo.[10]

Loss aversion is typically assessed by asking people to respond to survey questions that pose different scenarios. For example, Thaler (1981) showed that the amount of money individuals require in order to accept a loss is greater than the amount they are willing to pay for an equivalent gain. In other studies, researchers have conducted experiments in which some participants are asked how much they would be willing to pay for small items such as coffee mugs, and other participants are given the mugs and then asked how much they would be willing to pay to give up the items. The latter amount turns out to be larger, consistent with the loss-aversion theory (Knetsch et al., 1984). In a similar test, evidence from financial markets suggests that people sell stocks whose values are rising too early and hold on to stocks they already own too long (Shefrin and Statman, 1985; Odean, 1998). Again, the loss-aversion theory suggests that this is because people hope that the declining values of their stocks will reverse so that they do not have to "take a loss." In the context of student loans, the problem is that students who take loans face a chance that they will be in a worse situation than they already find themselves – that they will bear the cost of college without any benefit in earnings and will therefore lose some part of the lifestyle they already have. This is related to the sociological concept of thresholds and relative risk aversion, which we discuss later.

Ambiguity Aversion

As we discussed earlier, the expected monetary returns associated with a college degree are typically thought to induce people to attend and/or finish college and there is variation in the future returns that individuals will accrue. Further, some

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[10]Admittedly, the distinction between risk aversion and loss aversion is difficult to identify through observed behavior because many of the behavioral patterns are consistent between the two.

students may be unwilling to take a risk, for example, that there is a 50–50 chance they will earn no additional income by going to college. That unwillingness is what we described as "risk aversion." But suppose students are uncertain about what the odds are, so that they cannot even make a clear calculation of their expected earnings. This could stem from a lack of awareness of the earnings distribution (due to a lack of information) or because of a sense that the known distribution will change over time (and is therefore unknown). This would make the distribution of the college premium uncertain, and an aversion to this uncertainty is known as "ambiguity aversion."

How widespread is ambiguity aversion among today's college students? Consider the evidence that some Americans believe that overeducation (or the production of too many college graduates) will result in declines in wage premiums (Freeman, 1976; Uchitelle, 1990). While academics largely conclude that such a scenario is unlikely, the public continues to believe it is possible (for the first point, see Rumberger, 1980; Smith, 1986; Tyler et al., 1995; Osterman, 2008). Indeed, resistance to an expansion in access to higher education may be partly grounded in this fear (Attewell and Lavin, 2007).

Given the probable relationships between socioeconomic background and the level of information children possess about both college and the rewards associated with college-going, we hypothesize that lower-SES individuals face more ambiguity. Financial aid may alleviate some of the fear of the unknown, and induce them to continue in school. In that case, ambiguity aversion, rather than some other aspect of socioeconomic status, could explain some of the observed SES differences in effects of financial aid.

Cognitive Consistency Theory

Coming from the related field of economic psychology, the concept of "attitude-behavior consistency" may also partly account for disparities in the effects of aid. According to this framework, people tend to want to be consistent in their actions, beliefs, and behaviors and they work to avoid inconsistencies, or a sense of inconsistency, in order to maintain cognitive coherence. For example, Davies and Lea (1995) describe students who are averse to taking on debt, but maintain consistency between that attitude and their behavior by not recognizing some forms of credit as incurring debt. Since in some religions and cultures debt is forbidden, a kind of cognitive dissonance or other adaptation may be necessary in order for students to accept loans. Therefore, students who define loans as something other than debt may be more willing to take the inherent risks of going to college and perhaps not getting a good job.[11]

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[11] From an economic perspective, one reason is that students might view student loans as being an investment (in human capital) rather than debt per se.

Contributions from Sociological Theory

To date, two sociological concepts have been commonly used to inform financial aid research – "habitus" and "cultural capital." Both draw on a theory of cultural re-production most closely associated with Pierre Bourdieu and are primarily intended to explain social class differences in college outcomes. More specifically, differences according to family income in both college access and completion, and income differences in the effects of financial aid, are said to be due to cultural differences between social classes (e.g., Perna, 2006). But while it is likely that such differences are important contributors to educational outcomes, an understanding of how and why financial aid exerts (or does not exert) effects on college students could benefit from several additional contributions from sociology. In this section, we discuss several such concepts, including relative risk aversion, work centrality, the social meaning of money, the strengths and weaknesses of social ties, and the transition to adulthood.

Relative Risk Aversion

Knowing something about individuals' cost–benefit calculations is essential for interpreting their decisions. Rational choice theorists Richard Breen and John Goldthorpe (1997) set up a formal model of the college decision-making process that includes three alternatives (stay and succeed, stay and dropout, leave) and three possible work outcomes (underclass, working class, and service/professional class). They assume that students estimate their own (subjective) probability for the three outcomes, based on information they have about their own academic ability and the academic abilities of people in each of the three work classes. Further, because students coming from lower-class backgrounds also tend to have poorer academic preparation, they have lower subjective probabilities of reaching the highest-work class. Finally, the key premise of the Breen and Goldthorpe (1997) model is that risk aversion is rooted in thresholds that each class of individual sets for themselves – therefore, this is known as "relative" risk aversion. This is distinct from the form of risk aversion discussed earlier for reasons that become clearer below.

According to this theory, class differences in educational outcomes are attributable to "between-class variation in the necessity of pursuing education at branching points in order to avoid downward mobility" (van de Werfhorst and Hofstede, 2007, p. 391). Lower-class or working class individuals have lower thresholds because each group seeks to do at least as well as their parents and the parents of lower-class children have less education.[12] One corresponding implication is that lower-class

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[12] This is not the only way that a threshold can arise. If students receiving aid are relatively similar to one another in their preferences and constraints, human capital theory implies a threshold effect, above which students will persist in school and below which they will not. However, given that students are probably not very similar, this theoretically possible scenario is not interesting.

individuals require higher subjective probabilities of reaching the working and service classes in order to justify staying in college. But it is important to point out that this model does not require lower-class individuals to be more risk-averse than the upper class in the sense discussed in the standard economic model – the implications of the model are driven by the different thresholds of the different classes.

A further elaboration of this model is found in Breen and Yaish (2006) who find some evidence to support the theory.[13] Moreover, an interesting empirical test of the importance of relative risk aversion *compared to* cultural reproduction theories (including notions of habitus and cultural capital) in explaining educational inequality finds relative risk aversion to be substantially more powerful in explaining class variation in educational expectations (van de Werfhorst and Hofstede, 2007). As aspirations for higher levels of attainment – for example, the expectation of earning a BA – are known to be important predictors of college success, the role of relative risk aversion in college outcomes merits further investigation. Indeed, van de Werfhorst and Hofstede (2007) explicitly point to the need for a longitudinal analysis to test the effects of relative risk aversion at a point in time on later educational outcomes.

Social Meanings of Money

At its most basic, financial aid is usually thought of as simply money for college. Exchanges of money are typically conceived as grounded in rational calculations made by individuals about the costs and benefits of purchasing goods. But as economic sociologists have pointed out, this dispassionate view is overly simplistic, since it treats all monies as if they are alike, and as if their sole purpose is to facilitate consumption (Zelizer, 1994). It is theoretically improbable to suggest that all students think about money (and financial aid) in the same way, or that all forms of money are treated the same. Instead, ethnographic evidence indicates that students make important distinctions among different kinds of money, with some forms of money striking them as particularly "real" or serious (Clydesdale, 2007). As McDonough and Calderone (2006) note, decisions about money are often patterned after familial understandings of, and approaches to, finances. Families often differ in what they think they can afford, and for this reason some argue for tailored marketing of informational materials about financial aid (McDonough and Calderone, 2006).

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[13] An important assumption of this model is, as Breen and Yaish (2006) write, "the returns to staying and failing do not strictly dominate those to leaving immediately" (p. 239). That is, it cannot be possible that both: (a) the probability of ending up in the service-class conditional on staying and failing is greater than the probability of ending up in the working class conditional on leaving; and (b) the probability of ending up in the working-class condition on staying and failing is greater than the probability of ending up in the working-class condition on leaving. It is not entirely clear whether this is realistic. While the returns to education are substantially lower for those who do not obtain degrees, the authors themselves point out, there is strong economic evidence of a substantial economic return to education for students who stay and fail. We are not aware of any cost–benefit calculations for these different scenarios.

One of the more consistent conclusions reached by those who have interviewed college students receiving aid is that they often do not think of loans as a form of financial aid (Rogers, 2006). This may be because students accurately perceive cash as different from credit, or perhaps because loans are less tangible than dollar bills. Another possibility is that receiving loans does not convey the same meaning to students as grants – for example, they do not provide (and are not) awards or gifts, and they come with ties. Each of these scenarios contradicts the standard economic model in which money is "fungible" and a dollar is a dollar no matter its source. Carruthers and Babb (1996) contend that money is most effective when it can be taken for granted – as in a grant. Receipt of aid is more than a monetary exchange, as it appears to convey a message between school and student about the value and esteem one holds for the other. Students who consider financial aid part of a bargain with a school, who recognize it as motivation intended to create an action (be it enrollment or persistence), should be more likely than others to respond strongly to that incentive. They should also be affected more when aid diminishes or is withdrawn. This might explain why the front-loading of financial aid (the practice of awarding more aid in early years of college) and the revision of aid packages from year to year based on changes in students' circumstances would have significant impacts on students. It is not only that their resources diminish, but they perceive a "slight" on the part of the institution. For these reasons, students lose their financial aid may feel angry, and not just financially insecure.

Work Centrality

Earlier we introduced the concept of "work preferences," and discussed the implications of differences in work attitudes for the effectiveness of financial incentives such as aid. In brief, those with a stronger preference to work may be more or less inclined to work during college which in turn affects their responses to financial aid. But variation in work attitudes is simply taken as given in the economic model. Therefore, sociologists have delved further, attempting to explain observable differences in work preferences.

What accounts for having a stronger or weaker preference to work? As pointed out earlier, one starting point lies in examining the interconnections between schooling and work decisions. Individuals planning to become more educated may choose to work more, and vice versa. But attention should also be paid to the value individuals place on working, or what some refer to as the "centrality" of work. Put simply, people have many reasons for working, some of which are not plainly economic. For example, ethnographic evidence indicates that some students elect to work in order to honor their family or culture, or because they have always worked (Weis, 1985; Mortimer, 2003).

For individuals for whom work is central to their lives, there is no reason per se to believe that they would stop working while in college, even if they were given enough financial aid. Indeed, the General Social Survey reveals that 70% of American adults say they would elect to continue to work even if given enough

money to live as comfortably as they would like – and this percentage has remained stable for the last 20 years (National Research Council, 1999, p. 50). It is not clear how much aid students would deem sufficient to stop working, or if any level of aid at all would change their decision. If work is central to the lives of students, serving to connect them to others and bring meaning to their lives, then it may well not be replaced with financial aid (Lobel, 1991; Feldman and Doerpinghaus, 1992).

The hypothesis that aid will be used to reduce work also reflects an assumption that identification as a "full-time student" trumps other bases for forming identity. For example, the NPSAS asks student whether one is a "student working to meet expenses" or "an employee enrolled in school" – neither option allows for a student to work because they enjoy it or value it, or for a student to identify with his or her work but not as an "employee" per se. Yet responses to this question, which provides only two options, are used to interpret motivations for work. Instead, Landy and Conte write that "work is a defining characteristic of the way people gauge their value to society, their families, and themselves" (2007, p. 3).

Thus, both work preferences and work centrality could be an important part of the explanation why financial aid may not be as effective for some students. For which group of students might this be most important? The evidence is far from clear. On the one hand, high-SES students may be *more likely* than low-SES students to work while in college because they receive less financial aid yet still need money, or because low-SES students are more risk-averse – and view working while in school as risky. But it also may reflect the value high-SES students place on working, and the meaning they derive from it – and the ability of high-SES students to obtain a job even while in college via social connections. Evidence from the United Kingdom indicates that the introduction of fees there increased student work primarily among the more economically disadvantaged students (Metcalf, 2005).

The Strengths and Weaknesses of Social Ties

While aid is understood to affect individual expectations about the possibilities for finishing college, and Tinto's (1993) interactionist theory places great importance on social integration into college; the way in which social ties could affect and be affected by the receipt of financial aid is inadequately understood. This is at least partly because all social ties tend to be conceived of (in higher education research) as positive. Certainly, it is the case that receiving additional financial support may lead students to live on campus or engage in extracurricular activities, where they may form new relationships (Nora and Cabrera, 1996). Many of the relationships and activities required for full social integration – including living on campus, attending parties, and participating in sports – necessitate financial resources. This is one reason why students from poor families are more likely to live off campus and forgo extracurricular activities (Christie et al., 2001). These students' friendships are often forged outside college, in the workplace or home community (Levine and Nidiffer, 1996).

Harris (forthcoming-b), however, explains the many potential ways in which peers influence one another and the difficulty of identifying causal peer influences, including many that involve negative influences. If, for example, students identify with (or have strong relationships with) people who are "bad influences," then the ties may make students worse off.

This "contagion" model applies to college peers (e.g., Argys and Rees, 2008) and to students who maintain close connections to friends from home. To some extent, Tinto recognizes this – his separation thesis contends that successful integration into college life requires a break from "family, the local high school, and local areas of residence" (1993, p. 95). Yet this theory has also been critiqued for being insensitive to racial and cultural differences in norms around separation from community (Tierney, 1992, 1999).

Similarly, while strong relationships with parents tend to be thought of as positive, Turley and Desmond (2008) draw on an analysis of data from the Texas Higher Education Opportunity Project to argue that positive parent–child relationships can be *detrimental* to the child's chance of earning a college degree. Strong relationships are associated with an increased desire on the part of the child to live at home (so that the child can continue to contribute to family needs), which in turn increases their chances of enrolling at a neighborhood community college, rather than a 4-year school. The authors argue that this is particularly the case for Latino students.

While difficult to conceive as a "negative" effect, close ties with parents may compel some students to engage in financial reciprocity with their parents, thereby reducing their own available resources. For example, there is also some evidence that African-American college students contribute all or part of their work income, and financial aid, to help pay family expenses (Clydesdale, 2007). This kind of support serves to convey love and respect, but also allows students to command power in the familial home (Carruthers, 2005). For many reasons, then, it may be important to continue, even as it exerts a negative financial strain on students' own lives.

A deeper understanding, then, of the social contexts underlying and surrounding students' financial decisions in college must allow for the possibility that networks will have both positive and negative effects. This means, for example, that empirical results indicating that students receiving financial aid are more likely to socialize with peers should not, in and of itself, lead to the conclusion that aid has positive effects on social integration.

Transition to Adulthood

Models of financial aid tend to recognize differential responses according to race, gender, and family background, and also according to whether a student is older or younger. The literature on age is most clearly about how the rules of aid reduce help for independent adults, and how older students tend to have less information about aid (Rogers, 2006, 2008). But there is a different way that age can matter, which has to do with the transition to adulthood, a period in which individuals are

particularly vulnerable, uncertain, and unaware. Any theory that seeks to under-stand the effects of a policy on students aged 18–23 (at least) needs to pay careful attention to this development stage, especially now that age 30 is said to be "the new 20" (Hayford and Furstenberg, 2005). Often overlooked in aid research is the simultaneous adjustment students make to learning to manage their finances even as they learn to live on their own for the first time.

The effect of financial aid on students' relationships with their parents should also be considered in the context of the transition to adulthood. It has become increasingly common for people in the traditional college-age bracket to mix school, employment, and even parenthood (Lorence and Mortimer, 1985; Johnson, 2001a, b, 2002; Johnson and Elder, 2002; Shanahan, 2000). Yet financial aid research too often overlooks the complex and simultaneous adjustments students make to learning to manage their finances even as they learn to live on their own. Indeed, in one survey, 39% of respondents aged 18–29 reported that they did not view themselves as adults, and among those who felt that way, one third said they "were not financially independent enough" to be an adult (Yelowitz, 2007). Contributing to the family income while in college may lead to a greater sense of independence, or instead it may increase the chances that a student will return to a parent's home following college graduation, essentially a reversal of steps toward independence (Goldscheider and Goldscheider, 1994; Osgood et al., 2004) and reducing options that might generate a higher income.

Conclusion

A failure to account for group differences in responsiveness to aid is a primary shortcoming of existing research on financial aid, and compromises the explanatory power of our theories and models (Chen, 2008). Even more importantly, it suggests a broader misunderstanding about how and why students respond to aid and there-fore how financial aid policies can be improved. Therefore, the purpose of this chapter was to identify, explore, and bring forth concepts from several social sciences disciplines that hold promise in terms of informing future theoretical developments in the field. Drawing in particular on the work of behavioral economists, and economic sociologists, we discussed concepts such as risk aversion and work centrality, which may serve to illuminate several unexplained anomalies in prior empirical research.

We also raise the issue of careful attention to causal inference in studies of financial aid. Our intent was to explain why the enormous number of studies on financial aid lack answers to many important questions. In short, these questions have been asked – just not sufficiently addressed.

Given that these theories and concepts appear to be useful in understanding financial and life decisions in other contexts, they also warrant empirical research in the context of financial aid where numerous unexplained anomalies remain. While it would be very useful to provide the concepts we have introduced with

some form of rank ordering for future research, based on their potential explanatory power, we have no empirical basis for doing this. Instead, the best test of our ideas requires a random assignment evaluation of a financial aid program, incorporating a longitudinal design with multimode data collection so as to delve more deeply into how students think about money, how they spend their time, and the contexts in which their decisions occur. Two of the authors of this article (Goldrick-Rab and Harris) are currently directing this kind of evaluation. The Wisconsin Scholars Longitudinal Study is tracking two cohorts of entering 2-year, technical, and 4-year college students for 6 years, and comparing the outcomes of students randomly selected to receive a private need-based grant (for more see www.finaidstudy.org). However, on a smaller level, many of these concepts could also be investigated further with qualitative interviews incorporating some experimentation usually only undertaken by behavioral economists and psychologists.

There are several additional areas in need of future research. First, attention needs to be paid to an array of supply-side factors affecting individual decision making. Effects of financial aid take place in a specific context, including a policy context, and aspects of that context are not captured in the model we have laid out (e.g., Titus, 2006). As one example, consider the sociological theory of maximally or effectively maintained inequality. While the underinvestment in higher education among students from poor families may be partly attributable to the lower levels of risk students face if they do not attend college, wealthier students may be motivated by more than just efforts to achieve the same levels of education as their parents. More specifically, some sociologists working in the stratification tradition hypothesize that the upper class is interested in achieving high thresholds of education attainment in order to maintain their class advantage.

Certainly, this is a variant on social reproduction theory. Even as educational opportunity expands, class inequalities in educational outcomes tend to be effectively or even maximally maintained since upper class students continue to seek higher and higher levels of education (Raftery and Hout, 1993; Lucas, 2001).[14] Their ability to do so is hypothesized to at least partly result from the unintended consequences or corruption of policies seemingly intended to reduce or ameliorate economic disparities. Financial aid is one such policy. While originally intended to help close income differentials in college outcomes, recent shifts to merit criteria for the distribution of financial aid (e.g., witness the new federal Academic Competitiveness Grants) serve to exacerbate existing disparities (Heller, 2006). Analyses of shifts in the distribution of financial aid by family income over time in America reveal that during the 1990s students from families in the top-income quartile – not those in the bottom-income quartile – realized the greatest gains in aid receipt (the increase in proportion receiving aid was five percentage points for the poorest group and nearly 30 percentage points for the wealthiest group) (Choy, 2004). Similarly, as Hout (1996) notes, when the British government reduced the costs of higher education to nearly nothing, it was

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[14]The level of inequality at a given level of schooling will only decline, according to this theory, when near universal access to that level is enjoyed.

the middle-class that took advantage. "The net result was that each class' participation [after reforms] was in proportion to its participation prior to the reforms" (p. 304). These regressive trends highlight the way in which financial aid may affect the targeted group, but also not serve to reduce income differentials.

Any theory of how financial aid generates its impacts should seriously consider the plausibility of one of those impacts being a reduction in class differences in outcomes. As Breen and Yaish (2006) point out, the desire to attain a specific level of education appears to be predicated on wanting to maintain – or even better to exceed – one's given level of social standing. Only when a level of education is saturated does inequality in that level begin to decline. Investments in financial aid, therefore, may well need to be coupled with other investments designed to increase (or control) educational expansion more broadly. For example, the failure to expand public university systems to keep pace with growth in enrollments, and the resulting bottleneck, provides motivation to constrict access and increase stratification among these institutions – such efforts can include keeping costs high. It can also result in higher rates of college dropout, as students unable to obtain the courses they need in a timely fashion decide to leave school entirely (Bound and Turner, 2006; Bound et al., 2007). In describing just such a scenario from Italy's higher education system, Hout (1996) concludes that this explains why "an association between class origins and the probability of graduating from university emerged" (p. 308). He also notes that Ireland avoided such a result by expanding access to higher education more gradually (making entrance decisions based on test scores) while at the same time keeping costs very low. In other words, financial aid may only be effective in a context of controlled educational expansion, where opportunity can keep pace with demand and therefore aid is not accompanied by diminished resources and rationing.

Another area left for future research is the exploration of effects of financial aid on academic achievement, rather than simply attainment. There is a long-standing debate among sociologists of education regarding the value of credentials. The great fear is that the bar is simply being shifted, the goalposts adjusted, rendering a new credential simply that – a piece of paper. One way to think about differential effects of financial aid is to think about aid as accomplishing more than moving individuals from one educational transition to the next, but instead by potentially affecting their learning and achievement. There are numerous ways in which lowering the net price of attending college might change student learning. First, a contemporary example; differential tuition policies are making the choice of some majors more expensive than others. Under such a scenario, does the receipt of financial aid affect choice of college majors? If financial aid facilitates a better match between a student and his or her coursework, making college more enjoyable, it may well enhance both achievement *and* attainment. Similarly, by making it more possible to remain continuously enrolled in school, financial aid could affect the learning process. Students experiencing numerous disruptions in their coursework, for example, having to take a year of school off between levels of math courses, are not only more likely to end up leaving college, but are more likely to leave with an incoherent educational experience.

Therefore, the sociology of education points toward a need for analysis of financial aid that takes student learning, and not merely degree attainment, as an outcome of interest. Furthermore, the process of student learning ought to be considered as a mediator helping to explain differential effects of aid.

The future of financial aid, particularly need-based aid, is especially unclear at the current juncture. Federal, state, and institutional budgets are tight, and family resources are uncertain. Moreover, there has been a growing trend toward the use of limited resources to reward academic performance, rather than compensate for relative disadvantage. If these trends are to reverse, policymakers require substantial and compelling ammunition to support arguments for increases and/or reallocations in funding. The educational equity agenda therefore demands more careful and detailed research into financial aid.

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The Use of Matching Methods in Higher Education Research: Answering Whether Attendance at a 2-Year Institution Results in Differences in Educational Attainment

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Introduction

> Among educational leaders and policymakers there has been increasing concern regarding the need for scientifically based evidence on which to base funding decisions for specific educational programs and practices. This concern is fundamentally about having better evidence for making decisions about what programs and practices do or do not work. The need for such evidence leads to causal questions, such as whether particular programs and practices improve student academic achievement, social development, and educational attainment. (Schneider et al., 2007, p. 1)

So leads a new report titled *Estimating Causal Effects Using Experimental and Observational Designs*, released by the American Education Research Association (AERA). This report is "intended to help researchers, educators, and policymakers understand causal estimation by describing the logic of causal inference and reviewing designs and methods that allow researchers to draw causal inferences about the effectiveness of educational interventions" (Schneider, et al., 2007, p. 1). As noted by these authors, others (Shadish et al., 2002; Morgan and Harding, 2006; Morgan and Winship, 2007; Winship and Morgan, 1999), and by education policymakers (Whitehurst, 2003), issues about making causal inferences are not new but are now dominating discussions in education research. The AERA report notes the following:

> Recently, questions of causality have been at the forefront of educational debates and discussions, in part because of dissatisfaction with the quality of education research and recent federal initiatives designed to promote the accumulation of scientific evidence in education that rely on randomized controlled trials (RCTs). A common concern expressed by those deeply engaged with the educational enterprise, as well as those outside education, revolves around the design of and methods used in education research, which many claim have resulted in fragmented and often unreliable findings (Kaestle, 1993; Levin and O'Donnell, 1999; Sroufe, 1997). (Schneider et al. 2007, p. 2)

They also note that researchers such as Cook (2002), Lagemann (1999, 2000), Shavelson and Berliner (1988), and Weiss (1999) have argued that without appealing to rigorous designs and methods, "it is difficult to accumulate a knowledge base that has value for practice or future study" (Schneider et al. 2007, p. 2).

Arguably, no organization has been more vocal in pushing the methodological boundaries in education research than the U.S. Department of Education's Institute

of Education Sciences (IES). Formerly the Office of Educational Research and Improvement (OERI), IES was established by the Education Sciences Reform Act of 2002 with a mission to "provide rigorous evidence on which to ground education practice and policy. By identifying what works, what doesn't, and why, we intend to improve the outcomes of education for all students, particularly those at risk of failure" (http://ies.ed.gov/director/, retrieved April 2, 2008). To facilitate this mission, IES established the "What Works Clearinghouse" (WWC) to develop quality standards for reviewing available research. As noted by Schneider et al. (2007), WWC places a high priority on randomized field trials, which are seen as being "among the most appropriate research designs for identifying the impact or effect of an education program or practice" (WWC, http://www.w-w-c.org). The evidence standards created by the WWC are designed to "identify studies that provide the strongest evidence of effects: primarily well conducted randomized controlled trials and regression discontinuity studies, and secondarily quasi-experimental studies of especially strong design" (retrieved from http://ies.ed.gov/ncee/wwc/overview/ review.asp?ag = pi April 2, 2008; see http://ies.ed.gov/ncee/wwc/overview/review. asp?ag = pi, for additional details on the evidence standards).

In a speech to AERA in 2003, the Director of IES, Grover J. "Russ" Whitehurst, made the case for RCTs in education research but also noted that "randomized trials are one tool in the toolbox" often used to conduct education research (Whitehurst, 2003). But his organization (in particular the WWC) has also made it clear that "randomized field trials are not feasible in certain situations or for some research questions" (Schneider et al., 2007, p. 4). IES acknowledges that means other than randomized trials, especially the use of nonexperimental methods, are also appropriate when using observational data to assess educational programs and interventions.[1] Certainly few would argue that rigorously designed and conducted RCTs are capable of providing causal inferences about program and intervention treatments; however, simply because this is the case does not preclude the possibility that "sound causal inferences can be drawn from nonexperimental/observational settings" (Kaplan, n.d., p. 2). Kaplan argues that: randomized experimental designs (a) are not suited to providing insights into the complexities of the educational system, (b) they are not structured to unpack the specifics of the treatment mechanisms operating as causal factors, (c) they do not provide an approach for testing numerous and more realistic counterfactual propositions, and finally (d) their efficacy in ruling out potential confounds can only be guaranteed in infinitely large samples (p. 2).

From an education research perspective the general evaluation problem is this: Are there differences in outcomes between students who are in an educational program or intervention and those individuals who are not? As an example, and the one we will use throughout this chapter is this: Are there differences in college outcomes depending on whether a student started college in a 2-year versus a

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[1] In this chapter we will use the term "nonexperimental" to include methods that are not of an experimental design and that in some literatures are often called "quasi-experimental" methods.

4-year institution (the "treatment")?[2] Clearly there are problems in employing a randomized trial design to evaluate this issue. It would be difficult or impossible to randomly distribute students into these two types of institutions, and a myriad of other design and ethical issues make an RCT-like setup problematic. Given these design problems, education researchers are often relegated to evaluating programs and interventions into which students self-select. This selection bias poses problems for making causal inferences because the students who begin college in a 2-year institution may be materially different (on observed and unobserved factors) than their counterparts who initially matriculated to a 4-year institution. For instance, students who are inclined to begin at a 2-year institution may also have probabilities of finishing college that are lower than students who start at a 4-year college. The correlation between the probability of where one starts and subsequent educational outcomes (e.g., graduation) makes it difficult to parse the causal effects of where one starts college from the observed and unobserved differences among students.

There are a number of nonexperimental techniques often employed to try to remedy this inferential problem. They include regression discontinuity design (see Thistlethwaite and Campbell, 1960; Hahn et al., 2002; Shadish et al., 2002; DesJardins and McCall, 2006; DesJardins and McCall, 2008), natural experiments (see Ashenfelter and Krueger, 1994; Card, 1995), instrumental variable (IV) techniques (Bound et al., 1995; Imbens and Angrist, 1994; Angrist et al., 1996), econometric techniques to adjust for selection bias (Heckman and Robb, 1985; Heckman, 2008), and matching methods. Herein we discuss matching methods, which are cited as a potential tool to help social scientists make strong inferential statements using observational data (Rosenbaum and Rubin, 1983; Heckman et al., 1997; Dehejia and Wahba, 2002; Smith and Todd 2005a,b; Morgan and Harding, 2006; Caliendo and Kopeinig, 2008).

Matching is an attempt to mimic the desirable properties of randomized experiments. The intuition behind matching is to find individuals who do not receive the "treatment" who have observable pretreatment characteristics that are similar to the individuals receiving the treatment. One particular matching procedure controls for pretreatment differences between the treated and the untreated by balancing each group's set of observable characteristics on a single "propensity score." This score is used to match treated and untreated individuals, thereby balancing the two samples on observable characteristics and hopefully allowing more rigorous inferences than are possible when using other statistical methods.

Our goal in this chapter is to demonstrate, using the 2-year/4-year example mentioned above, how matching can help remedy the inferential problems often encountered when using nonexperimental education data. Our application is not only useful as an example of the utility of matching methods, but the substantive results are also important from an education policy perspective. As we demonstrate, differences in educational outcomes can often be ascribed not to the treatment, but to the differences

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[2] The quotes around treatment reflect the fact that no observation is given a treatment in a randomized control trial but instead the treatment is the result of a decision by a student, school, or agent and observed by the researcher.

in the observable characteristics of the students who self-select into treatment or not. The idea behind matching is to remove the effects of these observable characteristics by balancing their distributions across treatment and control groups without using a parametric approach such as ordinary least-squares (OLS) regression. We document that matching methods perform better than parametric approaches in our sample, and are likely to do so in other contexts where the treatment and control groups have very different characteristics.

A Search for a Solution to the Causal Inference Problem When Using Nonexperimental Data

We begin by describing how different methodologies attempt to solve the nonrandom assignment problem described above. In particular, we describe the fundamental problem of identification in nonexperimental studies. Simply put, the idea of identification is how to "know that something is what you say it is" (Kennedy, 2003, p. 182). Typically researchers are interested in establishing whether some "treatment" has a causal effect on an outcome. Establishing causation is difficult because competing models may explain observed relationships, and observational data is many times deficient toward this end because of self-selection issues, attrition from samples, and the omission of important confounding variables. The search for a way to deal with these inferential problems is the essence of the identification problem. To establish how matching can help remedy the identification problem, we employ Rubin's (1974) and Holland's (1986) commonly used counterfactual framework.

Formally Defining the Problem

Owing to Neyman (1923), Rubin (1974), and Holland (1986), the counterfactual framework is that an individual has two *potential* outcomes: one that is observed and another that is unobserved. Each individual must be *potentially* exposed to any one of the causes of the outcome (often called "treatments"), including the possibility of not receiving the treatment (Holland, 1986). For example, when studying the academic (e.g., graduation) outcomes of college students, we may be interested in the effect that beginning college in a 2-year versus 4-year institution had on this outcome. The interesting yet hard to determine inferential question is this: Are differences in graduation caused by where the student started college (the "treatment")? One could imagine a situation in which students who started college in a 2-year institution were potentially "exposed" to a different "treatment," such as beginning college in a 4-year institution. We would like to determine what the outcome would have been for students who actually started in a 2-year college, if they had matriculated at a 4-year institution. This is the essence of the hypothetical situation known as the "counterfactual" which is the basis of the Rubin and Holland approach to causal inference.

More formally, and employing notation commonly used in the counterfactual literature, let T represent the "treatment" of interest; in our running example, this is the effect of the type of institution of higher education (2- or 4-year) a student started college in. For simplicity, assume that there is a single treatment[3] where $T = 1$ indicates that an observation (in this case a student) received the treatment and $T = 0$ if they did not. In our example, students are assigned $T = 1$ if they started at a 2-year college and $T = 0$ if they did not. Of interest is the effect of the treatment on an outcome (denoted as Y), such as graduation from college.

Under the counterfactual framework, for each observation (student), we want to compare the outcome when treated (denoted as Y_1) to the outcome that *would have occurred* if the same individual was not treated (Y_0). The identification problem is that for any individual we observe one or the other, but not both outcomes. We only observe the outcome for observations that receive the treatment ($Y_1|T = 1$) or the outcome for individuals that are untreated (denoted as $Y_0|T = 0$). Missing is the "counterfactual," the outcome for treated individuals *had they not received the treatment*. In our running example, we observe whether a student attended a 2-year instead of a 4-year college, and observe each student's subsequent educational attainment. We do not observe the attainment students would have received, if they started at the other institutional type. Thus, the issue of the missing counterfactual(s) is the identification problem. In the example from above, two counterfactuals are missing. One is the outcome that the treated units would have received if they had not been treated ($Y_0|T = 1$), the other is the outcome that untreated units (e.g., 4-year college matriculants) would have received if they had been treated (i.e., started at a 2-year institution; defined as $Y_1|T = 0$). Of particular interest is establishing the effect that institutional type has on the educational attainment of students, realizing that there are different "effects" one can estimate using the counterfactual framework.

Average Treatment Effects

Social scientists are often interested in estimating the average effects of a treatment. Two main treatment effects are commonly considered: the first is the average treatment effect (ATE) defined as the average effect across *all* observations in the data sample. The ATE is formally defined as

$$\text{ATE} = E(Y_1 - Y_0) = E(Y_1) - E(Y_0) \tag{1}$$

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[3] The single treatment case is the most common in the literature but it is not the only application for matching methods. See Lechner (2001) for a description of using matching methods in the case of multiple treatments and Behrman et al. (2004) for an example of using matching methods when the amount of treatment varies across observations.

where E is the expectation operator, representing the average over all units in the data. In our running example, the ATE is the average effect on college attainment of attending a 2-year college for all individuals in the sample.

A second commonly estimated treatment effect is the average treatment on the treated (ATT). The ATT is the average effect of the treatment for individuals who are treated. Formally, the ATT is

$$\text{ATT} = E(Y_1 - Y_0|T=1) = E(Y_1|T=1) - E(Y_0|T=1) \tag{2}$$

and in many policy applications researchers are interested in the ATT rather than the ATE because the former addresses the effect of a treatment for individuals who actually received the treatment. The ATT in the 2-year college study is the effect of attending a 2-year college for students who attended a 2-year college, and it measures the effect that the treatment (a 2-year college experience) has on attainment. The ATE may be less interesting because it estimates educational attainment for any student, 2 or 4 year, if they were to attend a 2-year college. This thought experiment may not be realistic because many 4-year students may not want to attend a 2-year college.

Whether the focus is on the ATE or ATT, estimating either requires the establishment of counterfactuals. Using the counterfactual framework, determining the ATT is less problematic than estimating the ATE because it only involves establishing one missing counterfactual, the outcome under nontreatment for the treated ($Y_0|T = 1$). The ATT is estimated by comparing the just mentioned counterfactual to the average outcome for individuals receiving the treatment ($Y_1|T = 1$), which *is* observable in the data.

More problematic is estimating the ATE. The ATE is the difference between the average outcome from treatment (Y_1) and the average outcome from nontreatment (Y_0), neither of which is fully observed. To estimate Y_1, the researcher must average over the outcomes of treatment for treated observations ($Y_1|T = 1$) which are observed, and also average over the outcomes of treatment for observations that are not treated ($Y_1|T = 0$), the unobserved counterfactual. Similarly, to estimate Y_0, the researcher must average over the outcomes of nontreatment for untreated observations ($Y_0|T = 0$), which are observed, as well as the outcome of nontreatment for treated observations ($Y_0|T = 1$), also an unobserved counterfactual. More formally we can rewrite the ATE as

$$
\begin{aligned}
\text{ATE} &= E(Y_1) - E(Y_0) \\
&= [Pr(T=1)\, E(Y_1|T=1) + Pr(T=0)\, E(Y_1|T=0)] \\
&\quad - [Pr(T=1)\, E(Y_0|T=1) + Pr(T=0)\, E(Y_0|T=0)] \\
&= Pr(T=1)\, [E(Y_1|T=1) - E(Y_0|T=1)] \\
&\quad + Pr(T=0)\, [E(Y_1|T=0) - E(Y_0|T=0)]
\end{aligned}
\tag{3}
$$

where $Pr(T = 1)$ is the probability that an individual is treated (or the sample proportion that is treated) and $Pr(T = 0)$ is the probability that an individual is not treated (the sample proportion not treated). Note that the first part is just the

proportion of the sample receiving the treatment multiplied by the ATT ($Pr(T = 1)$ ATT) as defined in Eq. (2).

One may ask "Why not just use the two observed outcomes to estimate these effects?" For example, instead of estimating ATE $= E(Y_1 - Y_0)$, why not just replace the two unknown outcomes with the two known outcomes and then estimate $E(Y_1|T = 1) - E(Y_0|T = 0)$? The problem is that in nonexperimental data the treatment status is not likely to be randomly assigned. Using our running example, there is an element of choice involved in college matriculation; universities chose who to admit and students chose which institutions to attend. Student choices are often a function of their observed and unobserved characteristics and their reasons for receiving the treatment (attendance choice) are also likely to affect subsequent educational outcomes. The correlation between the probability of being in the treatment group and the outcome is known as the "selection problem," and when not accounted for, it produces observed outcome averages that do not reflect the "true" effect of the treatment ("bias").

To illustrate the selection problem arising from nonrandom assignment consider the following hypothetical numeric example. Suppose that the only factor determining whether or not a student attends a 2-year college is the sex of the student, and assume that one's sex also affects the probability of completing a year of college, the hypothetical outcome. Assume that women are less likely to attend a 2-year college than men, but are also more likely to complete a year of college than males. Also assume the interest is in estimating the effect of attending a 2-year college on first-year retention for students who attended a 2-year college (the ATT). Calculating the simple difference in the observed retention rates of 2- and 4-year students leads to biased estimates of the treatment effect because of the correlation between the probability of receiving the treatment and the probability of being retained to the sophomore year.

For simplicity assume there is an even number of men and women in the sample, and that women's (men's) probability of attending a 2-year college ($Pr(T = 1)$) is 0.30 (0.70), and the retention rate at a 4-year college ($Y_0|T = 0$) is 0.80 for women and 0.60 for men. Also, suppose the true treatment effect of attending a 2-year college for men or women is -0.20, meaning that either sex would experience a 20 point decrease in retention if they attended a 2-year college. That is, the retention rate would drop to 0.60 (0.40) for women (men) if they attended a 2-year instead of a 4-year college. This information is summarized in Table 1.

What effect size would we obtain, if we use the simple difference in observed average outcomes of 2- and 4-year students ($E(Y_1|T = 1) - E(Y_0|T = 0)$)? The average observed outcome for the 4-year students, the nontreated, is $E(Y_0|T = 0) = (0.7)(0.8) + (0.3)(0.6) = 0.74$, meaning that 74% of 4-year college students are retained to

Table 1 Numerical example of calculating average treatment effects

	Probability of attending a 2-year college $Pr(T = 1)$	Retention rate if attended a 2-year college $Y/T = 1$	Retention rate if attended a 4-year college $Y/T = 0$
Men	0.7	0.4	0.6
Women	0.3	0.6	0.8

year two. The comparable average for the 2-year students, the treated is $E(Y_1|T = 1)$ = (0.3)(0.8 − 0.2) + (0.7)(0.6 − 0.2) = 0.46, indicating a sophomore retention rate of 46%. The difference of these averages is −0.28, an overestimate of the true treatment effect of −0.20. This "negative selection bias" is due to the fact that students who are more likely to attend a 2-year college (men) are also less likely to be retained to year two. If the selection works in the opposite direction (more successful students attend a 2-year college), then the simple difference in means would underestimate the true treatment effect, resulting in positive selection bias.

In our example, the retention rate for students actually attending a 2-year college, $E(Y_1|T = 1)$ or the first part of the ATT, is estimated correctly. What is incorrect is the estimate of the counterfactual. Because of the selection problem, the observed retention rate among 4-year students, 0.74, is an overestimate of the correct counterfactual. Because both men and women experience a 20-percentage-point decrease in their retention rates if they attend a 2-year college, the correct counterfactual should be 0.46 + 0.20 = 0.66. How we can correctly estimate this counterfactual is a central purpose of this chapter and will be discussed later.

If we were interested in estimating the ATE then neither of the observed averages would represent the correct averages. Recall from Eq. (3) that the ATE requires the counterfactual needed to calculate the ATT, the outcome under nontreatment for those that were treated ($Y_0|T = 1$), which is not properly revealed. But it also requires a discovery of the outcome under treatment for the untreated ($Y_1|T = 0$), but selection into treatment will cause this second counterfactual to be incorrectly estimated, resulting in an incorrect ATE.

How Experiments Solve the Identification Problem

Before discussing options for tackling the identification problem in nonexperimental data, we briefly describe how experimental designs deal with this problem. Consider a drug trial where participants are randomly assigned to a treatment or control group. Each individual is observed under a treatment regime or in a control group that is untreated. Like in the nonexperimental case described above, the counterfactual for each group (treatment and control) is missing. The difference is that the selection problem is removed by the random assignment of individuals to treatment or not, and the ATE can be estimated by the simple difference in the average outcomes in the treatment and control groups.

A Parametric Approach to Deal with the Problem

Regression analysis attempts to solve the identification and selection problems by controlling the characteristics of observations (individuals, classrooms, schools, etc.) that are likely to affect the probability of receiving the treatment and the outcome

of interest. If the characteristics that affect treatment status and the outcome are properly controlled for, the true treatment effect is revealed. However, the assumptions underlying this approach are strong and may not hold in many cases.

For simplicity, we discuss the issues of parametric equations in the context of the simple OLS regression, but the problems also exist for other parametric approaches such as logistic or probit techniques (see Reynolds, 2007 for details). The OLS regression is represented by

$$Y = \alpha T + \beta X + \varepsilon \qquad (4)$$

where Y is the outcome of interest, T an indicator of treatment (where $T = 1$ represents the treated; zero the untreated), and X is a set of characteristics hypothesized to affect the probability of treatment and the outcome of interest. This approach is parametric because the goal is to uncover the parameters α and β from the specified model. The parameters are estimated by OLS with $\hat{\beta}$ being the effect that individual characteristics have on the outcome and $\hat{\alpha}$ is an estimate of the ATE because it measures the average effect on the outcome for the treated (i.e., having $T = 1$ instead of $T = 0$) after controlling for the Xs. There are many assumptions required for $\hat{\alpha}$ to represent the true treatment effect, but there is one that is key to our discussion known as the orthogonality condition. Formally Eq. (5)

$$E(\varepsilon / T, X) = 0 \qquad (5)$$

indicates that on average the regression errors (ε) are zero. This is equivalent to assuming that once the Xs have been included in the regression, there is no relationship between the outcome and selection into treatment. Failures of this assumption lead to biased estimates of the treatment effect ($\hat{\alpha}$). For this rather strong assumption to be valid, several conditions must be met. First, the researcher must control for every possible factor that could affect selection into treatment and the outcome. In practice, this often fails because these variables are unknown, not collected, or cannot be practically or reliably gathered. Although this missing data problem is often substantial, the application of OLS regression introduces another problem. The regression in Eq. (4) requires the additional assumption that a linear specification is sufficient to remove any bias due to selection. Even if the researcher has all the necessary controls, if the linearity assumption is incorrect the results will still be biased. The linearity assumption fails when the relationship between the characteristics (Xs) and the outcome of interest (Y) is highly nonlinear, not an uncommon occurrence in higher education research. The linearity assumption may be more likely to fail when the distributions of the Xs are very different between the treated and the untreated groups. This linearity problem can be reduced, if the functional form of the regression is sufficiently flexible, often done by including higher-order terms for the Xs and interactions between important variables. With enough of these additional variables, the regression line can approximate a nonlinear relationship, even though the regression becomes *more* parametric with the additional variables. In practice, however, these higher-ordered terms are not often included in empirical

work. Also, tests for correct functional form exist, but researchers rarely spend the time searching for the best functional form for their regressions.

Matching as a Nonparametric Alternative

The methodologies discussed herein attempt to remove selection problems by controlling for the characteristics of individuals in the data. Instead of using parametric functions to *statistically* control for observable characteristics, we attempt to estimate treatment effects for individuals with the same observable characteristics. That is, instead of using a regression equation to estimate the missing counterfactuals, we turn to the data and use an algorithm to identify the correct counterfactuals for each observation. Because we are not estimating the parameters from a statistical model, these approaches are nonparametric (or later, semi-parametric).

To illustrate, OLS (and other) regression methods construct counterfactuals using a parametric equation. For a treated observation i with characteristics $X = x$ the predicted outcome under treatment is

$$\hat{Y}_{1i} = \hat{\alpha}(T = 1) + \hat{\beta}(X_i) = \hat{\alpha} + \hat{\beta}(X_i). \tag{6}$$

The counterfactual is constructed by replacing $T = 1$ with $T = 0$ and therefore the counterfactual $Y_{0i} \mid T = 1$ reduces to

$$\hat{Y}_{0i} = \hat{\alpha}(T = 0) + \hat{\beta}(X_i) = \hat{\beta}(X_i). \tag{7}$$

This counterfactual is constructed from the estimated parameters and therefore is dependent on the parametric specification. Matching methods do not use the parameters from an equation to construct counterfactuals. Instead, the missing counterfactual $Y_{0i} \mid T = 1$ is constructed from the actual outcomes of the untreated units that are matched to using an algorithm. For purposes of discussion, suppose that an untreated unit j with outcome Y_{0j} is matched to a treated unit. The actual outcome Y_{0j} observed $(Y_{0j} \mid T = 0)$ is used as the counterfactual $Y_{0i} \mid T = 1$ for the treated unit. Because this counterfactual is created without parameters, the technique is nonparametric.

As discussed above, the simple difference in averages between the treated and untreated observations $(E(Y_1) - E(Y_0))$ produces incorrect treatment effects because of nonrandom selection into treatment. To estimate the ATT, we can use the average effect for cases that are treated $(E(Y_1 \mid T = 1))$, but we do not observe the effect on the treated, if they are untreated $(E(Y_0 \mid T = 1))$, the missing counterfactual. The critical assumption for matching to solve the identification problem will be discussed below but for now assume that

$$E(Y_0 \mid T = 1, X = x) = E(Y_0 \mid T = 0, X = x). \tag{8}$$

The assumption represented in Eq. (8) indicates that within observable characteristics $(X = x)$, the outcome for the untreated serves as the correct counterfactual outcome

for the treated units if they had not been treated. Put simply, for individuals with equivalent characteristics, we assume that the untreated units are the correct counterfactuals for the treated units. Operationally, we control for observable characteristics by matching treated and untreated individuals with the same characteristics and use the latter as the appropriate counterfactual.

The assumption used for the ATT is also needed to estimate the ATE. However, the ATE has a second counterfactual which also needs to be estimated using the assumption

$$E(Y_1 \mid T = 0, X = x) = E(Y_1 \mid T = 1, X = x) \tag{9}$$

which states that, conditional on observable characteristics, the treated units serve as the appropriate counterfactuals for the untreated units.

Back to Our Running Example

Before discussing the matching methodology and the assumptions needed to make this an effective method for dealing with the identification problem, we ground the previous discussion in our example about the effects of attending a 2-year college. Recall from our numerical problem that the sex of the student affected both the probability of the type of college attended as well as students' first-year retention, and the difference in the average outcomes of 2- and 4-year students failed to uncover the true treatment effect of −0.20. Using matching, we compare the sex-specific outcomes of students in 2- and 4-year colleges. For women, $E(Y_1|T = 1, X = F) = 0.8$ and $E(Y_0|T = 1, X = F) = E(Y_0|T = 0, X = F) = 0.6$, resulting in a treatment effect of −0.20. For men, $E(Y_1|T = 1, X = M) = 0.6$ and $E(Y_0|T = 1, X = M) = E(Y_0|T = 0, X= M) = 0.4$ resulting in a treatment effect of −0.20. The ATT is simply the weighted average of the within-sex effects, where the weights are the distribution of the sexes in the treated population. Therefore,

$$\begin{aligned} ATT &= Pr(X = M)[E(Y_1 \mid T = 1, X = M) - E(Y_0 \mid T = 0, X = M)] \\ &\quad + Pr(X = F)[E(Y_1 \mid T = 1, X = F) - E(Y_0 \mid T = 0, X = F)] \\ &= 0.7(0.6 - 0.4) + 0.3(0.8 - 0.6) \\ &= 0.20 \end{aligned}$$

results in a treatment effect that is accurately measured. The key is that the matching technique is reweighting or rebalancing the data to reveal the true effect. In our example, the distribution of men and women is not equal across treatment status; there are more women in 4-year colleges and more men in 2-year colleges. Because the sex of the student (the X) also affects treatment, this imbalance across treatment produces incorrect counterfactuals. By matching students based on X (sex), we reweight the untreated population to have the same distribution of X as the treated group. Since X also affects the outcome, we have removed the imbalance from the untreated population and the average of this balanced population is the correct

counterfactual. Each matching method discussed below attempts to execute this rebalancing. Defining Y_{1i} as the actual outcome and Y_{0i}' as the counterfactual outcome for treated unit i, the ATT for any matching method is represented by

$$\text{ATT} = E(Y_{1i}) - E(Y_{0i}') = \frac{1}{n_1} \sum_{i \in (T=1)} \left(Y_{1i} - \sum_{j \in (T=0)} w(i, j) Y_{0j} \right) \qquad (10)$$

where n_1 is the number of treated units, j is the untreated unit, and $w(i, j)$ is the weight placed on each untreated unit j for a treated unit i. The weights are placed on untreated units by the matching algorithm (more on this below) during the matching procedure to create the counterfactual outcome for each treated unit i. Also, for each i the weights sum to 1. Each matching method, of which there are several, constructs counterfactuals by reweighting the actual outcomes of untreated units, and differences in the methods employed reflect how this reweighting is conducted.

Estimation of the ATE can also be constructed as a reweighting exercise, though the formula is slightly more complicated. Recall that compared to the ATT, estimating the ATE requires constructing an additional counterfactual. This essentially means that the treated observations need to be reweighted as well. Maintaining the notation from above and letting n_0 be the number of untreated units and $w(j, i)$ be the weight placed on treated unit i for an untreated unit j, the ATE is expressed as

$$ATE = \frac{n_1}{n} \left(E(Y_{1i}) - E(Y_{0i}') \right) + \frac{n_0}{n} \left(E(Y_{1i}') - E(Y_{0i}) \right)$$

$$= \frac{1}{n} \left[\sum_{i \in (T=1)} \left(Y_{1i} - \sum_{j \in (T=0)} w(i, j) Y_{0j} \right) + \sum_{j \in (T=0)} \left(\sum_{i \in (T=1)} w(j, i) Y_{1i} - Y_{0j} \right) \right] \qquad (11)$$

So the ATE can be estimated by both reweighting the untreated units to have the same distribution of observable characteristics as the treated units, and then reweighting the treated units to have the same distribution of observable characteristics as the untreated units.

The Curse of Dimensionality

More generally, when we match on discrete categories of characteristics (like sex), the ATT will be the weighted average of the effects within categories of X where the weights are the distribution of the Xs in the treated population. This reweighting is represented by Eq. (12) with i treated units and k groups of X

$$ATT = \sum_{k=1}^{K} P_{ik} (E(Y_{1k}) - E(Y_{0k})) = \sum_{k=1}^{K} \frac{n_{1k}}{\sum_k n_{1k}} \left(\sum_{i \in k, \{T=1\}} \frac{Y_{1k}}{n_{1k}} - \sum_{j \in k, \{T=0\}} \frac{Y_{0k}}{n_{0k}} \right), \qquad (12)$$

with P_{ik} being the probability (proportion) of treated units with characteristic k, n_{kj} the number of treated units in group k, and n_{0k} the number of untreated units in

Table 2 Expanded numerical example of calculating average treatment effects

	Lower income		Middle income		Upper income	
	Female	Male	Female	Male	Female	Male
Y_1	0.55	0.45	0.60	0.50	0.90	0.70
Y_0	0.35	–	0.40	0.30	0.70	0.50

group k. In our first-year retention example, there were only two groups in X (females and males), so this calculation was simple; the weights were simply the proportion of the male and female populations. However, it is likely that other characteristics also affect selection and the outcome, making the weighing calculation more complicated. Suppose that selection is based not only on sex but also on family income, and assume that students are grouped into three income levels: low, middle and upper (the problem becomes even more intractable if income is continuous). We now have to consider men and women in three different income groups, so instead of a 2 × 2 table of characteristics and outcomes we now have a 2 × 6 table to deal with (see Table 2). As we segment the data on higher dimensions we run the risk of having empty cells, meaning that there are no observations with that combination of characteristics, thereby making direct matching impossible. Using the 2-year college example again, suppose that in our sample there were no male students from low-income families who attended a 4-year college (were untreated). In this case, we could not calculate a treatment effect for these students because there are no untreated low-income men to serve as the counterfactual.

Unfortunately, to eliminate the selection problem, we probably need to match on a large number of characteristics, some of which may be continuous. Even if we categorize a continuous variable, we would like to make the categories as fine as possible to reduce selection bias. The problem is that as X becomes larger in dimension (as we include more Xs to match on) there is a higher probability of missing cells, a problem known as the "curse of dimensionality." For example, if we expand the observable characteristics to include sex (male or female), income (lower, middle, upper), race/ethnicity (assume four groups), and test scores (in quintiles) we have 2 × 3 × 4 × 5 matrix or 120 cells. Adding two outcomes leads to a 240 cell table on which to perform direct matching and the odds of an empty cell become very high, yet we probably have not included *enough* conditioning variables to balance the distributions across the treated and untreated groups! We now discuss a possible solution to this dimensionality problem.

The Propensity Score Cure for the Curse of Dimensionality

The common solution to the curse of dimensionality is to match not on the individual characteristics themselves, but on the *probability of treatment*. Also known as the "propensity score," it is the probability that an individual is treated given their

observable characteristics. This score is obtained by using regression to estimate the probability of treatment for each unit (individual, classroom, school …) and then using this probability to match the treated and untreated. This method solves the curse of dimensionality because it reduces the matching problem to a single dimension, the propensity score. In a seminal paper, Rosenbaum and Rubin (1983) demonstrated that matching on the probability of X [$P(X)$] is equivalent to directly matching on X. Matching on the propensity score also balances the distribution of observable characteristics across the treated and untreated groups, just as we did using direct matching in our numerical example above. When done correctly, the probability that any treated unit has trait $X = x$ will be the same as the probability that any untreated unit has that same characteristic. Using the propensity score, we can estimate the treatment effects conditioning on the propensity score instead of on the Xs. The ATT is now estimated using the assumption that

$$E(Y_0 \mid T = 1, \hat{P}(X)) = E(Y_0 \mid T = 0, \hat{P}(X)) \qquad (13)$$

or that conditional on the propensity score, the observed outcome for untreated cases serves as the correct counterfactual for what would have happened to the treated individuals if they had received the treatment. The ATE uses assumption Eq. (13) as well as the additional assumption that conditional on the propensity score, the treated cases serve as the correct counterfactual for the untreated units

$$E(Y_1 \mid T = 0, \hat{P}(X)) = E(Y_1 \mid T = 1, \hat{P}(X)). \qquad (14)$$

Using the propensity score does add another step to the procedure because the population propensity score $P(X)$ is usually not known. In this case, the propensity score must be estimated using regression methods before the matching procedure is implemented. Because the treatment is typically a dichotomy, the propensity score is estimated [$\hat{P}(X)$] for each individual in the data by probit or logit regression methods, using the observable characteristics (Xs) as regressors. Note that these regression-based methods for estimating the propensity score are parametric, meaning that the matching estimates using the propensity score are semi-parametric, not fully nonparametric as would be the case if we matched directly on the Xs. Given the concerns previously discussed about parametric specifications, it may seem odd that we rely on parametric specifications in the matching procedure. However, any problems associated with parametric specifications in the propensity score estimation are unlikely to cause large problems with the estimates of the treatment effects when using matching procedures because the nonparametric matching part is more important than the parametric estimation of $\hat{P}(X)$, especially when using a flexible functional form to do so.

Necessary Assumptions

Before turning to the matching algorithms available, we discuss three critical assumptions.

The Conditional Independence Assumption

To solve the identification problem above, we use the observed outcomes of cases with like characteristics to substitute for the missing counterfactuals. The assumption that justifies this remedy is called the conditional independence assumption (CIA).[4] For estimating the ATT, the CIA is

$$Y_0 \perp T \mid X \quad or \quad Y_0 \perp T \mid \hat{P}(X). \tag{15}$$

In words, conditional on observable characteristics (or the propensity score), there is no correlation between the treatment and the outcome that occurs without treatment (or, the untreated observations serve as the correct counterfactual for the treated, exactly the remedy that we used in our example above). The CIA is slightly different when estimating the ATE; we need its stronger version

$$Y_1, Y_0 \perp T \mid X \quad or \quad Y_1, Y_0 \perp T \mid \hat{P}(X) \tag{16}$$

indicating that conditional on the observable characteristics (or the propensity score), treatment is independent of both the outcome under treatment *and* the outcome under nontreatment. The stronger version is necessary because in order to estimate ATE, we need to replace two counterfactuals. As is the case when estimating the ATT, the untreated units serve as counterfactuals for treated units, but to estimate the ATE we also need treated units to serve as counterfactuals for untreated units.

Another way of thinking about the CIA is that conditioning on the observable characteristics (or on the propensity score) is sufficient to eliminate the selection problem. The CIA is therefore another type of "selection on observables" assumption similar to the orthogonality condition used in OLS regression. Both methods require all the necessary conditioning variables to remove selection bias, but if they are not included both OLS regression and matching methods will produce biased estimates. One advantage of using matching methods rather than OLS regression is that the former does not require the linearity assumption needed for the latter to eliminate the selection problem. A second advantage of matching is that the CIA is a stronger assumption than is really needed; all that is really needed to eliminate selection problems when using matching is mean conditional independence, represented by

$$E(Y_0 \mid T = 1, \ X = x) = E(Y_0 \mid T = 0, \ X = x) \tag{17}$$

the assumption underlying our numerical example using gender earlier in the chapter. Unlike the CIA, this assumption holds that, on average and conditional on observable characteristics, the outcomes from nontreatment are the same for the treated and untreated observations. In a regression context, this is represented by

$$E(\varepsilon \mid T = 1, X = x) = E(\varepsilon \mid T = 0, X = x) \tag{18}$$

---

[4] Note that the CIA is also known as "unconfoundedness."

indicating that the average error or bias is equal across treatment status conditional on the Xs. This is a less strong assumption than assuming that the errors are mean zero which is needed for OLS regression (Eq. (5)). The advantage of matching is that if we have all the necessary conditioning variables, matching methods may be more likely to uncover the true treatment effects because they rely on less stringent assumptions.

Researchers must keep in mind that the assumptions necessary to use either OLS or matching methods may not hold in practice, in which case a different empirical approach needs to be considered. Neither of these methods identifies an exogenous factor affecting treatment as in IV or control function approaches (see Heckman and Navarro-Lozano, 2004, for comparisons of the methods). Also, matching does not rely on a discontinuity in the data around which it is plausible that treatment is randomly distributed, as in regression discontinuity methods (see Shadish et al., 2002 for details). However, if there are plausible instruments or discontinuities, or the assumptions underlying matching hold, then employing these nonexperimental approaches may be more fruitful than OLS methods used to study treatment effects in observational data. As always, the choice of empirical strategy should be tailored to the data and application because no universally optimal methodology exists.

The limitations of the matching approach have been widely discussed in the literature. Matching methods attempt to balance the characteristics across treatment so that in observational data the treatment is "as if" randomly assigned. This led to a debate about whether results produced by matching methods provide the same information as results from random assignment studies. In oft-cited papers, Dehejia and Wahba (1999, 2002) and Dehejia (2005) used data on job training programs where people were randomly assigned to treatment (a job training program) and they also had survey data not based on random assignment. They compared the randomized effects to matching estimates from the observational data and argued that the matching methods unraveled the selection problem thereby providing results equivalent to those from the random assignment regime. Smith and Todd (2005a, b) disagreed, arguing that in this case the success of the matching method is possibly more of an exception than the norm. They argue that the matching estimates are very sensitive to the inclusion or exclusion of variables, and that with different subsamples of Dehejia and Wahba's data the matching estimates do not replicate those obtained from random assignment. The issue about the sensitivity of the results to subsamples is significant because it highlights the importance of the observable characteristics; in some parts of the data or for some observations, the assumption that observable characteristics solve the selection problem is more likely to be true than for other observations or parts of the data (more on this issue later in the chapter).

Common Support

A second important assumption required in matching methods is that a match can actually be made between treated and untreated observations. As demonstrated in our hypothetical gender example, there may be cases where matches are not possible

because of empty cells. Reducing the dimensionality of the match by using the propensity score helps to solve this problem, but it does not guarantee that a match exists. To estimate the ATE, matching methods rely on there being common support in the data, formally defined as

$$0 < \hat{P}(X) < 1, \quad \forall X. \tag{19}$$

This means that there are no sample characteristics that perfectly predict treatment or nontreatment, for if there were, then every observation with such a characteristic would be treated *or* untreated and there would be no cases with that same characteristic in the comparison group. If so, there is no match, no counterfactual, and therefore no way to estimate treatment effects. For the ATT, however, we only require

$$\hat{P}(X) < 1, \quad \forall X, \tag{20}$$

that is, that there is no characteristic that perfectly predicts treatment. Intuitively, it does not matter if there are some characteristics that perfectly predict nontreatment because these units are not a match for any of the treated units and therefore will not be used in the algorithms discussed later.

The requirement in Eq. (20) is both a limitation and an advantage of matching methods. Because they construct counterfactuals using a parametric equation, OLS (and other) parametric regression methods do not require common support. The counterfactual for each observation is constructed from the estimated parameters; there is no need to find an untreated unit that "matches" each treated case. Thus, parametric regression techniques can estimate treatment effects in specific situations or for some observations where matching methods cannot. However, researchers may be inherently suspicious about the counterfactuals formed from parametric specifications when there is no common support. For an example of why, consider Fig. 1 illustrating a complete failure of the common support problem when using parametric methods. On the Y axis is the outcome of interest and the X axis represents a characteristic on which we would like to match. As evidenced in Fig. 1 by the two ellipses representing
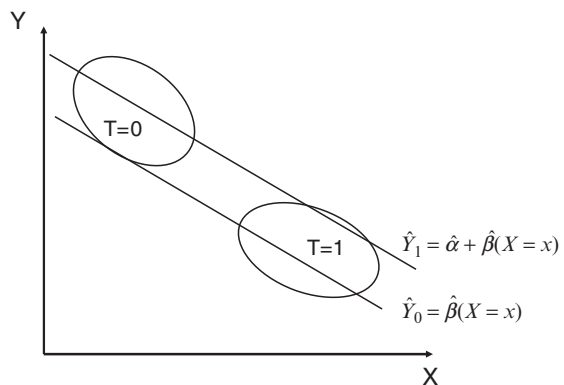
Fig. 1 Failure of common support

groupings of individual data points, there is no overlap between the treated and untreated distributions of X; thus, there are no matches that can be made between the treated and untreated groups and no possibility to estimate treatment effects using matching methods. OLS regression will, however, plot two lines through the data, one for the treated outcomes (the top line) and one for the untreated outcomes (the bottom line). These lines represent the counterfactuals conditional on the observable characteristics (called the conditional expectations functions). The conditional expectations functions are filling in a great deal of "missing" counterfactuals, in the empty space between the two groups of data. The OLS technique does so by projecting from areas where there is data to areas without data. As researchers, we do not know anything about the relationship between the Xs and the outcome of interest in areas without common support, the relation could take any form. To some extent, it takes a leap of faith to believe the estimates in this region.

Figure 2 demonstrates a *partial* failure of common support, where there *is* an area of data overlap but there are other areas without any overlap in the observable characteristics. In this situation, projections are made not in the middle where common support exists but at the tails of the distributions. This example also highlights an additional problem. These counterfactual lines are fitted using all of the data, not just the data that are similar to the treated units. The lines, and therefore the estimated treatment effects, may be very different if we focus only on the area where there is common support and where the observations are similar, which is where matching estimates would seek to estimate treatment effects.

An advantage of matching methods over the parametric regression approach is that common support must be established *before* proceeding with the estimation of treatment effects, whereas the common support assumption is often ignored by researchers using regression-based parametric specifications. When using propensity scores, it is relatively easy to establish whether common support exists. To estimate the ATT, the common support assumption requires positive density of propensity scores for the untreated wherever there are treated observations along the propensity score distribution. For the ATE, there must also be positive density for the treated wherever there are untreated observations along the propensity score distribution. Whether there is positive density is ascertained by plotting the densities of the propensity
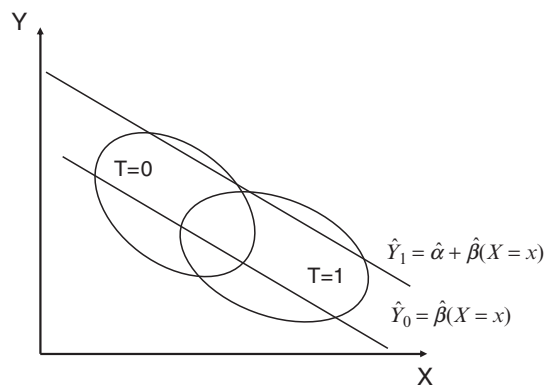
Fig. 2 Partial failure of common support

scores (separately) for treated and untreated observations using a histogram or a smoothing procedure such as a kernel density function (demonstrated below).

When using matching methods, if the common support assumption fails then a decision must be made about how to proceed. Complete failure of common support results in searching for a different methodology because there are no matching cases. A partial failure results in a number of options, although none of them "solves" the common support problem and there are costs for each "solution."

A common solution is to estimate treatment effects in the regions where there *is* common support. The simplest method for doing this is to drop all observations in the tails of the propensity score distribution where the common support fails. First, the lowest propensity score in each of the treated and the untreated groups is identified and the larger of the two is selected as the lower bound (the maximum of the minimas). Next, the highest propensity score in each group is identified and the lower of the two is selected as the upper bound (the minimum of the maximas). All observations outside of these two boundaries are dropped from the analysis. (This procedure is built into some statistical software, for instance the "common" option in Stata's psmatch2 routine.) Dropping observations without common support introduces several problems. It only "solves" the common support at the ends of the propensity score distribution, but does nothing to "solve" failures in the middle of the distribution. An alternative that also "solves" the common support in *all* regions is to drop all observations where the density of the propensity scores falls below some threshold (see Heckman et al., 1998a for details). For example, one may define the threshold as a density of 0.04 and when estimating the ATT ignore any treated observations with propensity scores with a density of untreated observations less than 0.04. A problem with this method is that the threshold selected is discretionary and may be quite arbitrary.

Both of these "fixes" suffer from a larger problem: They alter the treatment effects being estimated. Suppose that a researcher is interested in estimating the ATT but because of the failure of the common support must drop some observations using either of the methods noted above. This treatment effect is the "average treatment on the treated *in the region with common support*." Whether this treatment effect is materially different than the "true" ATT (along the whole distribution) depends on how many treated observations are dropped. If very few are dropped, then these estimates are likely to be similar; if many treated observations are dropped then the estimated treatment effect may be very different than the true treatment effect. As in any empirical methodology, dropping observations causes a loss of information that may materially change the results.

Other methods recently proposed for dealing with common support problems may be useful in some circumstances, but we will not delve into them here to conserve space (see Crump et al., 2006; Lechner, 2000, for details).

Balancing

The main purpose of matching methods is to balance the observed characteristics, *X*, across the treated and untreated groups. Therefore, a fundamental consideration is whether or not this covariate balance has been achieved. If the observable characteristics

are not well balanced, then regardless of whether there is bias from selection on unobservable characteristics (meaning that the CIA has failed), there *will* be bias from selection on observable characteristics, thus defeating the purpose of the undertaking. Better balance can be achieved by making the specification of the propensity score regression more flexible by including interactions and higher-order terms as regressors. Ultimately the question of balance is one of proper variable selection in the propensity score model (discussed later). There are several methods to test for balanced distributions of the observable characteristics (the Xs) of which we will discuss two common methods (see Caliendo and Kopeinig, 2008; Smith and Todd, 2005a, b, for other methods). All of these methods attempt to compare the average characteristics in the treated group ($E(X = x|T = 1)$) to the average characteristics in the untreated group ($E(X = x|T = 0)$). Matching is successful only if the distributions of characteristics in the treated and untreated groups become more similar (preferably identical) after the matching procedure. Therefore, researchers need to check whether the distributions between the treated and matched untreated groups are similar *after* reweighting of the data. Probably the most common method of testing for balance is using standardized differences (see Rosenbaum and Rubin, 1985). The idea is to measure, for each observable characteristic, how different the means are across the treated and untreated samples relative to the overall variance of the characteristic in each sample. For the ATT, before matching the standardized difference is

$$Diff(X = x) = 100 \cdot \frac{E(X = x \mid T = 1) - E(X = x \mid T = 0)}{\sqrt{\dfrac{Var(X = x \mid T = 1) + Var(X = x \mid T = 0)}{2}}} \qquad (21)$$

whereas after matching the standardized difference is

$$Diff(X = x) = 100 \cdot \frac{E(X = x \mid T = 1) - E(X = x \mid T = 0, M = 1)}{\sqrt{\dfrac{Var(X = x \mid T = 1) + Var(X = x \mid T = 0, M = 1)}{2}}} \qquad (22)$$

where $M = 1$ means that the observation was matched. The latter should be smaller than the former, preferably near zero or optimally equal to zero if the averages across groups are the same. A nice feature of this comparative method is that the amount of bias reduction is made clear by comparing Eq. (22) to Eq. (21).

In practice, it is nearly impossible to eliminate all of the differences between the treated and untreated, and the difficulty with the aforementioned method is that there is no standard for deciding when any difference between Eq. (21) and Eq. (22) is too large (meaning that the balance has been violated). Based on Rosenbaum and Rubin (1985), 0.20 is often used as a threshold value, meaning that the difference should be no more than 20%. However, this threshold may also be a bit arbitrary.

Another approach often used is to simply conduct a two-sample t-test on the difference in the mean of characteristic $X = x$ between the treated and untreated

samples (see Rosenbaum and Rubin, 1985). The covariate is balanced, if the null hypothesis of no difference in the means between these two samples cannot be rejected. The benefit of this test is that it is simple to execute in most statistical software and, unlike standardized differences, it provides a clear rule for deciding whether or not balance has been achieved. Another means-based alternative is to perform Hotelling's T^2 test of whether two groups of means are (jointly) different. Its advantage is that it simplifies the procedure to a single-test statistic.

If some characteristics do not appear to be well balanced then interactions with other variables or higher-order terms may help bring about better balance. For example, in the case study discussed later the test scores of students became better balanced when they were interacted with race and ethnicity indicators. It is also possible that some characteristics will just not balance no matter how many interactions or higher-order terms are included. In particular, categorical variables may not balance well if there are relatively few observations in a particular cell. In this case, the researcher should check whether the results are sensitive to the inclusion or exclusion of these observations.

Implementing Matching Estimators

The previous section focused on many of the theoretical issues when using matching methods to estimate treatment effects. This section focuses more on the practical considerations such as how to implement and use matching methods. Much of the discussion will focus on choices that the researcher must make before preceding with the matching methods themselves.

Variable Selection

Before moving on to the specific matching algorithms from which the researcher can choose, we revisit the estimation of the propensity score. Recall that a critical assumption is that the propensity score balances the covariates across treatment status. It is this consideration that needs to be kept in mind when deciding on what variables to include in the estimation of the propensity score. Importantly, commonly used model-fitting techniques or parsimony considerations are generally *not* helpful in achieving balance and may actually lead to *imbalance* of the covariates. Consider a regression model where a large number of variables are initially included and are then removed systematically if found to be statistically insignificant (e.g., a backward stepwise regression method). This method *may* improve the fit according to some model fit measure, but it does not focus on the task at hand, achieving balance among the covariates (satisfying the CIA). A variable may not be statistically significant but removing it may remove potentially important variation necessary to satisfy the CIA. On the other hand, adding additional variables can actually increase bias

under certain circumstances (see Heckman and Navarro-Lozano, 2004). Variable selection should be guided by conceptual theory and what prior researches suggest are the necessary conditioning variables.

The common support requirement also has implications for the variables included when estimating the propensity score. Variables that affect both selection into treatment and the outcome of interest *should* be included in sharp contrast to IV techniques, where the search is for an instrument that is correlated with the probability of treatment (i.e., the propensity score) but *not* with the outcome. IVs do not help with the matching procedure because they do not help us solve the problem of the correlation between the treatment and the outcomes. Instead, IVs cause the common support assumption to fail because they influence the treatment only. The stronger the IV, the more power it (they) will have in predicting treatment, the more likely that only treated units will be observed with those characteristics, resulting in no untreated units for matches. If a strong instrument(s) is available then use an IV approach because the necessary assumptions of the IV method may be satisfied while the necessary assumptions for matching may not.

Also, there may be situations where specific characteristics are thought to be more important than others. For example, a researcher may suspect that treatment effects may differ by gender, or there may be an interest in studying gender-specific treatment effects. In this case, instead of including an indicator variable for gender in the propensity score regression, it may be preferable to separate the sample by gender and estimate the entire matching procedure, including estimation of the propensity score, separately for each gender. In a sense, this places more weight on the stratifying variable (gender) because it forces the match to be exact on this one dimension (men are only matched to other men). This method can be thought of as part of the reweighting procedure and is sometimes referred to as "hard matching."

Matching Algorithms

There are multiple ways that a matching procedure can be implemented. There are specific issues with each method and each has advantages and disadvantages. In the limit (as sample sizes go to infinity) alternative methods should provide similar results, but we are always dealing with finite samples; therefore, the possibility for important differences among these methods exists. The differences are likely to be larger in small samples and will vary according to the underlying distributions of observable characteristics in the control and treatment groups. In general, in finite samples each method will involve a trade-off between bias and variance: The better the matches that are made, the smaller the bias but the larger the variance of the estimates. Conversely, reducing the variance (by including more observations) in the matches will decrease the quality of the matches and introduce bias. Herein we describe some common matching algorithms (see Caliendo and Kopeinig, 2008; Smith and Todd, 2005a for additional descriptions of the methods).

Interval or Cell Matching

The simplest matching algorithm is the one that we used in our gender example above. Known as "interval matching," this method divides the sample into cells according to the observable characteristics (in our example, gender) or divides the sample based on the propensity into intervals or strata and then compares average outcomes within each interval. For example, the researcher might choose to divide the propensity score distribution into deciles based on the propensity scores, where decile one contains $\hat{P}(X) = 0$ to $\hat{P}(X) = 0.1$, decile two contains $\hat{P}(X) = 0.1$ to $\hat{P}(X) = 0.2$, and so on. Treatment effects are estimated within each decile, the intuition being that within strata the observable characteristics are similar and plausible counterfactuals exist. An advantage of this method is its simplicity, but the researcher must decide how many intervals to use and there is little guidance about how many intervals are necessary. Oft-cited evidence from Cochran (1968) suggests that five propensity score intervals may remove up to 95% of the bias from selection on observable characteristics. Optimally this decision should be based on the trade-off between bias and variance reduction; including more intervals results in better matches and lower bias because the observable characteristics are more similar across the treatment and control groups. Yet the more the intervals included, the greater the variance in the estimates.

Nearest Neighbor Matching

Perhaps the most common matching algorithm used is known as "nearest neighbor matching" (often written simply as NN matching). In its basic implementation, each observation in the treated population is matched to an observation in the control population with a similar propensity score, and the latter case is used as the counterfactual for the former. Compared to interval matching, the method may provide higher-quality matches because each treated observation is matched to a specific observation in the untreated group.

Remember from our prior discussion that matching techniques reweight the data and recall from Eq. (10) that the counterfactual for each treated unit i is

$$Y'_{0i} = \sum_{j \in T=0} w(i,j)Y_{0j}$$

where $w(i,j)$ is the weight placed on untreated unit j for treated unit i. The untreated case j with a propensity score nearest to the treated case i is given a weight of one and all other treated units receive a weight of zero. For example, suppose that a treated observation has a propensity score of 0.40. The untreated case with a propensity score closest to 0.40 will be the treated observation's "nearest neighbor," and the actual outcome of this nearest neighbor (Y_{0j}) will be used as the counterfactual for the treated case it is matched to (Y'_{0i}). All other untreated cases are ignored when

creating this counterfactual and receive no weight. This procedure is done for each treated observation, thereby creating a sample of untreated cases that have a treated matched case. Untreated cases that are not matched to a treated case are essentially dropped from the analysis.

There are several considerations when using NN matching. First, while it is common to use one-to-one matches, it is possible to match each treated observation to k untreated observations. In one-to-one matching, the matched case is used as the missing counterfactual, whereas in one-to-k matching the average outcome from the k matches is used as the counterfactual. Because for each treated unit i the weights on the untreated units must sum to 1, the weight for each matched unit j is $\frac{1}{k}$.

A second consideration when using NN matching is whether the matching is done with or without replacement. Matching with replacement means that untreated observations can be matched to multiple treated units, or to put it differently, after a match is made the untreated unit is placed back into the sample to (possibly) be selected as a match to another treated observation. Matching without replacement requires each untreated unit to be uniquely matched to a treated unit. There are two issues when deciding between these two alternatives. First, matching with replacement produces higher-quality matches (less-biased) by always using the closest neighbor regardless of whether it has been used before. However, doing so will increase the variance of the estimates because fewer untreated units are used in the matching procedure. This "variance for bias reduction trade-off" is more acceptable if there are very few good matches in parts of the data where using matching without replacement would lead to very poor matches and potentially large biases. Frolich (2004) presents evidence that in finite samples NN matching is fairly imprecise, meaning higher mean-square error (MSE) compared to other algorithms described below. The second concern is that when matching without replacement, the order in which the matches are made is important because the matches must be unique. If matches are made in a particular order, such as moving from lower to higher propensity scores, then systematic biases may be built-in. When using NN matching without replacement, it is critical that the order in which the matches are made be random.

Caliper and Radius Matching

One potential drawback of NN matching is that the nearest neighbor may not be very near! Caliper matching is nearest neighbor matching within a range in which acceptable matches can be made. This range, or bandwidth (h), is chosen by the researcher and represents the maximum interval in which to make a match. If the nearest neighbor is outside the bandwidth then no match is made and that treated case will not have a counterfactual and will not be used in the estimation. Essentially, this method imposes common support for each observation in the data. For example, suppose that the treated observation's propensity score is 0.40. If the bandwidth is 0.05 then a match will be made if the nearest neighbor has a propensity score between 0.35 and 0.45. The equivalent for one-to-many matching is called radius

matching where all matches within the bandwidth will be equally weighted when constructing the counterfactual. Both the caliper and radial matching techniques require the researcher to select the bandwidth, which inherently involves a trade-off between bias and variance reduction. Wider bandwidths lower the variance because more data is being used to construct the counterfactual, but it also lowers the match quality and bias increases (more on bandwidth selection in the next section).

Kernel Matching and Local Linear Regression

As noted above, a potential problem with radius matching is that bad matches may arise because all untreated observations within a bandwidth are included. Kernel matching and local linear regression (LLR) are also one-to-many matching algorithms but unlike radius matching where observations within the bandwidth are weighted equally, kernel and LLR weight each untreated observation according to how *close* the match is. The function that determines the weight is called the kernel function,

$$K(\psi), \quad \psi = \frac{P_i(X) - P_j(X)}{h} \tag{23}$$

and is based on the quality of the match (Ψ). The quality of the match is measured as the distance between the propensity scores of the treated and untreated units as a proportion of the bandwidth h. Common kernel functions are presented below, but all have the property that as the match becomes worse the weight placed on the untreated unit decreases. Generically then, the weight placed on each untreated observation is

$$w(i, j) = \frac{K_j(\psi)}{\sum_j K_j(\psi)} \tag{24}$$

where the kernel weight is divided by the sum of the kernel weights because the matching weights ($w(i, j)$) must sum to one.

LLR also uses kernel functions to weight observations according to the closeness of the match but does so through a simple regression estimated for each treated unit. As noted in Black and Smith (2004), kernel matching could be replicated by a regression for each treated unit of the outcomes of untreated units on a constant with an error term and weighted by the kernel weights

$$Y_{0j} = \alpha + \varepsilon. \tag{25}$$

The estimated intercept $\hat{\alpha}$ then is the average outcome of the untreated units weighted according the kernel function, the counterfactual (Y'_{0i}) described above. LLR instead estimates for each treated unit the regression

$$Y_{0j} = \alpha + \beta \hat{P}(X) + \varepsilon \tag{26}$$

with weights determined by the kernel function. As with kernel matching, the estimated intercept is the counterfactual for treated unit i, but LLR controls for the slope of the conditional expectations function by including the propensity score. This is important if parts of the function are highly sloped which can bias the counterfactual. The counterfactual will be pulled upward by the observations on one side of the treated unit and pulled down by observations on the other side. If the slope increases sharply, the counterfactual will be pulled upwards creating a bias. Bias will also happen at the ends of the propensity score distribution or where there are gaps in the common support in the interior of the distribution. In both of these cases, the counterfactuals will be biased because there are more observations within the bandwidth on one side or the other.

Both kernel matching and LLR are computationally intensive because the counterfactual must be created separately for each treated unit using the kernel weights. The more the observations that need to have a counterfactual constructed for them, the longer the process will take. Given increases in computing power, this may be less of a concern than it once was, but it is worth noting nonetheless. While computationally intensive, Frolich (2004) presents evidence that kernel and LLRs algorithms are both relatively precise compared to other methods, particularly a version of LLR called ridge matching, and both are relatively insensitive to the underlying distributions of data and nonlinearities in the conditional expectations functions.

Common Kernel Functions

Kernel functions are simply functions that satisfy a number of characteristics, most notably for our purposes that they are symmetric around zero and the weights from the functions sum to one (see Pagan and Ullah, 1999 for details). In this sense, radius matching employs a simple kernel where all units in the bandwidth receive an equal weight (commonly called a box or uniform kernel). As mentioned, one advantage of kernel and LLR methods is that more sophisticated kernels can be used that place additional weight on closer matches. The kernels discussed below all share this property though they vary according to how much emphasis or weight they place on the close matches.

A simple kernel is the "triangle" kernel where the weight that each matched unit receives from this function is linear with respect to the quality of the match (ψ). Each incremental increase in the quality of the match causes an identical increase in the weight. The function therefore looks like a triangle (see Fig. 3), hence the name. A second common kernel function, the Epanechnikov kernel, places large weight on a wider range of close matches. The Epanechnikov kernel instead uses the square of the match quality (ψ); so, close matches are treated with large weights but as the quality of the match decreases the weight is decreased exponentially, which places more emphasis on the region around zero (a perfect match) (see Fig. 3).

Both the triangle and Epanechnikov kernels impose the common support locally because observations are only matched if they are within the bandwidth. A final
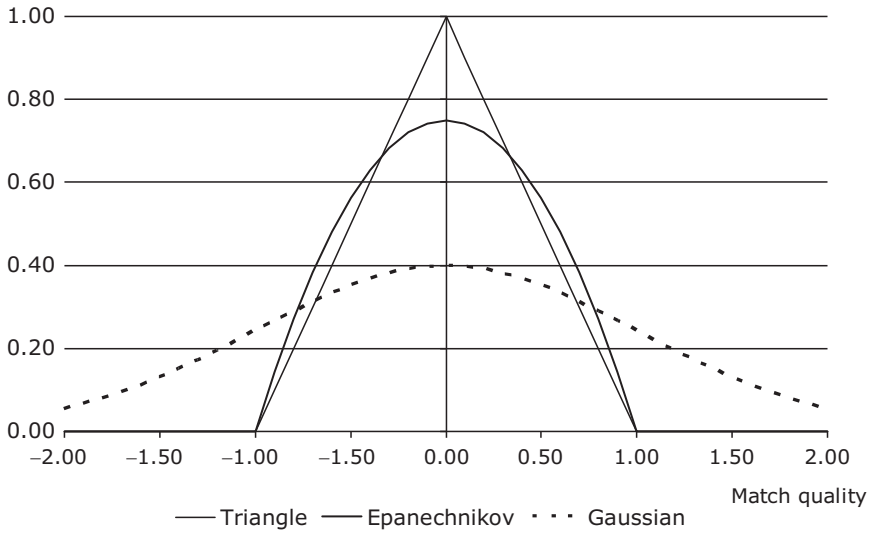
Fig. 3 Weights placed by common kernel functions

common kernel is the normal or Gaussian kernel where the weights are based on the normal density function. An important difference when using the Gaussian kernel is that it does not impose the common support locally. *All* untreated observations are used to construct the counterfactual, but more weight is placed on the best matches and negligible weight is placed on poor matches (see Fig. 3).

Bandwidth Selection

In addition to the choice of the kernel function, the researcher must also choose the bandwidth. Bandwidth selection is a complex topic, and there is an entire literature devoted to selecting the correct bandwidth (see Pagan and Ullah, 1999). Herein we discuss two common bandwidth selection techniques.

The first is a plug-in method based on the number of observations and the distribution of the data. Essentially these methods provide a simple algorithm to find the bandwidth that essentially minimizes the variance of the estimates. The basic form of the algorithm is

$$h = cn^{-\frac{1}{5}} \tag{27}$$

where n is the number of observations and c is inversely related to the variance in the density of the outcome (see Pagan and Ullah, 1999, for an explanation of this derivation). Equation (27) indicates that the bandwidth should decrease as the number of observations increases and as the variance of the density increases. Practically, the

number of observations is known to the researcher but c is often approximated using various methods. One simple substitution is $c = 1.06\sigma$ where σ is the standard deviation of the outcome in the sample. This substitution implicitly assumes that the outcome is normally distributed, which may be a poor assumption in many cases. Silverman (1986) suggests other possible substitutions for c which are robust to different densities of the data. One such substitution is $c = 0.79R$ where R is the interquartile range or the distance between the first and third quartiles of the outcome distribution.

   The second bandwidth selection method, leave-one-out cross-validation, actually tests different bandwidths to check which one minimizes the MSE (see Black and Smith, 2004; Reynolds, 2007, for papers using this method). This method specifically tests for the bandwidth that has the lowest variance among the observations used to construct the counterfactuals. Specifically, the average MSE to be minimized is expressed as

$$MSE = \sum_{j \in \{T=0\}} \frac{1}{n_0} [Y_{0j} - E_{-j}(Y_{0j} \mid \hat{P}(X_j), h)]^2 \tag{28}$$

where n_0 is the number of observations in the control group and $E_{-j}(Y_{0j} \mid \hat{P}(X_j), h)$ is the predicted outcome constructed from the matching algorithm and using all of the untreated observations except observation j (the left-out observation). The average MSE therefore is the squared difference of the actual outcome for observation j and the average outcome of all *other* untreated units within the bandwidth. The procedure is then replicated using different bandwidths and the MSE's are compared. The bandwidth with the lowest MSE is selected as the bandwidth for the matching procedure. This iterative method can also be used to select a kernel function by repeating the procedure for different kernel functions and then selecting the kernel function and bandwidth combination with the lowest MSE. The downside to this procedure is that it is computationally intensive and the larger the untreated sample the more intensive it becomes, because the procedure must estimate the average MSE for each untreated observation for each bandwidth. Whichever bandwidth or kernel selection method is used, it may be useful to check whether the results are robust to other bandwidths or kernel functions.

Propensity Score Reweighting

As mentioned before, a potential drawback of kernel matching and LLR is that they are computationally intensive because a counterfactual must be estimated for each treated observation. And if a cross-validation technique is also employed to select the bandwidth or kernel function, the process becomes even more computationally intensive. A much simpler procedure focuses entirely on reweighting and does not actually involve matching observations. (This procedure is also known as "inverse probability weighting.") As described below, the reweighting is done based on the propensity score alone, and therefore there is no need to try to match individual observations to other observations.

For estimating the ATT this means that there are no weights constructed for each treated unit i, so instead of defining $w(i, j)$ for each treated unit we just need to define $w(j)$ or the weight that will be placed on each untreated observation,

$$w(j) = \frac{\hat{P}_j(X)}{1-\hat{P}_j(X)}. \tag{29}$$

This process reweights untreated observations with a high propensity score up whereas those with low propensity scores are reweighted down. The untreated observations with high propensity scores are those cases whose characteristics are most similar to the treated units, so the idea is to weight them more heavily than the observations that are dissimilar, as indicated by low propensity scores. The main advantage of this method is its ease to program and implement because the method does not create separate counterfactuals for each unit one by one. For example, using the general formula for the ATT and substituting in the weights above provides

$$ATT = E(Y_{1i}) - E(Y'_{0i})$$
$$= \frac{1}{n_1} \sum_{i \in (T=1)} \left(Y_{1i} - \frac{\hat{P}_j(X)Y_{0j}}{1-\hat{P}_j(X)} \right) \tag{30}$$

which is simply the difference in the treated and reweighted untreated means, which can be easily computed. The ATE is also simple to calculate when using propensity score reweighting. With propensity score reweighting, the ATE in Eq. (11) simplifies to

$$ATE = \frac{n_1}{n}\left(E(Y_{1i}) - E(Y'_{0i})\right) + \frac{n_0}{n}\left(E(Y'_{1i}) - E(Y_{0i})\right)$$
$$= \frac{1}{n} \sum \left(\frac{Y_{1i}}{\hat{P}_i(X)} - \frac{\hat{P}_j(X)Y_{0j}}{1-\hat{P}_j(X)} \right) \tag{31}$$

which is also the simple difference of two means calculated with weights based on the propensity score.

This method is appealing simply because it is easy to implement but it is not without its own problems. Importantly, compared to the other algorithms it relies much more on the propensity score and therefore is more sensitive to specification and prediction of $\hat{P}(X)$. Suppose, for example, that there is some amount of error in the estimated propensity score. With nearest neighbor matching, for example, this error may not even affect the results if it only changes the distances between matches but does not change which observations are matched. With propensity score reweighting small errors can create problems as the weights are *directly* applied to the observations. Also, the weights involve dividing by $\hat{P}(X)$ or $1 - \hat{P}(X)$ which may be very small (less than 0.01) at the ends of the distribution. This creates very large weights for observations that nearly violate the common support ($\hat{P}(X) = 1$ or $\hat{P}(X) = 0$). Small errors in the propensity scores are also magnified in this case. A final concern is that in finite samples the estimator can be very imprecise, even less precise than nearest neighbor matching (Frolich, 2004).

Inference

A remaining concern for any of the algorithms described above is how to construct standard errors for the estimated treatment effects. A simple, though incorrect, method when considering the ATT is to conduct a t-test on the null hypothesis that $E(Y'|T = 1) = E(Y'_0|T = 1)$. If the null hypothesis is rejected, then it also rejects the hypothesis that $ATT = 0$. The reason that this simple technique is not valid is that the standard errors used in the test fail to account for the additional variation introduced by the estimation of the propensity score (see Heckman et al., 1998b). The problem is that when an estimate of the $\widehat{ATT}$ is constructed, the distribution from which this estimate comes is unknown, so standard errors are not determinable. The most common solution to this problem is to use bootstrapping methods to construct the standard errors and confidence intervals for the estimated treatment effects. Bootstrapping is a technique to create confidence intervals by resampling the data over and over to create a distribution of treatment effects. Essentially the procedure randomly pulls observations from the data with replacement, meaning that the same observation may be pulled more than once. A treatment effect $\widehat{ATT}_1$ is then estimated on this draw from the sample and then saved. Then a new sample is drawn from the data and another treatment effect $\widehat{ATT}_2$ is estimated and saved. The procedure is replicated many times (e.g., 1,000 times), creating a distribution or set of treatment effects $\widehat{ATT}_1, ..., \widehat{ATT}_{1000}$ from different samples of the original data (see Wooldridge, 2002; Brownstone and Valleta, 2001). This technique is also computationally intensive since the entire matching procedure must be estimated for each draw from the data. However, many statistical programs, such as Stata, have built-in routines to perform bootstrapping.

have built-in routines to perform bootstrapping.While bootstrapping methods are extremely common when using matching, only recently has research been conducted on whether it is actually valid for matching methods. Unfortunately, work by Abadie and Imbens (2006b) demonstrates that at least for NN matching the bootstrapping methods do not produce accurate standard errors. It is possible that this problem is unique to the NN algorithm because it appears to be related to the lack of smoothness of this algorithm. Smoother algorithms, such as kernel matching, LLR, and propensity score reweighting, may not suffer from similar problems. Approximations of the variance are presented in Lechner (2001) and Abadie and Imbens (2006a) as alternatives. Despite the concerns noted above, bootstrapping remains the most common method for producing standard errors in matching methods.

Matching Software

While propensity score reweighting can be coded relatively easily in most statistical packages, the other methods described above are not as simple to create from scratch. Luckily, there are several options for statistical software to implement matching estimators. One option, and the one used later in this chapter, is "psmatch2" for Stata (Leuven and Sianesi, 2003). The program estimates the ATT or ATE and the

user can choose many of the algorithms described above (the software does not implement interval or propensity score reweighting) as well as other less common algorithms. The software also includes routines to check for balance of covariates and for producing graphs examining the common support. Another program is "nnmatch" for Stata that implements different versions of nearest neighbor matching but does not allow the implementation of other algorithms (Abadie et al., 2004). However, this routine does produce approximations of the sample and population variances for inference. A third option, also available in Stata, is a suite of programs by Becker and Ichino (2002) that estimate treatment effects with several different algorithms, including interval matching. The method also provides an approximation of the variance by Lechner (2001) mentioned above.

Sampling Weights

The use of sampling weights is another consideration when implementing matching methods. This is particularly important in education research where data sets collected from surveys often involve complicated sampling schemes. Sampling weights are provided in these data sets so that statistics produced are representative of the population instead of the sample. Weighting is often important because the oversampled population may have very different treatment effects than the under-sampled population. There are two steps in the matching procedure where using sampling weights is important (assuming an interest in estimating population treatment effects). First, sampling weights are necessary when estimating the propensity score so that it balances the observable characteristics in the *population*, rather than the sample. Second, weights may be necessary to weight observations when using the matching algorithms to construct the treatment effects. Unfortunately, sampling weights are often not incorporated into matching analyses and none of the programs described above allows one to do so. The main reason has to do with the popularity of NN matching. In this method, the sampling weight of the untreated units is irrelevant because the method selects the nearest neighbor regardless of how many observations (in the population) that nearest neighbor represents. The sampling weight of the untreated observations are only important if more than one untreated observation is used to construct the counterfactual, which is the case for most of the other methods. Additionally, if the matching is on the odds ratio rather than the propensity score, the underlying sampling distribution, whether known or not, is not important (see Caliendo and Kopeinig, 2008). Thus, NN matching on the odds ratio can be used without the need to include sampling weights.

The use of sampling weights in matching methods is discussed in Azevedo et al. (2005) and Zanutto (2006). Reynolds (2007), the basis of our case study, incorporated sampling weights, but for simplicity the case study results herein do not use sampling weights. The results are not qualitatively different, and a comparison with Reynolds (2007) indicates the differences in magnitude are small. The proper role of sampling weights in matching methods deserves additional research.

How Attending a 2-Year College Affects Educational Attainment

To illustrate the use of matching methods, we now turn to the question of how 2-year college attendance affects educational attainment. From a policy perspective, this issue is important because 2-year institutions play a large role in the higher education system in the United States. In 2004, 43% of all first-time, first-year students began college at a 2-year institution. Two-year colleges are also attractive options for students because they typically have much lower tuition rates than 4-year colleges and may provide more flexible schedules than traditional 4-year institutions. Also, new statewide articulation agreements and common core curriculums in many states have made transferring from 2- to 4-year institutions simpler, making the former a more attractive option.

The educational attainment effects of 2-year colleges also provide a useful topic for discussing matching methods, because it is difficult, if not impossible, to study such effects by randomly assigning students to different types of colleges. Additionally, other nonexperimental techniques are either difficult or not possible to implement because of data limitations or the nature of state policies. Regression discontinuity methods are typically not an option because there is no score governing selection around which students can be thought to be randomly assigned. An IV approach is possible but valid instruments are often difficult to find in this context. Commonly used instruments, such as college proximity (see Card, 1995), do not necessarily satisfy the requirement that the instrument affects selection but not the outcome, and potential instruments are often too weak to be useful, meaning that they are not highly correlated with selection. Weak instruments are biased in the same direction as standard OLS regressions and are not consistent (Bound et al., 1995). What researchers do have are rich longitudinal surveys, like the one used in this case study, which provide a wide variety of covariates. A rich set of covariates is necessary to eliminate selection bias when the researcher relies on a "selection-on-observables" assumption. Consequently, researchers have traditionally used OLS regression to estimate the effects of 2-year college attendance on educational attainment (Rouse, 1995, 1998; Leigh and Gill, 2003). As argued above, semi-parametric methods are more flexible and require less strict assumptions than OLS regression and may therefore provide more accurate estimates. The advantages associated with matching methods will likely be accentuated when the underlying distributions of observable characteristics are very different across the treatment and control groups, as will be shown to be the case with 2- and 4-year students. Again, these methods are not experimental and so may not actually represent the "true" treatment effect available under randomization. What the matching methodology does provide, however, is a possible *improvement* in estimates by moving away from often flawed parametric specifications.

Herein we consider the effects on educational attainment of initially attending a 2-year college instead of a 4-year institution, the former being the treated (assigned $T = 1$) and the latter designated as untreated (assigned $T = 0$). We are interested in estimating the effect on educational attainment of attending a 2-year college instead

of a 4-year college *for those who actually attend a 2-year college* (the ATT). To the extent that educational attainment is lowered by this institutional choice, the ATT represents what students forgo by attending a 2-year college instead of a 4-year institution. The 2- to 4-year comparison ignores the potential advantages of attending a 2-year college relative to not going to college at all. Thus, an additional comparison is provided on the 2-year/no college margin. As discussed in Reynolds (2007), both margins may be of interest given the increased emphasis placed on 2-year colleges by students and state governments. The first is the correct margin for thinking about policies causing students to change the type of institution they attend. The second margin is correct for thinking about policies influencing new students to attend college (at a 2-year college).

In the case studies provided, we focus on several different measures of educational attainment as outcomes. We consider second- and third-year retention rates to measure progress through college; completion of an associate's degree and of a bachelor's degree; and we examine total credits earned at all institutions to measure the total amount of education acquired, but also to provide a nonbinary outcome to consider when discussing the differences in the methodologies.

Data

The data used is the National Education Longitudinal Survey (NELS) conducted by the National Center for Education Statistics. The study began with a nationally representative sample of eighth graders in 1988 with follow-ups in 1990, 1992, 1994, and 2000. Approximately 12,000 students were tracked over the observation period. Students were asked questions about their school and home environment, their activities, and later in life their earnings and work history. Their parents were also interviewed about their work history, educational background, and home environment. Surveys were given to teachers and administrators at the high schools that the students attended. To supplement the survey data, students were given standardized tests in math, English, history, and science, and data from college transcripts were gathered to provide an account of students' postsecondary experiences.

Table 3 presents sample statistics for the 2- and 4-year students. Four-year students are divided into students in selective 4-year institutions and less-selective 4-year institutions. The categorization is based on the Cooperative Institutional Research Project's stratification cells. In the NELS sample, 70% of 4-year students attended a less-selective institution. The characteristics of 2- and 4-year students are very different, with the latter having more "advantaged" characteristics when it comes to college attendance. Students who matriculated at a 2-year college had lower standardized test scores and lower grade point averages, come from families with lower incomes, and have parents with lower education levels. They also attend high schools with less-affluent student bodies than 4-year students. Students at 2-year colleges have lower educational expectations, with a smaller proportion of them expecting to complete a bachelor's degree or higher. This is not surprising because some of these students have no

Table 3 Means of selected characteristics across treatment

	Two-year	Less-selective 4-year	Selective 4-year
Male	0.46	0.45	0.49
White	0.67	0.75	0.68
Black	0.08	0.09	0.07
Hispanic	0.16	0.09	0.07
Other minority	0.08	0.07	0.18
Reading score, 1992	23.75	31.13	32.85
Math score, 1992	34.16	46.22	50.38
Reading score, 1988	23.09	28.93	32.04
Math score, 1988	30.25	39.02	45.76
Family income (thousands), 1992	27.32	39.28	55.25
Educational expectations			
High school	0.03	0.00	0.00
Trade school	0.12	0.01	0.01
Some college	0.20	0.05	0.02
BA	0.31	0.45	0.26
MA	0.12	0.25	0.31
Ph.D.	0.08	0.19	0.34
High school characteristics			
Enrollment	228.78	227.10	248.05
Teacher pay	16,252.46	17,357.36	18,140.59
Percentage of free lunch	18.41	16.18	11.56
Mother education			
Less than HS	0.15	0.06	0.04
HS	0.25	0.23	0.13
Tech school	0.16	0.13	0.08
Some college	0.25	0.28	0.24
BA	0.08	0.18	0.29
BA	0.03	0.07	0.17
Ph.D.	0.00	0.01	0.03
Father education			
Less than HS	0.14	0.06	0.04
HS	0.21	0.16	0.08
Tech school	0.05	0.05	0.03
Some college	0.25	0.24	0.17
BA	0.12	0.19	0.25
MA	0.04	0.12	0.16
Ph.D.	0.02	0.07	0.21
N	3,770	3,340	1,550

intention of earning a bachelor's degree, which may be why they chose to attend a 2-year college. These differences noted are even more pronounced when comparing 2-year students to their 4-year colleagues at selective institutions.

These descriptive statistics suggest that the distributions of characteristics are very different for 2- and 4-year students. Figures 4–8 further demonstrate these differences by comparing the distributions of selected characteristics for 2- and 4-year students. In every case, the average outcome of 4-year students is higher than for their 2-year counterparts. However, the graphs reveal that the tails of the 4-year
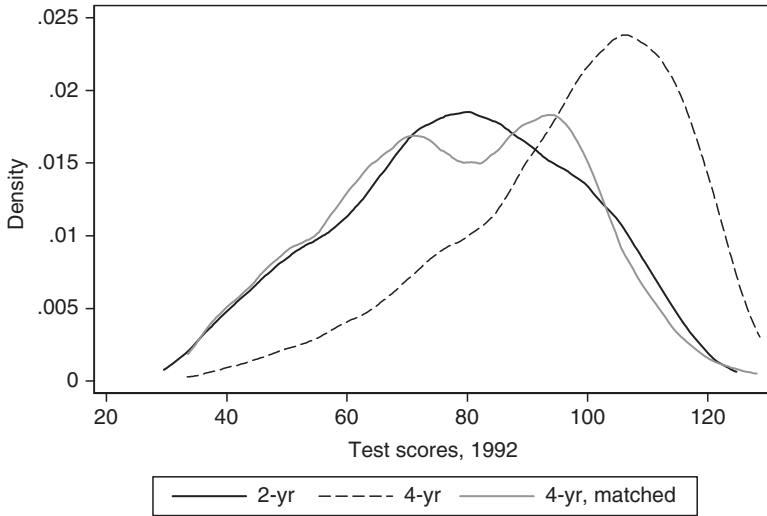
Fig. 4 Distributions of standardized test scores by treatment status
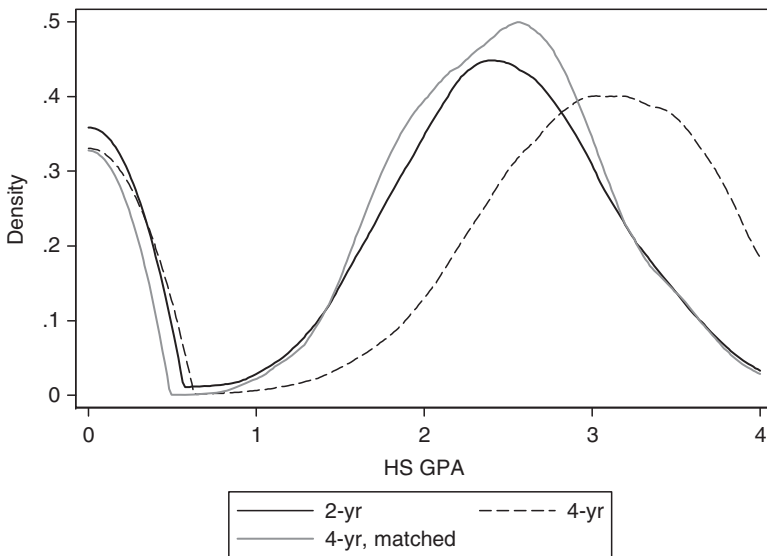
Fig. 5 Distributions of high school grade point average by treatment status

student distribution are also thicker at the higher levels, sometimes dramatically so (see Fig. 5). These distributional differences in characteristics affect both the selection into institutional type as well as subsequent outcomes from either type of institution. The graphs also suggest that there may be concerns about common support because there appears to be areas where the distributions may not overlap.
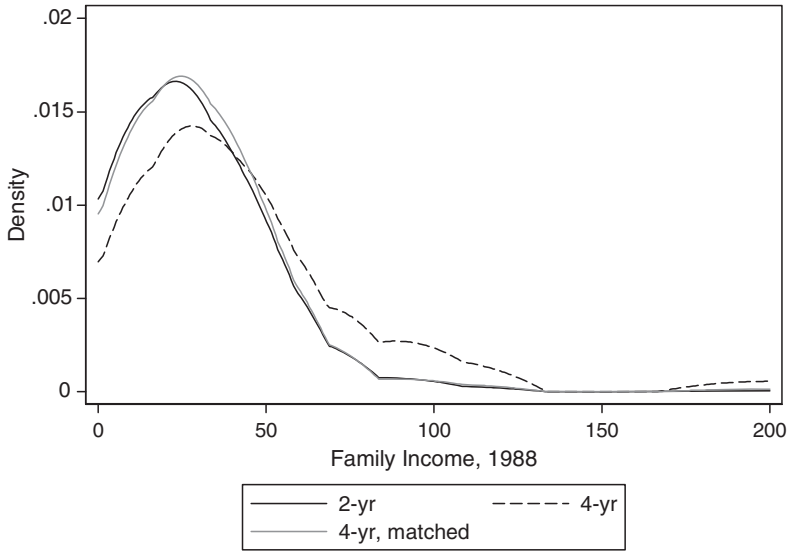
Fig. 6 Distributions of family income in 1988 by treatment status
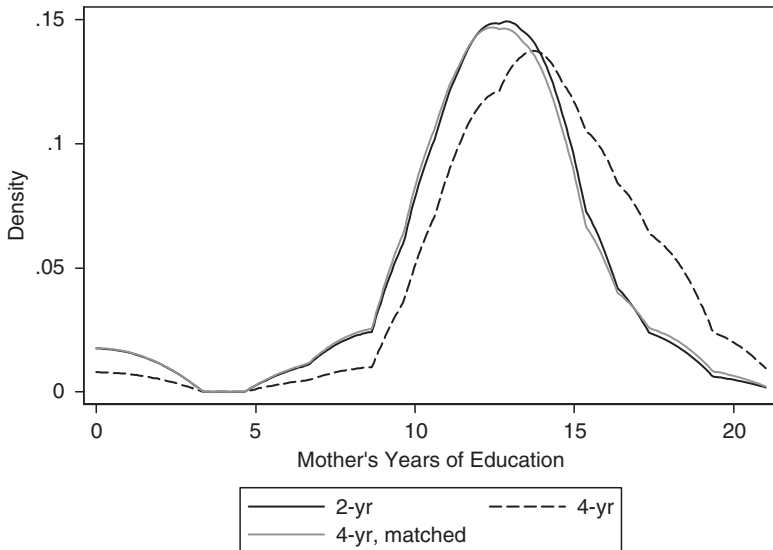
Fig. 7 Distributions of mother's years of schooling by treatment status
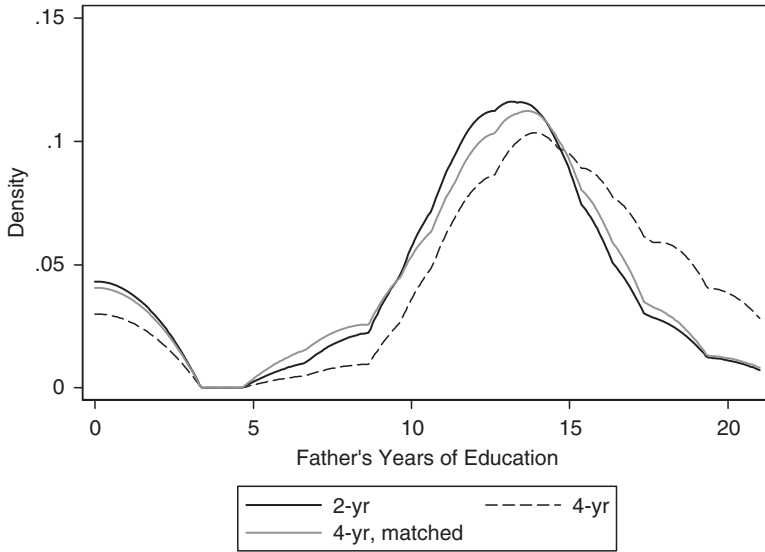
Fig. 8 Distributions of father's years of schooling by treatment status

Estimating the Propensity Score: Balancing and Common Support

Differences in observable characteristics, as well as conceptual education theory, suggest that the characteristics described above may be important in the selection of students into institutional types. To explore the role of these characteristics in the selection of students into 2- and 4-year institutions, we estimated a logistic regression of the probability of beginning at a 2-year college. The variables selected for inclusion are those thought to be necessary to satisfy both the CIA and the balancing property, and based on educational theory and prior research. To control academic ability and effort, the regression includes reading and math standardized test scores in 8th and 12th grades, high school grade point average, and high school class rank percentile. An indicator is also included for whether or not the student took vocational classes in high school because this may represent a technical ability not present in the other measures. Because 2-year colleges have historically played a larger role than 4-year colleges in training and teaching technical skills, these skills are potentially an important source of selection. We also include the stated educational expectations of the student, which is critical to unraveling the selection problem because this variable may be correlated with unobserved variables affecting selection. Family-income quartiles, maternal and paternal education, dummy variables for parental occupation categories, and parental marital status are included to control student family characteristics. High school enrollment, percent of students receiving subsidized lunches, teacher pay, and an indicator for public school status are included to account for differences in the high school environment of the student. Region-fixed effects account for regional variability of schools and colleges.

   The regression is estimated separately for men and women because it is likely that the effects vary by gender and doing so will help improve balance by forcing matches to be made within sex. If the observable characteristics of men and women vary, stratifying results in more balanced covariate distributions across treatment status. Test score/race interactions are also included to improve balance. The balancing property can be seen in the 4-yr, matched" lines included in Figs. 4–8 above. These are the distributions of the characteristics in the sample of students who are ultimately matched. In all cases, the distributions of the matched students are more similar, sometimes nearly identical, to the 2-year students.

   Although not the primary focus of our case study, the regression results (by gender) are presented in Table 4. The evidence is that the observable characteristics influence the type of college a student attends, though the results vary by gender. For men, Hispanic and Black students are less likely to attend a 2-year college than white students, ceteris paribus. Standardized test scores, high school grade point averages, and rank percentiles are inversely related to 2-year college attendance. Vocational classes in high school are associated with 2-year college attendance, and higher educational expectations and maternal education each lower 2-year attendance chances. For men, family income and paternal education are not significantly related to 2-year college attendance. Family income *is* significant for women, and the math test score effects for women are slightly stronger than for men.

   Given that the propensity score is simply the predicted values from the logistic regression, we can check for common support by comparing histograms of the propensity scores of 2- and the 4-year students. Figures 9 and 10 do so and reveal two important findings. First, the histograms present clear visual evidence of the importance of observable characteristics in selection. The density of 2-year students increases with the propensity of attending a 2-year college, and the reverse is true of the 4-year student distribution. There is the possibility that students are selecting into 2-year colleges based on unobservable characteristics, but it is reassuring to see selection on observable characteristics. Second, Figs. 9 and 10 demonstrate that there is common support through most, if not all, of the propensity score distribution. At very high propensity scores for men, the density of 4-year students is fairly low but does exist, while for women the support is relatively strong throughout the distribution. So while the observable characteristics are important for selection and vary across 2- and 4-year students, there are matches to be made allowing for the construction of the necessary counterfactuals. Because any problems with common support seem to occur only at the tails of the distribution, we will use the minimum–maximum rule described above for handling the common support.

Results

We begin a discussion of the results by presenting the average outcomes for 2- and 4-year students (see Table 5). For the entire sample, the average outcomes for 2-year students are much lower than for 4-year students. Two-year students have

Table 4 Logistic regression of the probability of attending a 2-year college

	Men		Women	
	Odds ratio	Std. error	Odds ratio	Std. error
Black	0.153	0.088[*]	0.162	0.076[*]
Hispanic	0.420	0.210[*]	0.305	0.142[*]
Other minority	1.861	1.481	0.428	0.252
Reading scores, 1992	0.983	0.008[*]	0.986	0.009
Black	1.014	0.020	1.004	0.017
Hispanic	1.008	0.012	1.001	0.015
Other minority	1.023	0.016	1.014	0.016
Math scores, 1992	0.983	0.007[*]	0.970	0.007[*]
Black	0.993	0.024	1.006	0.021
Hispanic	0.994	0.015	1.009	0.018
Other minority	0.959	0.022[*]	0.984	0.020
High school grade point average (GPA)	0.455	0.050[*]	0.484	0.049[*]
Class rank (percentile)	0.561	0.112[*]	0.719	0.125[*]
Family income, first quartile	0.925	0.167	1.355	0.216[*]
Family income, second quartile	1.083	0.157	1.335	0.179[*]
Family income, third quartile	1.254	0.174	1.502	0.200[*]
Expect trade school	1.842	0.795	0.603	0.321
Expect some college	0.880	0.342	0.710	0.191
Expect BA	0.254	0.094[*]	0.150	0.036[*]
Expect MA	0.192	0.073[*]	0.112	0.028[*]
Expect Ph.D.	0.138	0.054[*]	0.107	0.027[*]
Shop courses	1.240	0.118[*]	1.482	0.127[*]
Parents married	0.589	0.119[*]	1.157	0.206
Mother education, HS	0.627	0.102[*]	0.777	0.111[*]
Mother education, tech school	0.707	0.125[*]	0.910	0.139
Mother education, some college	0.691	0.112[*]	0.915	
Mother education, BA	0.471	0.098[*]	0.534	0.106[*]
Mother education, MA	0.388	0.106[*]	0.587	0.157[*]
Mother education, Ph.D.	0.339	0.232		
Father education, HS	0.924	0.147	1.130	0.156
Father education, tech school	0.899	0.192	1.370	0.281
Father education, some college	1.148	0.169	0.968	0.129
Father education, BA	0.823	0.150	0.964	0.164
Father education, MA	0.914	0.216	0.672	0.157
Father education, Ph.D.	0.717	0.231	0.652	0.220
HS, enrollment (thousands)	1.000	0.000	1.000	0.000
HS, percentage of free lunch	0.996	0.003	0.997	0.002
HS, teacher pay	1.000	0.000	1.000	0.000[*]
HS, public	1.774	0.231[*]	1.445	0.178[*]
N	3,630		4,210	0.133

Asterisks denote statistical significance at the 10% level or better.

less than a 50% chance of being retained to a second year and have a 19% chance of earning a bachelor's degree. Four-year students have a 71% chance of earning a bachelor's degree but only a 5% chance of completing an associate's degree. Two-year students, on average, complete approximately half as many credits as 4-year students.
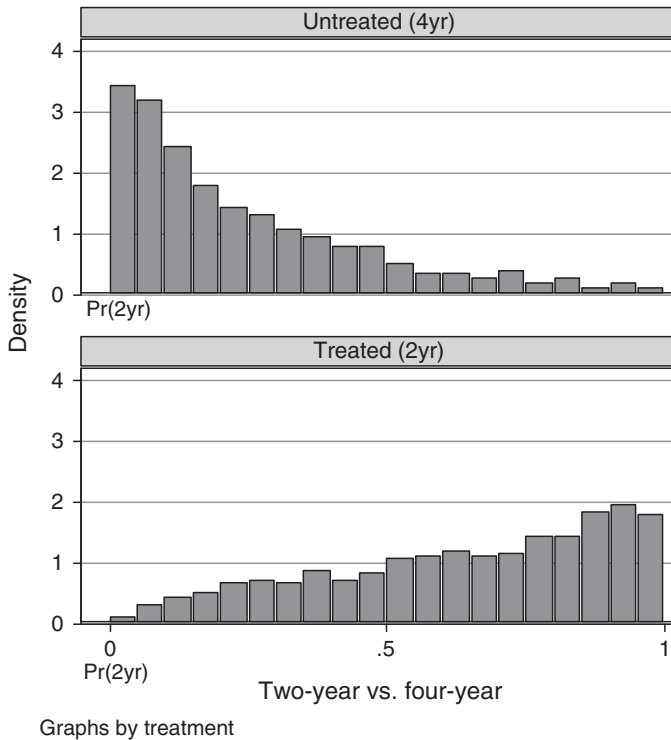
Fig. 9 Distribution of propensity score by treatment status – men only

The naïve estimator of the ATT, the simple difference in mean outcomes is presented in the third column of Table 5. This difference suggests very large decreases in educational attainment and a relatively small increase in the probability of completing an associate's degree for 2-year students, but as demonstrated in the numerical example earlier, these differences are tainted by selection. Selection likely produces results that are too negative because the less-advantaged characteristics associated with 2-year students increase the probability of attending a 2-year college and decrease the educational attainment that these students are likely to achieve. Selection may also cause the simple difference in the probability of completing an AA degree to overstate the ATT because students most likely to attend a 2-year college are also likely to only complete an AA degree regardless of where they begin college. This selection story suggests that the true ATT for all outcomes should be smaller in magnitude.

To illustrate the differences across methodologies and matching algorithms, the ATT is estimated using standard OLS as well as single nearest neighbor matching, kernel matching, LLR, and propensity score reweighting. The OLS specification includes the same variables as the logit used to estimate the propensity score. This is important to note because it means that the OLS specification used here as a comparison is relatively flexible and therefore should do a better job of controlling
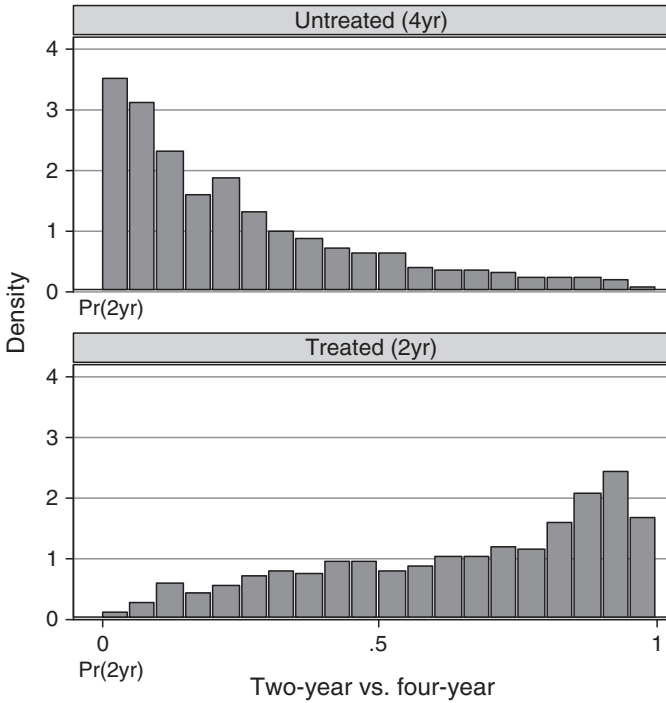
Fig. 10 Distribution of propensity score by treatment status – women only

Table 5 Average outcomes and naïve estimator

	$E(Y_1)$ (2-year)	$E(Y_0)$ (4-year)	$E(Y_1 - Y_0)$
All students			
Second year	0.469	0.855	−0.385
Third year	0.297	0.794	−0.498
AA	0.237	0.046	0.191
BA	0.188	0.706	−0.518
Total credits	64.060	116.011	−51.953

for differences in covariate distributions than a less flexible method. The standard errors for all methods are jointly bootstrapped to account for the correlations across estimates and the bootstrap procedure is replicated 1,000 times. Bandwidths for the kernel matching and LLR methods were selected using leave-one-out cross-validation and were estimated using the Epanechnikov kernel. NN matches were made with replacement. The nearest neighbor, kernel, and LLR were estimated using the

PSMATCH2 software by Leuven and Sianesi (2003); a sample of the Stata code used to produce these estimates is provided in the appendix.[5]

The results for men are presented in the top panel of Table 6. The estimates from all methods suggest that 2-year college attendance lowers educational attainment significantly compared to 4-year college attendance. The ATT for every outcome, except for the probability of completing an AA degree, is negative and statistically significant, suggesting that students who attend a 2-year college are likely to suffer significant decreases in educational attainment. The OLS results suggest that attending a 2- instead of a 4-year college, for those who actually attended a 2-year college, lowers the probability of being retained to a second (third) year by 17 (25) percentage points, lowers the probability of completing a bachelor's degree by 25 percentage points, and lowers the total number of credits earned by 23, approximately one and one half semesters. The effect on the probability of completing an AA degree is positive but small because few students who begin at a 4-year college are likely to complete an AA degree. The results for women are presented in the bottom panel of Table 6 and indicate similar but slightly larger effects.[6]

Table 6 ATT for attending a 2-year instead of a 4-year institution

	OLS	NN	Kernel	LLR	RW
Men					
Second year	−0.174[*]	−0.146[*]	−0.163[*]	−0.152[*]	−0.093[*]
	(0.019)	(0.029)	(0.025)	(0.026)	(0.047)
Third year	−0.246[*]	−0.200[*]	−0.219[*]	−0.199[*]	−0.111[*]
	(0.020)	(0.029)	(0.024)	(0.024)	(0.039)
AA	0.182[*]	0.128[*]	0.118[*]	0.111[*]	0.106[*]
	(0.017)	(0.022)	(0.020)	(0.022)	(0.027)
BA	−0.250[*]	−0.189[*]	−0.219[*]	−0.203[*]	−0.135[*]
	(0.019)	(0.027)	(0.022)	(0.022)	(0.032)
	−23.320[*]	−20.563[*]	−22.940[*]	−21.077[*]	−11.658[*]
Total credits	(2.159)	(3.380)	(2.856)	(2.891)	(5.083)
Women					
Second year	−0.168[*]	−0.156[*]	−0.153[*]	−0.126[*]	−0.088[*]
	(0.017)	(0.031)	(0.024)	(0.026)	(0.039)
Third year	−0.263[*]	−0.227[*]	−0.239[*]	−0.209[*]	−0.16[*]
	(0.018)	(0.028)	(0.023)	(0.024)	(0.037)
AA	0.228[*]	0.151[*]	0.172[*]	0.171[*]	0.157[*]
	(0.016)	(0.024)	(0.019)	(0.024)	(0.028)
BA	−0.284[*]	−0.227[*]	−0.232[*]	−0.209[*]	−0.166[*]
	(0.018)	(0.024)	(0.020)	(0.021)	(0.030)
Total credits	−24.277[*]	−21.620[*]	−22.360[*]	−18.972[*]	−13.988[*]
	(2.055)	(3.279)	(2.623)	(2.773)	(3.877)

Standard errors are jointly bootstrapped using 1,000 replications. Asterisks denote statistical significance at the 10% level or better.

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[5] For the binary outcomes, an OLS regression is less appropriate than a logistic or a probit regression. OLS is used here for simplicity of explanation but Reynolds (2007) demonstrates that the problems of parametric specifications apply also to probit and logistic regression.

[6] The results for both men and women are qualitatively similar to Reynolds (2007).

While the signs on the treatment effects are the same across methods, the magnitudes are different. For each outcome the OLS estimates overstate the ATT compared to the matching methods. For the negative effects on second- and third-year retention rates, earning a bachelor's degree, and total credits earned, the OLS estimates are more negative than the matching estimates. This overstatement is particularly large for the third-year retention and bachelor's degree completion results, where the estimates from the matching methods are statistically different from the OLS estimates. The problems with the OLS regression results apply not only to those negative treatment effects, but also to the positive treatment effect where the outcome is earning an AA degree. In this case the OLS estimates are more positive than the corresponding matching estimates.

Why the differences? As mentioned above, selection suggests that the simple difference in outcomes will overstate the treatment. Including the covariates reduces the estimated effects by approximately one half (on average) across the methods. Including the covariates in the OLS specification helps to remove some of the selection based on observable characteristics, but fails to reduce it as much as the matching methods. It is important to remember that the particular OLS specification used is relatively flexible, with interactions between covariates that should aid in the estimation. A less flexible specification, not presented here, produces magnitudes that are 10% larger creating even more differences between OLS and matching. The OLS regressions perform poorly in this context because of the large differences in the underlying distributions of characteristics. Black and Smith (2004) demonstrate that OLS regressions perform poorly when estimating the returns to quality across 4-year institutions. Even by the crude measure of selectivity presented in Table 3, 4-year students are more similar to each other than they are to the 2-year students. Reynolds (2007) illustrates the problem by demonstrating that the estimated treatment effects across methods are similar when the sample of 2- and 4-year students is restricted to 4-year students at less-selective institutions and students who expected to earn at least a bachelor's degree. The differences in the distributions of covariates are more similar in this restricted sample and OLS and kernel matching produced similar results (see Reynolds, 2007, for details).

While the matching methods all produce estimated treatment effects that are smaller in magnitude than the OLS estimates, it is important to note that they do not produce identical results. First, the standard errors are larger for the nearest neighbor and reweighting estimates. This is consistent with the Monte Carlo analysis in Frolich (2004) that demonstrated the finite sample inefficiencies of these two methods. Given the size of the estimated treatment effects, the lack of precision may not matter but it could in other applications where the magnitudes of the treatment effects are not as large.

A second difference across the matching estimates is that the propensity score reweighting estimates are much smaller in magnitude than for the other methods. This is because of differences in how the 4-year students (the untreated) are weighted across the different methods. Matching methods place more weight on 4-year students with high propensity scores because these individuals have characteristics most similar to the 2-year students. These 4-year students experience much lower educational attainment compared to the 4-year students with low propensity scores. For example, 4-year students with $\hat{P}(X) > 0.9$ have a 12% chance of completing a

bachelor's degree while 4-year students with $\hat{P}(X) < 0.9$ have a 67% chance of completing a bachelor's degree. Counterfactuals, and the resulting ATT, will be smaller when more weight is placed on these 4-year students with high $\hat{P}(X)$. In this example, propensity score reweighting places 4.5 times more weight on the 4-year students with $\hat{P}(X) > 0.9$ than the other matching methods because it does not actually match observations one at a time. Results not presented here (but available on request) indicate that the ATT for all matching methods are similar if the observations with $\hat{P}(X) > 0.95$ are dropped from the sample.

An additional explanation for the difference in the OLS and matching methods is that, as specified, the OLS implicitly assumes that

$$\text{ATT}_{2yr} = -\text{ATT}_{4yr}$$

where ATT_{2yr} is the ATT when the 2-year students are the treated, and ATT_{4yr} is the ATT when the treatment is attending a 4-year college. In other words, the OLS estimate assumes that the results are symmetric. For example, OLS assumes that the 25-percentage-point decrease in the probability of completing a bachelor's degree because a 2-year student attended a 2-year college also means that a 4-year student *increases* his or her probability of completing a bachelor's degree by 25 percentage points by attending a 4-year institution. This can be seen if one instead defines $T = 1$ for students who attend a 4-year college and $T = 0$ if they attended a 2-year institution. Estimating the same OLS regression as before, the coefficient on T will change signs but not magnitude. This symmetry is imposed by the parametric specification of the OLS regression but the matching methods make no such assumption,[7] they simply reweight the requisite observations and allow the treatment effects to vary across the distribution. This symmetry assumption affects the estimated treatment effects but in many cases may not be correct (see Reynolds, 2007 for details).

One final point to be made is to emphasize that while the matching estimates help to reduce the selection based on observable characteristics compared to OLS regression, neither method can reduce the bias caused by selection on *unobservable* characteristics. To interpret the findings for men and women in Table 6 as the "true" treatment effects, we must believe that the CIA has been satisfied and that there is no additional selection based on unobservable characteristics. In this particular case, the rich set of covariates, particularly the students' own educational expectations, suggests that we may come close to estimating the true effect. Assuming that the remaining unobservable characteristics affect selection in the same direction as the observable characteristics, the "true" effect is likely to be even smaller than those estimated here.

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[7] Reynolds (2007) notes that the OLS regression does not need to impose symmetry if the treatment indicator is interacted with the covariates. Reynolds (2007) demonstrates that in this case the estimated treatment effects are similar to matching since the parametric specification has become more flexible.

The High-School-Only/2-Year College Margin

Attending a 2-year college will raise educational attainment compared to attending no college at all, but the question is, to what extent? From Eq. (2), the ATT for attending a 2-year college is

$$\text{ATT} = E(Y_1|T=1) - E(Y_0|T=1)$$
$$= E(Y_1|T=1)$$

because $E(Y_0|T=1)$, the average outcome if the 2-year students do not attend college, is zero; thus, there is no missing counterfactual in this case. The ATT is simply the average outcome for 2-year students presented in the first column of Table 5. However, as discussed before, the results do not have to be symmetric, that is, it is inaccurate to claim that high school graduates who did not attend college would experience the gains noted in Table 5, if they actually attended a 2-year college. We can directly test how much the high school graduate forgoes in education by not attending a 2-year college by estimating treatment effects on the sample of 2-year college students and high school graduates and defining the treatment as not attending college.

The propensity score was reestimated using a logit technique and the same variables as before. Figures 11 and 12 demonstrate that there is common support to implement the matching procedures over most of the distribution. Again, there is failure, or near-failure, at the ends of the distribution so we use the min–max technique for solving the common support problem.[8]

We then reestimate the treatment effects using all of the previous methods but selecting a new bandwidth for the kernel matching and LLR using leave-one-out cross-validation. The results in Table 7 indicate several important facts. First, while not attending college obviously lowers educational attainment, it does not lower attainment as much as the simple difference in means would suggest. The high-school-only students have characteristics that are less favorable to completing higher education compared to 2-year students, so they give up less by not attending a 2-year college than the students who did attend. For example, high-school-only students only give up a 7-percentage-point gain in the probability of earning a bachelor's degree by not going to a 2-year college compared to a 19-percentage-point gain for the 2-year students.

A second important fact is that the parametric specification again creates problems and the OLS estimates seem to overstate the treatment effect. Again, the matching estimates do a better job of controlling for the covariates compared to the OLS regression. While one would not need to estimate an OLS regression to determine the effect of attending a 2-year college instead of not going to college (because, as

---

[8] Reynolds (2007) shows that the only comparison with common support for those students who do not attend college is with 2-year students. The common support completely fails when comparing students with no college experience to even those 4-year students in less-selected institutions.
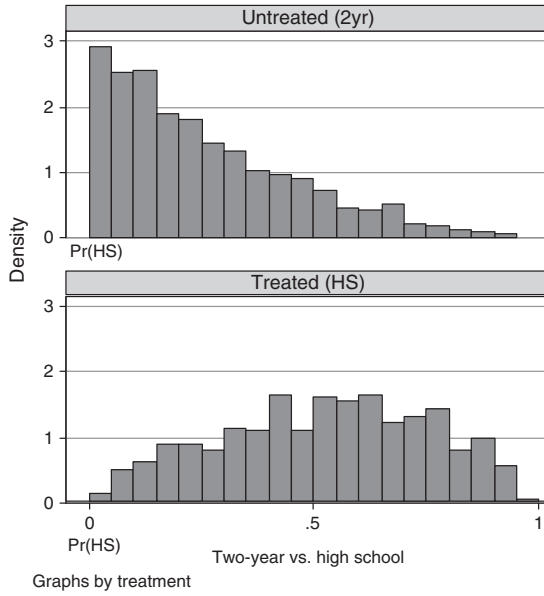
Fig. 11 Distribution of propensity score by treatment status for men: comparing high school graduates to 2-year college students
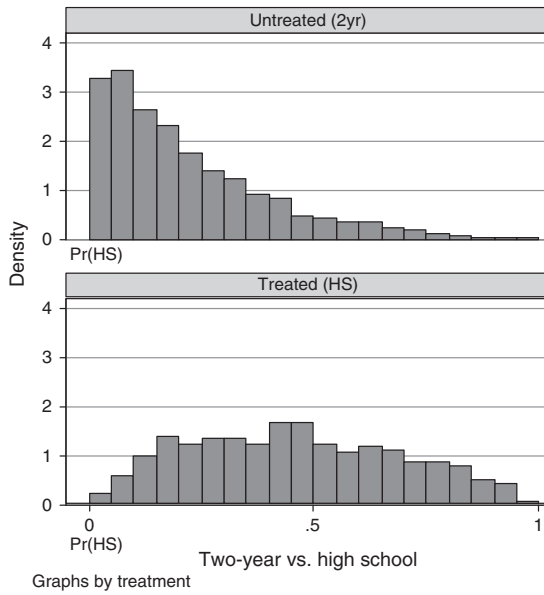
Fig. 12 Distribution of propensity score by treatment status for women: comparing high school graduates to 2-year college students

Table 7 ATT for not going to college instead of attending a 2-year college

	OLS	NN	Kernel	LLR	RW
Men					
Second year	−0.333[*]	−0.240[*]	−0.303[*]	−0.296[*]	−0.298[*]
	(0.016)	(0.027)	(0.021)	(0.023)	(0.022)
Third year	−0.157[*]	−0.099[*]	−0.141[*]	−0.144[*]	−0.139[*]
	(0.012)	(0.020)	(0.014)	(0.018)	(0.015)
AA	−0.170[*]	−0.132[*]	−0.159[*]	−0.155[*]	−0.155[*]
	(0.013)	(0.022)	(0.016)	(0.017)	(0.017)
BA	−0.074[*]	−0.055[*]	−0.072[*]	−0.071[*]	−0.066[*]
	(0.009)	(0.014)	(0.011)	(0.013)	(0.010)
Total credits	−44.510[*]	−37.334[*]	−41.882[*]	−41.557[*]	−41.426[*]
	(1.499)	(2.571)	(2.041)	(2.377)	(2.167)
Women					
Second year	−0.285[*]	−0.234[*]	−0.240[*]	−0.237[*]	−0.226[*]
	(0.013)	(0.025)	(0.014)	(0.016)	(0.016)
Third year	−0.138[*]	−0.105[*]	−0.115[*]	−0.105[*]	−0.105[*]
	(0.011)	(0.015)	(0.009)	(0.009)	(0.009)
AA	−0.175[*]	−0.146[*]	−0.150[*]	−0.148[*]	−0.142[*]
	(0.012)	(0.021)	(0.012)	(0.014)	(0.013)
BA	−0.071[*]	−0.058[*]	−0.063[*]	−0.057[*]	−0.057[*]
	(0.008)	(0.011)	(0.006)	(0.005)	(0.006)
Total credits	−41.452[*]	−37.152[*]	−37.775[*]	−36.891[*]	−36.103[*]
	(1.349)	(2.389)	(1.362)	(1.414)	(1.648)

Standard errors are jointly bootstrapped using 1,000 replications. Asterisks denote statistical significance at the 10% level or better.

described above, the average observed outcomes *are* the ATT), one would not want to because the symmetry of the OLS estimates would cause them to *understate* the gains from attending a 2-year college. So this second case study indicates that the difficulties with parametric approaches are not limited to the comparison of 2- and 4-year students, they also exist when comparing 2-year students to high school graduates.

Conclusion

As noted in the introduction to this chapter, the issue of causal inference is garnering considerable attention in education research circles. Schneider et al. (2007) note that education research faces "new challenges and opportunities due to the confluence of high expectations and new methodologies and datasets" (p. 112). They also note that it is "important to underscore that the types of research questions addressed by education research projects should be of first concern and that appropriate methods should be employed to answer these questions more definitively" (p. 112). We agree, and this chapter is provided to demonstrate matching methods that may be used by education researchers to remedy some of the difficulties in providing causal answers to the many important questions we often examine. Although higher education

researchers have been very successful in informing educational decision-makers about the factors that are *related* to educational outcomes, our ability to determine whether there are causal linkages has been less successful. There are a number of reasons why this may be the case and we believe that one is our failure to apply designs and methods that can help us to unravel the causal effects of educational treatments. As demonstrated above, when the underlying assumptions are met, matching methods are one such method that higher education researchers might find useful when attempting to determine the impact of educational "treatments" on subsequent student outcomes. And at times these methods are preferable to the parametric regression techniques often used to estimate treatment effects.

We hope the case studies included as examples of the application of matching methods are not only instructive but are also substantively interesting. Our results indicate that at least in the sample used herein, traditional parametric methods often employed to estimate education "treatments" may provide results that are materially different than the semi-parametric matching methods described above. Our findings also indicate that the choice of the empirical question to be answered is important because some comparisons among groups may be more relevant than others. For instance, comparing students who are similar is likely to be a more fruitful exercise than those who have very different causal mechanisms operating. Also, point estimates of the treatment effects vary depending on the specific form of matching used and also are different depending on the educational outcome examined.

Specifically, our results indicate that compared to 4-year college attendance, graduating from a 2-year college lowers educational attainment. The evidence suggests that students who attend a 2-year college are likely to suffer significant decreases in educational attainment relative to their 4-year college graduate counterparts. For instance, students who attended a 2-year college have lower probabilities of being retained to a second and third year, have lower probabilities of completing a bachelor's degree, and on average earn fewer college credits over their college careers. The results for women are similar to those of men, with the former exhibiting slightly larger treatment effects. The second case study provides evidence that the difficulties with parametric approaches are not limited to the comparison of 2- and 4-year students, they also exist when comparing 2-year students to high school graduates while evidence from Black and Smith (2004) suggests that similar problems may exist when making comparisons across *types* of 4-year institutions.

Herein we discussed some of the conceptual issues surrounding causal inference including the counterfactual literature. We also presented many of the important assumptions underlying the use of matching methods, and practical issues about the application of the method to observational data. This chapter is not intended to be, nor is it, a comprehensive treatment of the literature on causal inference or matching methods. To that end, we provide references to additional articles and books that can assist higher education researchers in learning more about the concepts and methods. We hope our efforts will encourage others to use nonexperimental methods, including propensity score matching, and to begin to apply these techniques to improve our collective understanding of the causal mechanisms operating in higher education.

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Appendix   Sample code for STATA

```
* THIS FILE IMPLEMENTS THE PROCEDURES FOR "THE USE OF MATCHING METHODS
* IN HIGHER EDUCATION RESEARCH" BY LOCKWOOD REYNOLDS AND STEPHEN
* DESJARDINS AND DEMONSTRATES THE IMPLEMENTATION OF MATCHING METHODS
* USING psmatch2 (LEUVEN AND SIANESI, 2003) IN STATA
* FIRST TRACK THE RESULTS IN A LOG-FILE
#delimit;
log sample_log.txt, text replace;
* OPEN THE DATA
```

```
use data;
```

* THE SEED IS NECESSARY FOR ANY RANDOMIZATION PROGRAM IN STATA. IN THE
* MATCHING CASE IT IS RELEVANT FOR NN-MATCHING WITHOUT REPLACEMENT WHERE
* THE ORDER NEEDS TO BE RANDOM AND FOR THE BOOTSTRAP PROCEDURE WHICH
* RELIES ON RANDOM DRAWS FROM THE DATA. STATA WILL CHOOSE A SEED BY
* DEFAULT BUT THEN THE RESULTS MAY BE DIFFERENT DEPENDING ON WHICH
* SEED IS SELECTED. RESEARCHERS SHOULD CHOOSE A SEED TO ALLOW REPLICABILITY.

```
set seed 123456789;
```

* SAVE THE COVARIATES IN A GLOBAL VARIABLE FOR SIMPLICITY

```
global covar "black hispanic othmin read92 read92black read92hispanic read92oth-
min math92 math92black math92hispanic math92othmin read88 read88black rea-
d88hispanic read88othmin math88 math88black math88hispanic math88othmin
hsgpa rank92pctile famincquart1 famincquart2 famincquart3 byfamincquart1
byfamincquart2 byfamincquart3 expecths92 expecttradeschool92 expectsc92
expectcollegedegree92 expectma92 expectphd92 edexpect92missing shop shopclass-
missing motherpresent fatherpresent motherdead fatherdead married marriedmissing
motherage motheragesq fatherage fatheragesq motherhs mothertech mothersc moth-
erba motherma motherphd fatherhs fathertech fathersc fatherba fatherma fatherphd
motherocc1 motherocc2 motherocc3 motherocc4 motherocc5 motherocc6 motherocc7
motherocc8 motherocc9 motherocc10 motherocc11 motherocc12 motherocc13
motherocc14 motherocc15 motherocc16 fatherocc1 fatherocc2 fatherocc3 fatherocc4
fatherocc5 fatherocc6 fatherocc7 fatherocc8 fatherocc9 fatherocc10 fatherocc11 fathe-
rocc12 fatherocc13 fatherocc14 fatherocc15 fatherocc16 hsenroll hspcfreelunch
hslowpay hspublic northeast92 south92 west92 racemissing read92missing math-
92missing read88missing math88missing hsgpamissing byfamincmissing faminc-
missing motheragemissing fatheragemissing motheredmissing fatheredmissing
fatheroccmissing motheroccmissing hsenrollmissing hspcfreelunchmissing;
hslowpaymissing hsregionmissing";
```

* FOCUS ON THE SAMPLE OF MEN AND CREATE A VARIABLE 'd1' WHICH IS AN
  INDICATOR
* FOR TREATMENT: UNITS ARE TREATED IF THEY FIRST ATTEND A TWO-YEAR COLLEGE
* INSTEAD OF A FOUR-YEAR COLLEGE

```
drop if male= = 0;
gen d1 = 1 if twoyrfirst= = 1;
replace d1 = 0 if fouryrfirst= = 1;
drop if d1= = .;
drop if f4f2p3wt= = 0;
gen d2= 1-d1;
```

* APPLY LABELS TO THE TREATMENT VARIABLE FOR USE IN THE GRAPHS

```
label define d1label 1 "Treated (2yr)";
label define d1label 0 "Untreated (4yr)", add;
label values d1 d1label;
label variable d1 "treatment";
```

```
*ESTIMATE A LOGIT ON THE TREATMENT AND CREATE THE PROPENSITY SCORE
logit d1 $covar;
predict pscore;

*CREATE HISTOGRAMS TO EXAMINE THE COMMON SUPPORT ASSUMPTION

histogram pscore, start(0.0) width(0.05) by(d1, col(1)) xsize(1) ysize(1.1)
xtitle("Two-year vs. four-year") note("Pr(2yr)") scheme(s1mono) saving(support,
replace);

*THE CODE BELOW IS COMPLICATED BECAUSE THE STANDARD ERRORS OF THE OLS AND
*MATCHING ESTIMATES ARE JOINTLY BOOTSTRAPPED TO ALLOW COMPARISON. TO
*BOOTSTRAP THE STANDARD ERRORS FOR THE MATCHING ESTIMATES ALONE IS
*SIMPLER. FOR THE NN-MATCHING BELOW THE APPROPRIATE CODE IS:
*bs "psmatch2 outcome(secondyear thirdyear aa ba tcredb) pscore(pscore)
*common n(1)" "r(att_secondyear) r(att_thirdyear) r(att_aa) r(att_ba) r(att_tcredb)",
*reps(1000)
*OR
*bs r(att_secondyear) r(att_thirdyear) r(att_aa) r(att_ba) r(att_tcredb), reps(1000):
* psmatch2*outcome(secondyear thirdyear aa ba tcredb) pscore(pscore) common n(1)
*FOR FURTHER HELP SEE THE DOCUMENTATION FOR psmatch2 OR STATA HELP FOR
*bootstrap
*FIVE OUTCOMES ARE CONSIDERED: RETENTION TO SECOND YEAR (secondyear),
*RETENTION TO THIRD YEAR (thirdyear), ATTAINING AN ASSOCIATE'S DEGREE (aa),
*ATTAINING A BACHELOR'S DEGREE (ba), TOTAL CREDITS EARNED (tcredb)
preserve;

*SIMPLE OLS REGRESSIONS
reg secondyear d1 $covar;
qui scalar secondyear_OLS = _b[d1];
reg thirdyear d1 $covar;
qui scalar thirdyear_OLS = _b[d1];
reg aa d1 $covar;
qui scalar aa_OLS = _b[d1];
reg ba d1 $covar;
qui scalar ba_OLS = _b[d1];
reg tcredb d1 $covar;
qui scalar tcredb_OLS = _b[d1];

*NEAREST_NEIGHBOR MATCHING WITH REPLACEMENT USING 1 NEAREST-NEIGHBOR
psmatch2 d1, outcome(secondyear thirdyear aa ba tcredb) pscore(pscore)
common n(1);
qui scalar secondyear_att_nn = r(att_secondyear);
qui scalar thirdyear_att_nn = r(att_thirdyear);
qui scalar aa_att_nn = r(att_aa);
qui scalar ba_att_nn = r(att_ba);
qui scalar tcredb_att_nn = r(att_tcredb);
```

```
*KERNEL MATCHING USING THE EPANECHNIKOV KERNEL WITH A BANDWIDTH OF 0.14
psmatch2 d1, outcome(secondyear thirdyear aa ba tcredb) pscore(pscore) common
kernel bw(0.14);
qui scalar secondyear_att_kernel = r(att_secondyear);
qui scalar thirdyear_att_kernel = r(att_thirdyear);
qui scalar aa_att_kernel = r(att_aa);
qui scalar ba_att_kernel = r(att_ba);
qui scalar tcredb_att_kernel = r(att_tcredb);

*LOCAL LINEAR REGRESSION USING THE EPANECHNIKOV KERNEL WITH A BANDWIDTH
*OF 0.18
psmatch2 d1, outcome(secondyear thirdyear aa ba tcredb) pscore(pscore) common
llr ate bw(0.18);
qui scalar secondyear_att_llr = r(att_secondyear);
qui scalar thirdyear_att_llr = r(att_thirdyear);
qui scalar aa_att_llr = r(att_aa);
qui scalar ba_att_llr = r(att_ba);
qui scalar tcredb_att_llr = r(att_tcredb);

*TRACK THE UNITS IN THE COMMON SUPPORT FOR USE IN THE PROPENSITY SCORE
*WEIGHTING PROCEDURE THAT FOLLOWS
gen support = _support;
*PROPENSITY SCORE REWEIGHTING;
qui gen att_wt = pscore/(1-pscore);
summ secondyear if d1= = 1 & support= = 1;
qui scalar secondyear_treated = r(mean);
summ secondyear if d1= = 0 & support= = 1 [aw= att_wt];
qui scalar secondyear_treated_cf = r(mean);
qui scalar secondyear_att_rw = secondyear_treated - secondyear_treated_cf;
display "Propensity score reweighting ATT(secondyear) =" secondyear_att_rw;

summ thirdyear if d1= = 1 & support= = 1;
qui scalar thirdyear_treated = r(mean);
summ thirdyear if d1= = 0 & support= = 1 [aw= att_wt];
qui scalar thirdyear_treated_cf = r(mean);
qui scalar thirdyear_att_rw = thirdyear_treated - thirdyear_treated_cf;
display "Propensity score reweighting ATT(thirdyear) =" thirdyear_att_rw;

summ aa if d1= = 1 & support= = 1;
qui scalar aa_treated = r(mean);
summ aa if d1= = 0 & support= = 1 [aw= att_wt];
qui scalar aa_treated_cf = r(mean);
qui scalar aa_att_rw = aa_treated - aa_treated_cf;
display "Propensity score reweighting ATT(aa) =" aa_att_rw;

summ ba if d1= = 1 & support= = 1;
qui scalar ba_treated = r(mean);
```

```
summ ba if d1= = 0 & support= = 1 [aw= att_wt];
qui scalar ba_treated_cf = r(mean);
qui scalar ba_att_rw = ba_treated - ba_treated_cf;
display "Propensity score reweighting ATT(ba) =" ba_att_rw;

summ tcredb if d1= = 1 & support= = 1;
qui scalar tcredb_treated = r(mean);
summ tcredb if d1= = 0 & support= = 1 [aw= att_wt];
qui scalar tcredb_treated_cf = r(mean);
qui scalar tcredb_att_rw = tcredb_treated - tcredb_treated_cf;
display "Propensity score reweighting ATT(tcredb) =" tcredb_att_rw;

* BEGIN THE JOINT BOOTSTRAP OF THE STANDARD ERRORS
restore;

* TRACK THE NUMBER OF OBSERVATIONS FOR USE IN THE BOOTSTRAP PROCEDURE
summ secondyear;
local obs= r(N);

* DEFINE THE PROGRAM THAT ESTIMATES THE JOING BOOTSTRAP PROCEDURE
capture program drop myboot;
program define myboot, rclass;
preserve;
bsample;

qui reg secondyear d1 $covar;
qui return scalar secondyear_OLS_bs = _b[d1];
qui reg thirdyear d1 $covar;
qui return scalar thirdyear_OLS_bs = _b[d1];
qui reg aa d1 $covar;
qui return scalar aa_OLS_bs = _b[d1];
qui reg ba d1 $covar;
qui return scalar ba_OLS_bs = _b[d1];
qui reg tcredb d1 $covar;
qui return scalar tcredb_OLS_bs = _b[d1];

* NEAREST_NEIGHBOR MATCHING
qui psmatch2 d1, outcome(secondyear thirdyear aa ba tcredb) pscore(pscore)
common n(1) ate;
qui return scalar secondyear_att_nn_bs = r(att_secondyear);
qui return scalar thirdyear_att_nn_bs = r(att_thirdyear);
qui return scalar aa_att_nn_bs = r(att_aa);
qui return scalar ba_att_nn_bs = r(att_ba);
qui return scalar tcredb_att_nn_bs = r(att_tcredb);

* KERNEL MATCHING
qui psmatch2 d1, outcome(secondyear thirdyear aa ba tcredb) pscore(pscore)
common kernel bw(0.14);
```

```
qui return scalar secondyear_att_kernel_bs = r(att_secondyear);
qui return scalar thirdyear_att_kernel_bs = r(att_thirdyear);
qui return scalar aa_att_kernel_bs = r(att_aa);
qui return scalar ba_att_kernel_bs = r(att_ba);
qui return scalar tcredb_att_kernel_bs = r(att_tcredb);
```

*LOCAL LINEAR REGRESSION

```
qui psmatch2 d1, outcome(secondyear thirdyear aa ba tcredb) pscore(pscore)
common llr bw(0.18);
qui return scalar secondyear_att_llr_bs = r(att_secondyear);
qui return scalar thirdyear_att_llr_bs = r(att_thirdyear);
qui return scalar aa_att_llr_bs = r(att_aa);
qui return scalar ba_att_llr_bs = r(att_ba);
qui return scalar tcredb_att_llr_bs = r(att_tcredb);
qui gen support = _support;
```

*PROPENSITY SCORE REWEIGHTING

```
qui gen att_wt = pscore/(1-pscore);
qui gen atu_wt = (1-pscore)/pscore;
qui summ secondyear if d1= = 1 & support= = 1;
qui scalar secondyear_treated_bs = r(mean);
qui summ secondyear if d1= = 0 & support= = 1 [aw= att_wt];
qui scalar secondyear_treated_cf_bs = r(mean);
qui return scalar secondyear_att_rw_bs = secondyear_treated_bs -
secondyear_treated_cf_bs;

qui summ thirdyear if d1= = 1 & support= = 1;
qui scalar thirdyear_treated_bs = r(mean);
qui summ thirdyear if d1= = 0 & support= = 1 [aw= att_wt];
qui scalar thirdyear_treated_cf_bs = r(mean);
qui return scalar thirdyear_att_rw_bs = thirdyear_treated_bs -
thirdyear_treated_cf_bs;

qui summ aa if d1= = 1 & support= = 1;
qui scalar aa_treated_bs = r(mean);
qui summ aa if d1= = 0 & support= = 1 [aw= att_wt];
qui scalar aa_treated_cf_bs = r(mean);
qui return scalar aa_att_rw_bs = aa_treated_bs - aa_treated_cf_bs;

qui summ ba if d1= = 1 & support= = 1;
qui scalar ba_treated_bs = r(mean);
qui summ ba if d1= = 0 & support= = 1 [aw= att_wt];
qui scalar ba_treated_cf_bs = r(mean);
qui return scalar ba_att_rw_bs = ba_treated_bs - ba_treated_cf_bs;

qui summ tcredb if d1= = 1 & support= = 1;
qui scalar tcredb_treated_bs = r(mean);
```

```
qui summ tcredb if d1= = 0 & support= = 1 [aw= att_wt];
qui scalar tcredb_treated_cf_bs = r(mean);
qui return scalar tcredb_att_rw_bs = tcredb_treated_bs - tcredb_treated_cf_bs;

restore;
end;

simulate secondyear_OLS_bs= r(secondyear_OLS_bs) thirdyear_OLS_bs=
r(thirdyear_OLS_bs) aa_OLS_bs= r(aa_OLS_bs) ba_OLS_bs= r(ba_OLS_bs)
tcredb_OLS_bs= r(tcredb_OLS_bs) secondyear_att_nn_bs= r(secondyear_att_
nn_bs) thirdyear_att_nn_bs= r(thirdyear_att_nn_bs) aa_att_nn_bs= r(aa_att_nn_
bs) ba_att_nn_bs= r(ba_att_nn_bs) tcredb_att_nn_bs= r(tcredb_att_nn_bs)
secondyear_att_kernel_bs= r(secondyear_att_kernel_bs) thirdyear_att_kernel_
bs= r(thirdyear_att_kernel_bs) aa_att_kernel_bs= r(aa_att_kernel_bs) ba_att_
kernel_bs= r(ba_att_kernel_bs) tcredb_att_kernel_bs= r(tcredb_att_kernel_bs)
secondyear_att_llr_bs=    r(secondyear_att_llr_bs)    thirdyear_att_llr_bs=
r(thirdyear_att_llr_bs) aa_att_llr_bs= r(aa_att_llr_bs) ba_att_llr_bs= r(ba_att_
llr_bs)   tcredb_att_llr_bs=   r(tcredb_att_llr_bs)   secondyear_att_rw_bs=
r(secondyear_att_rw_bs) thirdyear_att_rw_bs= r(thirdyear_att_rw_bs) aa_att_
rw_bs= r(aa_att_rw_bs) ba_att_rw_bs= r(ba_att_rw_bs) tcredb_att_rw_bs=
r(tcredb_att_rw_bs), reps(1000): myboot;
bstat, stat(secondyear_OLS, thirdyear_OLS, aa_OLS, ba_OLS, tcredb_OLS,
secondyear_att_nn thirdyear_att_nn, aa_att_nn, ba_att_nn, tcredb_att_nn, sec-
ondyear_att_kernel thirdyear_att_kernel, aa_att_kernel, ba_att_kernel, tcredb_
att_kernel secondyear_att_llr, thirdyear_att_llr, aa_att_llr, ba_att_llr, tcredb_att_llr,
secondyear_att_rw thirdyear_att_rw; aa_att_rw, ba_att_rw, tcredb_att_rw)
n('obs');

estat bootstrap, all;

clear;
```

```
* CHECK THE BALANCE OF THE COVARIATES USING THE pstest2 ROUTINE THAT IS
*PART OF THE psmatch2 PACKAGE. THE ROUTINE IS CALLED AFTER THE MATCHING
*PROCEDURE
use data;
drop if male= = 0;
gen d1 = 1 if twoyrfirst= = 1;
replace d1 = 0 if fouryrfirst= = 1;
drop if d1= = .;
drop if f4f2p3wt= = 0;
gen d2= 1-d1;

label define d1label 1 "Treated (2yr)";
label define d1label 0 "Untreated (4yr)", add;
label values d1 d1label;
label variable d1 "treatment";
```

```
logit d1 $covar;

predict pscore;

psmatch2 d1, outcome(tcredb) pscore(pscore) common kernel bw(0.14);

    pstest2 black hispanic othmin read92 read92black read92hispanic read92othmin
    math92 math92black math92hispanic math92othmin read88 read88black rea-
    d88hispanic read88othmin math88 math88black math88hispanic math88othmin
    hsgpa rank92pctile famincquart1 famincquart2 famincquart3 byfamincquart1
    byfamincquart2 byfamincquart3 expecths92 expecttradeschool92 expectsc92
    expectcollegedegree92 expectma92 expectphd92 edexpect92missing shop
    shopclassmissing motherpresent fatherpresent motherdead fatherdead married
    marriedmissing motherage motheragesq fatherage fatheragesq motherhs moth-
    ertech mothersc motherba motherma motherphd fatherhs fathertech fathersc
    fatherba fatherma fatherphd motherocc1 motherocc2 motherocc3 motherocc4
    motherocc5 motherocc6 motherocc7 motherocc8 motherocc9 motherocc10 moth-
    erocc11 motherocc12 motherocc13 motherocc14 motherocc15 motherocc16
    fatherocc1 fatherocc2 fatherocc3 fatherocc4 fatherocc5 fatherocc6 fatherocc7
    fatherocc8 fatherocc9 fatherocc10 fatherocc11 fatherocc12 fatherocc13 fathe-
    rocc14 fatherocc15 fatherocc16 hsenroll hspcfreelunch hslowpay hspublic north-
    east92 south92 west92 racemissing read92missing math92missing read88missing
    math88missing hsgpamissing byfamincmissing famincmissing motheragemissing
    fatheragemissing motheredmissing fatheredmissing fatheroccmissing motherocc-
    missing hsenrollmissing hspcfreelunchmissing hslowpaymissing hsregionmissing
    pscore(pscore);

clear;
log close;
```

Othering Research, Researching the Other: De/Colonizing Approaches to Qualitative Inquiry

Kakali Bhattacharya

Othering Research, Researching the Other: De/Colonizing Approaches to Qualitative Inquiry

Various disciplines have situated the term "decolonizing epistemology" from their vantage points. Of specific importance is Linda Tuhiwai Smith's seminal text *Decolonizing Methodologies* (Smith, 1999) where she launches a criticism of research conducted from Western perspectives especially *on* people whose world-views are incommensurable with Anglo-Euro-American discourses. Scholars from postcolonial, postmodern, critical theory, and feminist traditions have also challenged the production of knowledge that promote an imperialistic way of understanding the lived experiences of people and have called for multiple alternate epistemologies and methodologies (Cannella and Lincoln, 2004; Denzin, 2003; Lincoln and Denzin, 2003; Mohanty, 1991; Mutua and Swadener, 2004; Visweswaran, 1994). This chapter is situated within such discourses grounded in transnational feminism outlining methodological approaches informed by multiple de/colonizing discourses. I use the term de/colonizing to denote interactions between traditional colonizing discourses and the resistance against such discourses. I argue that there is no purist decolonizing space (Bhattacharya, 2007) devoid of imperialism but spaces where multiple colonizing and resisting discourses exist and interact simultaneously.

Consequently, in this chapter, I discuss the methodology that informed my qualitative case-study research where I explored the ways in each two female Indian graduate students negotiated their experiences in both formal and informal spaces in higher education in the United States in their first year of graduate studies. I first ground my thinking in de/colonizing epistemologies and discuss how these epistemologies played a role in this research. Embedded in these discussions are various de/colonizing approaches incorporated in data collection, issues of voice, research sites, and subjectivities. There is no separate section discussing subjectivities; instead, the reader will find subjectivities expressed and integrated in every part of this chapter, thus heeding the criticisms and cautions put forth by feminist researchers like Pillow (2003) to avoid a narcissistic "romance of the speaking subject" (Lather, 2001, p. 206).

Additionally, it is not my claim that the methodological approaches, departures, findings, and analysis employed in this study are novel in their presentations. Operating

from multiple theoretical, methodological, and substantive frameworks, this study at times emphasizes previously stated arguments and at other times demonstrates how certain departures played a role in constructing findings. I suspect that another researcher could have come to these findings from another approach, but by discussing the limits and possibilities of methods employed in this study, I show the tensions and contradictions influencing the data collection, analysis, and re-presentation of this study conducted through, with, and sometimes against de/colonizing discourses.

Research Framework: De/Colonizing Epistemologies and Methodologies

Lather (1992) describes methodology as the theory of knowledge and the interpretive frame informing choices of methods and procedures used in a study. Crotty (1998) states that methodology is a strategy, a blueprint linking methods to outcomes. Like Lather, Crotty emphasizes the need for epistemological and theoretical grounding in research methodology. Using these arguments, I situate this study in the current moment of qualitative research, knowing all too well that this moment is never fixed, discrete, or foundational to this study. Denzin and Lincoln (2000) offer a comprehensive tracing of the moments in qualitative research. They identify a traditional period in the early 1900s, followed by a modernist phase ending in the 1970s which included works of feminism, phenomenology, critical theory, and ethnomethodology, and which attempted to honor the voices of the unvoiced. Denzin and Lincoln (2000) identify a third moment, called "blurred genres" (p. 15), in which qualitative researchers used multiple paradigms, epistemologies, and strategies to conduct their research. This moment ended in the mid-1980s. The fourth moment in qualitative research marks the crisis of representation and continues to influence current research, as reflexive writing is privileged and validity, reliability, and objectivity are critically interrogated. The fifth moment is the "postmodern period of experimental ethnographic writing" (Denzin and Lincoln, 2000, p. 17) informed by the arguments presented in the crisis of representation.

   According to Denzin and Lincoln (2000), the sixth and seventh moments are currently upon qualitative researchers, although I suspect that some of these moments can also exist simultaneously. The sixth moment, known as the "postexperimental moment," represents the "triple crisis" of representation, legitimization, and praxis. The seventh moment is the moment of the future informed by the triple crisis, which asks questions such as, "[i]s it possible to effect change in the world if society is only and always a text?" (Denzin and Lincoln, 2000, p. 17). Several qualitative scholars have responded to Denzin and Lincoln's questions by re-presenting their work beyond text, providing multidimensionality to findings, and by privileging the messiness, contradictions, and tensions in qualitative research. Findings were represented through performances (Denzin, 2005; Jules-Rosette et al., 2002; Thorp, 2003), autoethnographic research and performances especially from marginalized perspectives (Ellis, 2004; Saldana, 2005; Villenas, 2000), and poetry (Bochner and Ellis, 2002; Cahnmann, 2003, 2006) to reflect issues of the current postexperimental moment.

In the current moment of qualitative research, genres, epistemologies, paradigms, and crises are not discretely located in their respective moments. Instead, these moments often exist and inform each other simultaneously. Therefore, de/colonizing approaches in qualitative inquiry can exist in multiple moments, questioning and troubling the limits and possibilities of each and all of the moments. For example, this research is grounded in transnational feminist methodologies while acknowledging the crisis of voice, representation, and legitimization and interrogating/abandoning an authorial positioning of the researcher, thereby de/colonizing multiple moments of qualitative research.

I now turn to decolonizing epistemologies as used in this research. Smith's (1999) groundbreaking text *Decolonizing Methodologies* provides a poignant description and criticism of the imperial nature of research. Smith states:

> Research "through imperial eyes" describes an approach which assumes that Western ideas about the most fundamental things are the only ideas possible to hold, certainly the only rational ideas, and the only idea which can make sense of the world, of reality, of social life and of human beings. It is an approach to indigenous peoples which still conveys a sense of innate superiority and an overabundance of desire to bring progress into the lives of indigenous peoples – spiritually, intellectually, socially, and economically. It is research which from indigenous perspectives "steals" knowledge from others and then uses it to benefit the people who "stole" it. Some indigenous and many minority group researchers would call this approach simply racist. It is research which is imbued with an "attitude" and a "spirit" which assumes a certain ownership of the entire world, and which has established systems and forms of governance which embed that attitude in institutional practices. These practices determine what counts as legitimate research and who counts as legitimate researchers. (Smith, 1999, p. 56)

Smith's criticism, although from an indigenous Maori perspective, can be extended to other de/colonizing contexts in which certain kinds of knowledge production are privileged over others. This is not to say that all research is imperialist and racist in its intention or practice. However, research informed by Western imperialistic discourses conducted on/with non-Western participants and packaged and represented in the Western academic world carries within it some inherent impossibilities of capturing the voices of people. The argument is not that the people who are pushed to the periphery or normalizing discourses cannot be heard, but that there exist gaps due to the "untranslatability of the 'third world' experiences into 'first world' imperialist discourse" (Chow, 1993, p. 38). It is within such impossibilities, inconsistencies, and tensions that this research and its methodologies are situated and intersected by transitional feminism.

At the rudimentary level, transnationalism refers to the practices of migrants who live their lives across multiple nation-states if not at least in two nation-states. Riccio (2001, p. 583) states that "transnationalism is a term commonly used to contextualize and define such migrants' cultural, economic, political, and social experiences" (p. 583). Transnationalism and transnational migrants are highly contested terms, as borders between worlds permeate and technological advancements emerge. With the ease of travel and the birth of second- and third-generation children of migrants, the concept of the transnational, a sense of origin and home has become problematic. Additionally, Grewal and Kaplan (1994) situate transnational feminism in political opposition to hegemonic social structures, noting that the transnationalization of people promotes shifts "that challenge the older, conventional boundaries of national economies, identities, and cultures" (p. 9).

I read transnational feminism as "feminism from a global-minded and multi-leveled perspective, where the goal of feminism is no longer simply to empower women or to analyze gender ideology. By itself, the empowerment of women does not change the entrenched structures of domination, especially when we consider that women themselves are a diverse group, no more essentially wise or moral than any other group" (Stone-Mediatore, 2003, p. 130). In other words, echoing Mohanty's (2004) concerns, I align with the ideas that support a multipronged approach to understanding and developing diverse forms of resistances against inequalities driven by globalized social and economic structures and migration of people. While conducting research using transnational feminist frameworks to study transnational female Indian graduate students, Chow's reminder is especially helpful:

> The task that faces Third World feminists is not simply that of animating the oppressed woman of their cultures, but of making the automatized and animated condition of their own voices the conscious point of departure in their interventions. This does not simply mean they are, as they must be, speaking across cultures and boundaries; it means that they speak of the awareness of "cross-cultural" speech as a limit, and that their own use of the victimhood of women and the Third World cultures is both symptomatic of and inevitably complicitous with the First World. (Chow, 1992, p. 111)

Simply put, informed by Western discourses, it is easy for me to become automatized and to essentialize oppression, liberation, and agency through/with/against my de/colonizing epistemologies and methodologies. As a transnational scholar in the United States, I am painfully aware of my complicated positioning of being the "Other" while conducting research on/with the "Other" filtered through my always already colonizing perspectives due to my British/Indian/Canadian/US upbringing and scholarly training. For example, I write in English to capture the experience of people whose language of communication is a hybridized form of Hindi and English already in its colonized package. I write to translate the cultural productions of experiences of "Others," unwittingly taking on the role of a "Third World" broker in a format acceptable in Western academic gatekeeping. These complicated situations and actions continue to create im/possibilities in which I exist, function, interrogate, and abandon thoughts; beliefs, and epistemologies create spaces for hybridized epistemologies and methodologies informed by de/colonizing discourses.

I recall Smith's (1999, pp. 1–3) warning that "scientific research is implicated in the worst excess of colonialism. … Research is not an innocent or distant academic exercise but an activity that has something at stake and that occurs in a set of political and social conditions, and questions about researcher's subjectivities, posturing, and interpretation arise." Certainly I am not an innocent actor, nor can I speak for anyone else, or presume that the ethnographic "Other" is oppressed based on Western liberatory discourses that fail to respond to non-Western cultural perspectives. This is not to say that there is no suffering or that social systems do not create and maintain various forms of inequality and oppression. Rather, the argument is that resistance to such systematic inequalities must be simultaneously grounded in, and interrogated by, multiple de/colonizing discourses that attempt to cut across multiple borders and issues, in order to break apart oppressive regimes and nullify their effects.

Situating Methodological Influences
of Transnational Feminist Discourses

Since this research is informed by transnational feminist methodologies, experimentation with multiple forms of data collection, analysis, and representational strategies informs the methodological approach. Additionally, attempts to blur the boundaries between the researcher and the researched fit in well with transnational feminist methodologies, as with other feminist and de/colonizing methodologies. However, even with the best of intentions to blur boundaries between the researcher and the researched, it is impossible for me to abandon all authority as a researcher. The awareness of the gaze and control, I continue to possess as a researcher, justifies further the privileging of the participants' critical agencies.

Transnational feminist methodologies acknowledge that this research is never complete. I do not have complete access to the participants' lives, making this research only a frozen frame of collective moments. As a transnational feminist, I was data-hungry and could not turn off my researcher self during any interaction with the participants. Using conversations as a form of inquiry, all interactions became data to me. Sensing such hunger, Neerada, one of the participants, cautioned me: "You would never finish your dissertation, because the subjects are still speaking." Thus, conceding that the data are never real, true, complete, or holistic despite my attempts to "capture 'em all," this research is a negotiation of my effort to abandon authority and privilege participants' critical agencies and voices, all the while recognizing the inevitable failure.

Transnational feminism disrupts the liberatory goals of feminist research where the researcher is motivated to free people from oppressive social structures by questioning the ways in which discourses of oppression, liberation, and resistance privilege Anglo-Euro-American worldviews. Instead, transnational feminism calls for underscoring the problem of voices that can never be heard in their entirety, the situational and contextual nature of experiences, and the reflexivity that is embedded in multiple power relations. Examining power relations raises issues of transparency and the role of a native researcher to make things clear to gatekeepers who might be unfamiliar with the culture of those studied. The task of bringing transparency to understanding creates a risk of the researcher becoming the "Third World broker," a co-opted and essentialized "Third World" position that places the responsibility of "border crossings" only on the colonized.

The tensions created by transnational feminism's advocacy of social change and interrogation of liberatory discourses put this research in a messy space. On the one hand, liberatory discourses are seductive, especially when the material conditions of many women's lives are affected by social systems of oppression, and the researcher is compelled to become an agent of liberation and change. On the other hand, Smith's (1999) criticism of such liberatory epistemologies situates certain notions of liberation as part of imperialistic discourses. She states that, "research is probably one of the dirtiest words" as it is "inextricably linked to European imperialism and colonialism" (p. 1). Furthermore, Smith (1999) cautions:

> Many researchers, academics and project workers may see the benefits of their particular research projects serving a greater good "for mankind," or serving a specific emancipatory goal for an oppressed community. But belief in the ideal that benefiting mankind is indeed a primary outcome of scientific research is as much a reflection of ideology as it is of academic training. It becomes so taken for granted that many researchers simply assume that they as individuals embody this ideal and are natural representatives of it when they work with other communities. (p. 2)

In other words, my need to liberate those I deem to be oppressed may not reflect the critical needs of those that I am trying to "liberate." Furthermore, my identification with structures of oppression, resistance, and liberation is different from people who are situated differently in their own sociocultural discourses. Therefore, through de/colonizing approach in transnational feminist research, I continued to interrogate and monitor my liberatory urges, reminding myself that just because participants have allowed me into their lives does not give me the right to tell them they are oppressed or to offer consciousness-raising to liberate them from their oppression. It is at this juncture that I search for alternate[1] purposes for research and continue to inform myself through multiple de/colonizing discourses.

However, I want to clarify that transnational feminist epistemologies are not used in this research with the intention of creating a binary opposition between Western liberatory discourses and de/colonizing transnational discourses, thereby constructing countercultures with their own forms of hegemony and alienation. Instead, with the utmost honesty, I agree with Gloria Anzaldúa when she imagines a day of affirmation for her[2] people:

> On that day I say, "Yes all you people wound us when you reject us. Rejection strips us of self-worth; our vulnerability exposes us to shame. It is our innate identity you find wanting. We are ashamed that we need your good opinion, that we need your acceptance. We can no longer camouflage our needs, can no longer let defenses and fences sprout around us. We can no longer withdraw. To rage and look upon you with contempt is to rage and be contemptuous of ourselves. We can no longer blame you, nor disown the white parts, the male parts, the pathological parts, the queer parts, these vulnerable parts. Here we are weaponless with open arms, with only our magic. Let's try it our way, the mestiza way, the Chicana way, the woman way." (Anzaldua, 1987/1999, p. 110)

De/colonizing research must not perpetuate another set of binaries to justify the critiques it launches. I do not intend to become the morally and rhetorically victorious voice on the other side of imperialism while dismissing the care and ethical concern with which many researchers work with people in the West and further promoting a counterculture of polarized discourses.

Therefore, in the spirit of de/colonizing methodologies, I, too, accept my "white parts, male parts, queer parts, pathological parts, and vulnerable parts" and welcome

---

[1] Some alternate purposes include developing dialogues about the effects of local, communal, and global social systems on the lives of transnational women. Through these dialogues, people could be inspired differently to become (or not become) agents of change, develop coalitions, and challenge the status quo of higher education.

[2] By "her people," I refer to Anzaldúa's description of people with Chicana, Mexican, Indian, and Anglo heritages creating a *mestiza*.

the borderless, multipronged, globalized coalitions amongst people who are "comrades in the struggle" (hooks, 2000) for democratic existence and for erasing social structures of inequalities. It is in this spirit of transnational feminism that I ground the de/colonizing methodological approaches for this chapter.

De/Colonizing Methodological Approaches

As a result of being in a "messy" theoretical and methodological space, this research incorporates some conventional forms of qualitative research and some departures that are specific to the epistemological framing of the research. Some of the departures were informed by theoretical and methodological work in projects prior to the dissertation. Other de/colonizing departures were constructed within the context of the research. Therefore, as this chapter continues, I urge the reader to keep in mind that de/colonizing epistemologies are weaved through the research design, data collection, analysis, and representation, while specific points of departure are noted. In the next section, I discuss de/colonizing departures that I intended to make prior to conducting the research.

Will to Know

Generally speaking, as I enter into the contractual research space with the participants I enter into a relationship that involves multiple forms of negotiation and desire. On the part of the researcher there is an obvious "will to know," and on the part of the participant there are performances and negotiations through which she expresses herself. The participant chooses what she wants to respond to, and the extent to which she wants to be transparent and consistent in her responses. There is a joint construction of meaning by the researcher and the researched through negotiated dialogues and verification of information. Hence, interviewing as a methodological tool is rife with gaps, inconsistencies, and ambiguities. I coined a term, "presumptive agency" to question the researcher's assumptions about her entitlement to extract information from the participant. I use the term "presumptive" here to describe some of my colonial assumptions with which I enter the contracted research space between the participant and me based on her signature on the consent form. I expect the participant to answer my questions in ways that would be relevant to my research. I also expect to use many of my methodological tools to probe through the participant's responses to "extract" the data that I need. Even though intuitively it makes sense for a researcher to want to know information from the participant especially when a consent form has been signed, it is also critical for a researcher to realize that just because there is a will to know, she may not get access to all information, may not understand all information to which she has access, and in some instances, will have to surrender her will to know because her ways of being

and understanding the world might be completely incommensurable with the participant's. Moreover, certain *presumptive* gestures in research do not take into account that the participant, too, has a critical agency which she can and often does exercise in making decisions about granting access to her information. Consequently, no matter how much I push the participant against, what I termed, "the wall of presumptive agency," armed with tools of research methods, the participant can shatter my illusory wall against which I imagined to push her to draw out information. Figure 1 is a representation of this presumptive agency through which I would normally author myself in the contractual space of qualitative research.

The figuration in the wall of presumptive agency is inspired by the movement of a male singer, Usher F. Ludacris, in a hip-hop video titled "Stand Up" (Ludacris, 2003). In this video, Ludacris positions himself in front of a woman whose back is against the wall. Ludacris leans toward the female as she leans back and he says, "When I move you move (just like that?)." When the woman stands up straight, Ludacris leans on to her again and repeats the same words as the woman leans back on the wall.
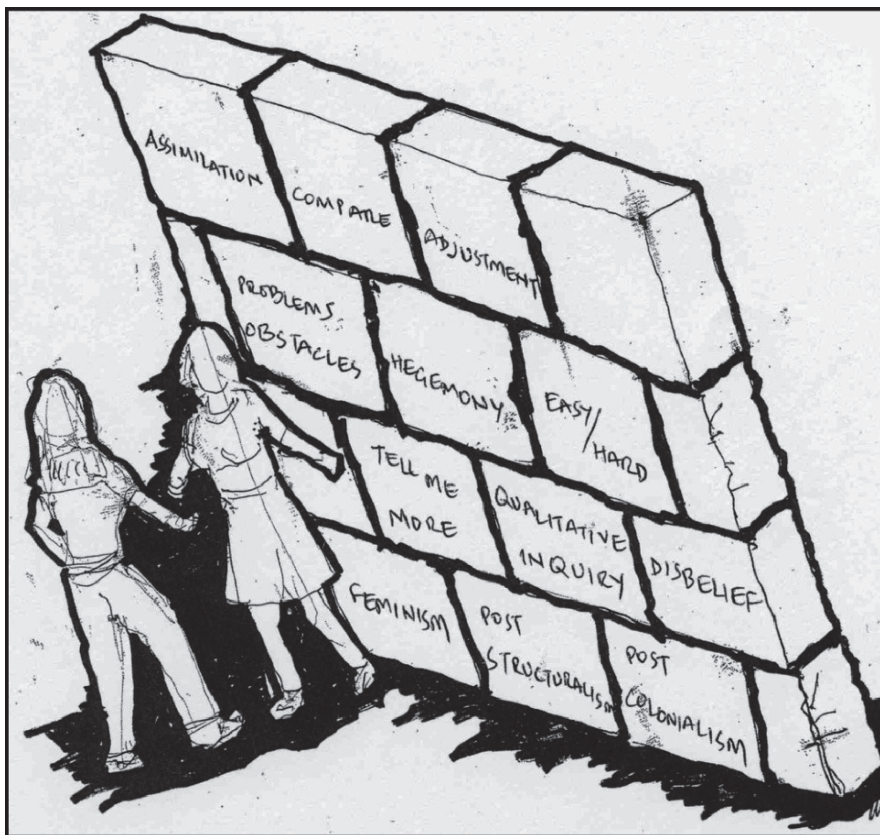
Fig. 1 Wall of presumptive agency

This figuration produces the impossibility of research where, as a researcher, I feel that given the appropriate methodologies I would be able to extract helpful information by "cornering" my participants through the strong posturing of a "will to know."

The *wall of presumptive agency* demonstrates the building blocks of the epistemology and methodology that inform the strategies I incorporated partially in this study. Armed with open-ended questions and shared understanding, I might have the privilege of interrogating – asking for further explanation of answers. Since the wall of presumptive agency is constructed mostly through my researcher epistemologies it rests on unstable foundations, especially if the interviewee chooses to exercise her agency, rendering the wall invisible and moving to unanticipated and unimagined spaces. Figure 2 depicts one of the possibilities through which a participant can exercise her agency and disintegrate the wall of presumptive agency through which I might structure my inquiry.

The participant in Fig. 2 moves according to her own agency, forcing me to attend to the illusory nature of my agency and the strategies of my inquiry. For the participant,

Fig. 2 Disintegration of the wall of presumptive agency

the wall behind her does not exist in the same way it does for me. In light of this realization, I questioned the *presumptive agency* with which I designed this study. Eventually, this research emerged from the cracked space of the wall, within which I question the commensurability of methodology and de/colonizing theories. One of the departures I then take is the abandonment of some of my "will to know" within the research context. Accordingly, I identified the data collection methods that would allow me to maintain as nonintrusive a posture as I can, given that I am still in the driver's seat in conducting this study. These data-gathering strategies include conversational interviews, participant observations, and photo- and object-elicitations, which I describe in more detail later in this chapter. These data-gathering strategies do not eliminate my curiosity or my desire to shed light on my research questions. Rather, they change the approach I take in posturing to inform my research questions, keeping in mind that this new posturing might assist me in remaining vigilant and respectful of collective agencies of the[3] participants as cocreators of experiences and meanings during the research process.

Silence and Voice

I argue that giving voice to the[4] unvoiced leaves her/him open to being served up as an exotic dish to be consumed or to being viewed as one would view a performing animal in the zoo. By deciding to give voice, the researcher decides to expose communal secrets. So what communal secrets can one choose to disclose? What can be told with participants' silences? While feminism advocates giving voice to those who have historically been silenced, Visweswaran (1994) questions how one is given voice, while Adrienne Rich promotes silence as a site of analysis and resistance:

> Silence can be a plan rigorously executed
> The blueprint to a life
> It is a presence
> It has a history a form
> Do not confuse it
> With any kind of absence. (Rich, 1978, p. 17)

Visweswaran (1994) uses silence to look at a participant's refusal to be her subject and she "makes her subject's refusal itself a subject, asking what new forms of subject constitution are forced upon her by now inscribing her silence in speech" (p. 60). In exploring the cultural constructs around speech and silence, I anticipated that the participants would negotiate their speech and silence. This movement from speech to silence is a fluid movement, and through Visweswaran's work, I identified the binary between voice and silence as a restrictive tool for this study. One deliberate de/colonizing departure I make is to challenge the binary between voice and silence and to accept that like the participants, I am in constant motion between voice and silence, so the moments in which I choose to speak and those in which I remain silent become moments of critical agency.

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[3] I include myself when I speak of participants in the research process.

[4] In this context, I am referring to the unvoiced as those from the South Asian ethnicities, ethnographic exotic "Others."

Similarly, participants exercised their critical agency in this study by employing voice and deliberate silences strategically to accommodate and resist multiple social structures and their discursive effects. Through plotting such voices and silences I wish to create a continuum between voice and silence, in order to illuminate the functioning of power relations within a space and the construction of subjectivities through these acts of accommodation and resistance. Building on Minh-ha's argument regarding the speaking subject, hooks' criticism of the centrality of the researcher's position, and Spivak's assertion that the subaltern has no voice, I reconceptualize speech and silence. If every act of commission is contingent upon countless omissions, then voice functions through silence. This means I can and should analyze silence within the context of who is speaking, what is being said, and (especially my concern here) what is *not* being said, as well as who is listening within each oration.

What is so de/colonizing about plotting silence? The silences discussed are not always imposed silences, but may be purposeful and chosen. These silences emerge from a space of marginality, of not belonging, and of knowing the limits and possibilities of certain subject positions. Those with a voice have been associated with power and representation, thus creating a dualism of power and oppression between the voiced and the unvoiced. Disrupting this binary would mean asking the one with a voice to unlearn his/her privilege, listen, and interrogate silence in a way that has not been done before. What is the compulsion to speak? What are the consequences for feminism of privileging speech and rendering silence invisible, passive, and without agency? Questions that are of interest to this study involve exploring: How silence functions in the participant's life? What does it do for the participant? How does silence expand or restrict possibilities?

Nevertheless, silence as a de/colonizing tool is not free from its own contradictions. How can de/colonizing work represent the voices of those who do not speak and who still combat previous silences in research and history? Linda Smith expresses concern about the effects of de/colonizing frameworks:

> In a decolonizing framework, deconstruction is part of a much larger intent. Taking apart the story, revealing underlying texts, and giving voice to things that are often known intuitively does not help people to improve their current conditions. (Smith, 1999/2002, p. 3)

Smith recommends naming all the spaces of marginalization and resistance to "address social issues within the wider framework of self-determination, decolonization and social justice" (p. 4). I argue that a continuum of silence and voice makes visible all spaces of marginalization while addressing issues of unbalanced power relations, discursive effects, and participants' negotiations.

Research Design

This research is a case study of the sociocultural negotiations of two female Indian graduate students pursuing higher education in the United States during their first year of stay in that country. In this section I situate the use of case study in this research and move to discuss other elements of design, including participant selection, gaining access, and data collection methods.

Case Study

Multiple definitions of case studies inform this research, for example, "Case studies are reports of alternative paradigm inquiries" (Lincoln and Guba, 2002, p. 213), yet the case study "does not implicate any particular approach" (Wolcott, 1992, p. 36). Yin defines case study as an "empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin, 1994, p. 13). While Wolcott defines case study as an end-product of research, Merriam asserts that a "qualitative case study is an intensive, holistic description and analysis of a single instance, phenomenon, or social unit" (Merriam, 1988, p. 21). In her later work, Merriam adds to her understanding of case studies by stating that, "I have concluded that the single most defining characteristic of case study research lies in delimiting the object of study, the case" (Merriam, 1998, p. 27). Though Merriam advocates for a boundary or identification of the scope of a study, she acknowledges that there is freedom in what might be conceptualized as a case. A case may involve studying a person, program, policy, or any other phenomenon that is intrinsically bounded by the interest of the researcher (Merriam, 1998).

It is difficult to understand how a case study can be "holistic" because the experiences of the participants can never be captured in their entirety or placed in neat categories, regardless of the amount of time spent in the "field." The researcher is only capable of capturing a freeze frame of a participant's life: a pattern of negotiations, understandings, and experiences during the course of the study but not necessarily one that remains stable over time and space. Such depictions allow us to ask questions perhaps not previously asked, and then work toward specific understandings to create "different kinds of knowledge and produce that knowledge differently" (St. Pierre, 1997). The participants' lives are fluid and continuously evolving, so "holistic" may be a permanently deferred concept.

Merriam (1998) notes that a case study provides a vivid and lifelike experience within a contextual situation; knowledge of the case under study is developed by the reader's interpretations and insights. Extending this argument, one can assert that knowledge of the case study is developed not only by the reader but also by the participants, the researcher, and the gatekeepers, all of whom negotiate and produce a collaboratively dis/agreed upon production which then gets taken up by the readers through their own negotiations with/through/against their multiple subjectivities. Furthermore, Merriam (1998, p. 13) states that case studies can be responsible for discovering "new relationships, concepts, and understandings" inductively rather than deductively.

Certainly an inductive approach to case study can develop an understanding of relationships and concepts. However, how can one really assert what is new, known, or unknown? For example, what I write might not be something new to the participants who might have known and perceived these relationships in their lived experiences for a while. What is new to the Western academic world may not be new to the South Asian academic world. Not being able to exhaust all possible sources of information, it would be difficult to claim novelty. Rather, with the researcher's

clarification of the purpose of[5] research (i.e., to understand, emancipate, deconstruct, etc.) the reader can determine whether the research has accomplished its purpose and what she/he got out of the research. This research, while idiosyncratic, can be transferable on various grounds including practices in higher education, hegemonic effects of colonization, and patriarchal effects on higher education. There might agreeable head nods through which readers take up various aspects of familiarity when reading. There might also be disagreeable headshakes, which could be equally informative, showing the gaps in subjectivities and creating fertile grounds for dialogues across epistemologies. Hence, not all research can promise a demonstrable new relationship.

Adding to two other researchers' understanding of case studies, Bromley (1986) states that the purpose of a case study is "not to find the 'correct' or 'true' interpretation of the facts, but rather to eliminate erroneous conclusions so that one is left with the best possible, the most compelling, interpretation" (p. 38). Hamel and colleagues (1993) posit that the case study "has proven to be in complete harmony with the three words that characterize any qualitative method: describing, understanding and explaining" (p. 5).

Bromley's (1986) perspective of case-study research being "true and erroneous" implies that there are some benchmarks that one needs to measure up to when conducting case-study research. But what are such benchmarks and how are they assured or established? Who decides what is erroneous – journal editors, dissertation committee members? What if there are disagreements between different academic gatekeepers about how research on a specific case study is approached? Would that be an erroneous case study, thereby implying that researchers should aspire to universal agreement? What if dis/agreements vary culturally and my justification can be legitimized in one publishing space and not in another? Would that mean that my interpretations are erroneous? Or should it be the goal of research to get head nods from everyone? Is this possible, realistic, or even desirable? It is unlikely that any research would have such universal appeal that all parties would agree that the best possible, most compelling interpretation was made, because people are differently moved by stories and depictions.

Therefore, the goals in presenting this research are to demonstrate how interpretations were made and how limits and possibilities were constructed to cut across several foundational assumptions and binary-driven concepts. The reader then lends credence to it as it fits her/his perspectives, which cannot be exhaustively predicted or anticipated. This is not to say that I do not have a current or future readership in mind. The re-presentational negotiations would be contingent on the space in which the research is published and the explicit and implicit expectations of that space. Despite the researcher's best attempts, the standards for best possible interpretation would vary in these spaces.

Hamel et al.'s statement about the harmonious nature of case study and use of terms like description, understanding, and explanation do not address the contingency

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[5] I am using Lather's (1991, p. 7) continuum to demonstrate various goals of postpositivist inquiry.

of meanings residing on varied cultural understandings. To *describe* a researcher negotiates multiple subject positions, collaborates with the participants, and consults with people such as journal editors or dissertation committee members to develop a finalized description. The term *understanding* must always be considered in relation to multiple subject positions and contexts. Thus, although the researcher's "explanation" might align with her/his understanding and description, it could leave gaps in such alignment with the readers. With competing discourses and subject positions, instead of a harmonious symphony, I am more likely to produce a cacophony of dissonant voices, a *rashomon* – a complicated narrative from multiple differing perspectives.

Furthermore, Hamel et al.'s assertion assumes that language is holistic, fixed, and foundational, allowing description, understanding, and explanation to be established and perhaps universalized. But language is not (Bové, 1990), and meanings are permanently deferred and fleeting. The best I can do is to convey the messiness and (mis)alignments, state the limits and possibilities of the research, acknowledge what I get out of this research, and communicate the claims, questions, concerns, and directions I want to emerge from the research. Research then becomes the interaction between process and product, both of which can be claimed as findings amidst contradictions and ambiguities.

Therefore, this research was designed with the broader implications of case study as both a method and an end product. I find value in both Wolcott's and Merriam's arguments and see my decision to study the phenomenon of transnational feminism in the two women's lives as both a method of inquiry and an end product. This research was conducted over a 5–6-month time period with extensive visits to the participants' homes (—two to three times per week), informal conversations, photo- and object-elicited conversations, and participant observations during social and cultural events and in the participants' interactions and conversations with other people.

Selection of Participants

Hickory Towers apartment complex is the housing of choice for many recently arrived Indian graduate students in Arborville, a small southern university town. Hickory Towers contains 30 two-bedroom townhomes, usually all of which are shared by three to four Indian students. Based on participant observations and various unplanned informal conversations with residents, I provide the following description of the living community and residents of Hickory Towers.

While Hickory Towers remains open to any tenant, most of the Hickory Towers townhomes are occupied by Indian graduate students who are pursuing either a Master's degree or Ph.D. at the University of Arborville. Some older residents of Hickory Towers are pursuing a second graduate degree at the university. The Indian residents of Hickory Towers formed a university-recognized student organization, the Indian Students Association (ISA), which organizes social, cultural, and religious

activities for the residents at Hickory Towers and for the larger Indian student community at the University of Arborville. Since election of executive members for the ISA means visibility in the Indian student community, residents of Hickory Towers vote for one of their own to executive positions in the ISA.

The members of ISA serve as initial contacts for new Indian students arriving at the university. New students usually contact the members of the ISA for information about housing and they are placed in partially occupied or soon-to-be-vacant Hickory Towers townhomes. In the 10 years since the organization was founded, the cyclical process of electing members from Hickory Towers into ISA leadership positions and having those student leaders place new students in Hickory Towers has created a thriving Indian student community at Hickory Towers, which is more commonly known as *Haragao* (name of a generic Indian village) amongst the Indian students.

Most Indian students at Hickory Towers arrive in the United States after completing a Bachelor's and/or Master's degree in India. They belong to upper- or middle-class families of various castes in India. In some ways, residents in the Hickory Towers community try to simulate Indian college life while strategically adhering to, or rejecting, particular traditional and cultural values. For example, fearing the loss of culture, Indian residents at Hickory Towers participate in daily, weekly, monthly, and yearly celebrations of religious, social, and cultural festivals. Often the Indian residents at Hickory Towers create culturally familiar social environments where they cook and eat together, take day trips to nearby attractions and malls, or watch Indian movies together. Women are expected to learn to cook if they do not already know how to, and men also learn to cook if they do not have a girlfriend or female friend who cooks for them. Rejecting traditional norms surrounding arranged marriages, many residents in Hickory Towers engage in dating relationships with each other, especially when they do not have to be accountable to parental inquiries about their whereabouts.

While most residents of Hickory Towers enjoy class and religious privileges in India, those privileges are erased with their status as international graduate students in the United States. In Hickory Towers, caste privileges are also erased because privileges in Hickory Towers are grounded in how much one knows about surviving in the United States and navigating through the spaces of higher education. Privileges are also derived from ownership of a vehicle and a personal computer. Most students either have a personal computer due to their class privileges or they have access to one at the university. However, owning a vehicle clearly marks a student who had been in the United States and Hickory Towers for at least a year or more. In general, male students who have been in the United States for a year or more are most likely to purchase vehicles. Female students, on the other hand, obtain rides from the male residents of Hickory Towers, with the exception of a few who choose to purchase their own vehicle. Owning a vehicle is a sign of privilege, not only because it marks a class privilege, but also because it confers the privilege of mobility, ease of life and navigation around town, and access to places and information not readily accessible to those who do not have their own vehicles.

The male members of the Hickory Towers community are the primary decision-makers about events and membership roles in the community. The female members

align with the male members to enjoy the power and privileges of mobility, access, and visibility in the community. Newcomers are expected to respond with some sort of reciprocation when afforded the privilege of mobility and access to information. Sometimes this reciprocation involves cooking for the most socially visible group in the Hickory Towers. At other times reciprocation includes hosting a party, a religious ceremony, a movie-watching gathering, or just spending time with the most socially visible group in Hickory Towers. This socially visible group consists of mostly male members along with two or three female members. They hold the executive positions in the ISA and control the funds that pay for events for the Indian students at Hickory Towers and in the University of Arborville community. Newcomers are expected to align with this core group if they wish to receive the recognition and privileges that came with group membership.

However, this membership comes with a price. Membership in Hickory Towers implies active participation in all social, cultural, and religious events. The Hickory Towers community has situated itself within and outside of Indian cultural traditions. On the one hand, the community tries to enact cultural traditions in the daily lives of the residents; on the other hand, certain members of the community also deviate from expected cultural norms. To enact tradition, certain conservative norms about gender roles are evident when the women are expected to cook or to learn how to cook after they arrive at Hickory Towers. During religious festivals, women take on traditional gender role of decorating shrines and gathering auspicious offerings, just as they would be expected to do in India. Revisiting familiar Indian cultural norms in the larger cultural space of the United States allows many members to cope with a sense of cultural loss affecting their lives in the United States. However, while Neerada and Yamini both want to return to a traditional cultural space, they did not want to do it within the terms prescribed by the Hickory Towers community. Instead, both of them authored their own nostalgic return to cultural traditions based on their imaginations and memories of India.

To integrate themselves into this community, newcomers are expected not only to enact traditional gender roles, but also to offer open access to their living spaces and lives. While no one frowns upon someone's choice to date in the Hickory Towers community, when a woman calls off a relationship she is often criticized, scandalized, and otherwise evaluated on traditional values, while her male partner's reputation remains relatively unscathed. For example, when Neerada's relationship with Ashit ended, established members of the Hickory Towers community questioned Neerada's relationship and her role in it, reminding her that it was not "proper" for Indian girls to break up with their boyfriends. At times, then, membership involves gossiping about other residents in the community and fixing women's roles rigidly, while allowing men to be more flexible in how they author themselves from varied and negotiated cultural perspectives.

Not all residents of Hickory Towers value or agree with the expectations established by those who play central roles in the community. However, those who disagree with group roles and expectations run the risk of being marginalized by other members; losing their privileges of mobility, access, and visibility; and becoming the targets of criticism about their choices and character. This was evident in

Neerada's and Yamini's cases, as both women were criticized due to their lack of interest in belonging in the Hickory Towers community after 2 months of being in the United States.

Many Hickory Towers residents find the initial cultural and social familiarity comforting as they transition into their new status as international students in the United States. However, some residents experience a progressive upbringing in India in which they are not interrogated about their actions and decisions with anything like the critical gaze that the leaders of Hickory Towers turn on their peers, ostensibly in order to return to a nostalgic space of Indian tradition. If students value their membership roles, then they accept the critical "nostalgic" gaze of the community even if they have had a progressive upbringing. Conversely, if students do not value their membership roles in Hickory Towers, regardless of their upbringing, they reject such memberships. Consequently, many students move to on-campus graduate-student accommodations after staying in Hickory Towers for their first year. Those who remain in Hickory Towers after their first year choose to do so because they value their membership in the community, and many of these students eventually assume leadership roles in the Hickory Towers community and in the ISA.

After visiting the Hickory Towers apartment complex a few times prior to the study, I began to make some friends. I was invited to several cultural and religious celebrations. One of the participants in my pilot study agreed to act as a key informant and told me that some new female graduate students had arrived from India. Neerada, one of the participants I met during a cultural festival, agreed to be involved in this study. Yamini, the second participant for this study, was referred to me by another contact from the community.

My sampling method for this dissertation lies at the intersection of three types of purposeful sampling. Patton (2002) describes purposeful sampling as "selecting information-rich cases for study in-depth" (p. 230). Information-rich cases are those from which one can learn "a great deal about issues of central importance to the purpose of the inquiry" (Patton, 2002, p. 230). Based on Patton's further typification of purposeful sampling, this study lies at the intersection of criterion, theory-based, and homogeneous sampling.

Criterion Sampling

Since the two participants meet some predetermined criteria, criterion sampling is one form of sampling that affected the selection of the participants. For this study, the participants needed to be female, Indian graduate students who had been in the United States for no longer than 1 year. Another criterion-informing selection was that at least one participant needed to be in the social sciences stream rather than in the hard sciences, which is a common path for Indian academics. The final criterion for selection included participants sharing a common language other than English with the researcher. Table 1 details how the participants for this study met the pre-determined criteria.

Table 1 Matching predetermined criteria for selecting participants

Criteria	Yamini	Neerada
Female Indian graduate student	✓	✓
Duration no longer than 1.5 years in United States	Been in United States for ~3 months	Been in United States for ~6 months
At least one participant outside of hard-science discipline, preferably in social sciences	Business Marketing	Veterinary Science
Share at least one native Indian language with researcher	Hindi	Hindi

Theory-Based Sampling

Patton (2002) observed that theory-based sampling is a "more conceptually oriented version of criterion-sampling. … The researcher samples incidents, slices of life, time periods, or people on the basis of their potential manifestation or representation of important theoretical constructs" (p. 238). In this study, I was particularly interested in exploring the theoretical boundaries of transnationalism and what it means in the context of the lives and material conditions of those who are in-between nations, states, cultures, and spaces. These participants have multiple shifting subject positions, histories, and politics of location that shape them and influence the way they negotiate their experiences. Therefore, through this case study I am able to document incidents, a part of the participants' lives in a specific time period (i.e., early stages of transnationalism) as they begin to negotiate the limits and possibilities of their transnational status. I explore the role of transnational movement in producing gendered experiences through the participants' negotiations, retention, and dismissal of multiple subject positions.

Homogeneous Sampling

Patton (2002) states that the purpose of homogeneous sampling is to describe a subgroup in depth (p. 234). So while there could be many different kinds of production of gendered transnational experiences, I was most interested in looking at those produced during the early stages of negotiation with a transnational status. For this reason, the participants' short duration in the United States worked well for this study, as it allowed an examination of similarities and differences in the production of experiences for recently arrived female Indian graduate students.

Research Site(s)

This study is situated in both tangible and intangible research sites. I present a continuum below to demonstrate the various research sites for this study. Figure 3 shows that research sites are intersected by two continuums. The deliberate and

unintentional sites continuum represents both the planned and serendipitous nature of qualitative research. Unintentional sites of research could be a movie theater, conversation with colleagues, listening to music – all unplanned sites that nevertheless influence the study. The second continuum refers to the fluidity of access to such research sites. If the sites are tangible and finite, then access is limited by time and space considerations. However, when the sites are intangible – for example, sharing a similar memory with the participants – then access to the site is infinite and unrestricted by time and space issues.

Using the illustration in Fig. 3, I plotted the sites from which I have collected data. Most of the sites of research and data collection have been in the top left quadrant, while some unanticipated sites are located in the bottom right-hand quadrant. The following are the sites of research that I have been able to identify:

1. Homes of the participants
2. Classes the participant attends
3. Cultural festivities across campus
4. Social and cultural festivities attended by participants at their apartment complex
5. My home and office
6. Home of other transnational Indian students
7. Memory sites evoked by notions of being a woman, being a minority in the United States, and growing up in India as I conducted reflexive inquiry and interrogation
8. Unintentional sites of research such as writing group meetings, meetings with advisor, committee members, peer debriefing, unplanned and unanticipated social gatherings, etc.
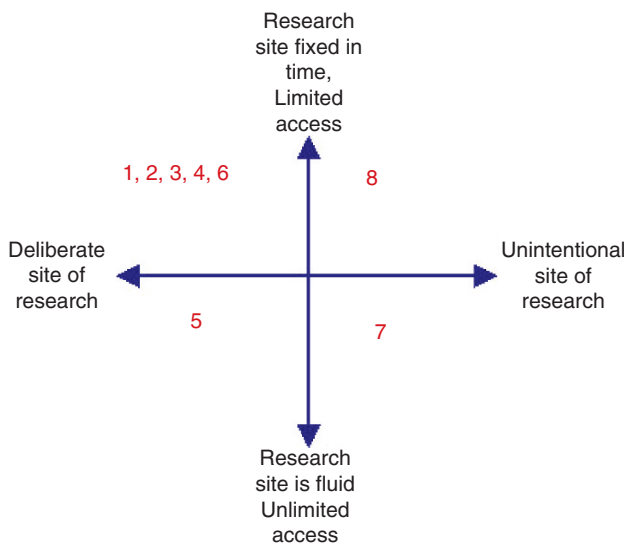
Fig. 3 Research site continuums

This list is not exhaustive and there are indeed sites that I cannot consciously identify although I know they inform this study. Sites in the upper-right quadrant could include serendipitous conversations with peers, advisor, etc.

Gaining Access

My means of gaining access to the research sites varied based on the different sites. I had easy access to Hickory Towers due to my prior involvement with the people in Hickory Towers and similarities in cultural background. The Indian graduate students always commended me for being fluent in my native language and being informed about Indian politics, entertainment, and current issues, despite being away from India for over 16 years. These forms of alignment provided me with easy and unlimited access to Hickory Towers and its cultural and religious festivals.

Visiting the participants in their classes required special permission from their instructors. Most instructors were willing to have me in their classes as a visitor, so I selected classes that fit with my schedule. Some instructors either did not respond to my requests or denied access.

The rest of the research sites (7, 8) were the sites that were not limited by time or access; therefore I had unlimited access to those sites.

Insider–Outsider Positioning: Departing to Fluid Emic and Etic Positions

It would be arrogant of me to assume that because I enjoyed some insider status and easy access to the Hickory Towers community, that I somehow "know" or have more "innate" knowledge of the transnational conditions affecting the participants' lives. Therefore, remaining cautious of the "romance of the speaking subject" and how that re-presents the participants' voices through fluid emic and etic perspectives became an important concern. The binary of the insider/outsider positioning has long been challenged with arguments that what is being studied does not stand outside of the researcher. Kondo (1990), Behar (1993), Abu-Lughod (1992), and Visweswaran (1994) have all argued for a complex and fluid understanding of the researcher/researched positioning whereby the self is transformed by the research process. These authors have also discussed ethical issues and implications of being native researchers who developed strong kinship relations with the participants.

Being situated similarly in the United States as a nonresident female Indian student minority, and sharing similar languages, I had some insider status that provided me with access to information I would not have had without these similarities. However, I was an outsider because the participants and their subject positions were developed through various unshared discourses, histories, contradictions, and

tensions. It is then both a burden and a privilege to speak from colonized and racialized subject positions while being aware of the crisis of representation, and the contradictions of conducting de/colonizing work in Western academia.

My insider status allowed for shared understandings about friendships and kinship relations with the participants and other members of the transnational Indian student community. Kinship relationships with the participants involved being an elder sister, not in its allegorical form, but in terms of being responsible for the well-being of the participants, providing them with concrete advice, providing an unconditional support system, and maintaining a familial relationship outside the scope of the research. An inability to perform on these levels would have affected the rapport and trust established with the participants.

My outsider status of being in the United States longer than the participants, having an already-established support system within the United States, and having a family in the United States to whom I can turn instantly distanced me from the participants. Moreover, since I left India during my early teens I never experienced being in higher education in India. Therefore, I had no similar points of reference for growing up and studying in India despite my diligent efforts to stay connected to the culture through frequent visits to India, reading Indian newspapers and literary texts, listening to various forms of Hindi and Bengali music, and watching Hindi and Bengali movies regularly. Balancing between my insider and outsider assumptions, I engaged the participants in various member-check conversations so that I could modify and verify the rigor of knowledge gained from emic and etic perspectives.

With the insider/outsider position emerged the contesting loyalties of being a native researcher in Western academia. Where should one's loyalties lie, and how does one balance these loyalties? What understandings would a researcher want to promote and what myths would she/he like to dispel? Since there were times when the participants sought advice from me, wanted my support, shared intimate details of their lives, and even lived with[6] me, I had access to information beyond the scope of the research. The responsibilities of being an elder[7] sister preceded the role of the researcher always. What this meant was that Neerada and Yamini were not means to an end for this study. They were ends in themselves. Although we started out as strangers and met through the context of the study, my relationship with them as an elder sister and a friend became far more important than my relationship with them as a researcher. With shared cultural understanding, the participants valued the kinship relations more highly than the research relations. Consequently, if either

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[6] Neerada lived with me for 3 weeks after she broke up with Ashit as she needed a support system, someone to talk to, and avoid feeling lonely in Hickory Towers.

[7] My understanding of being an elder sister meant that I felt the need to be supportive, accessible, and resourceful; to care unconditionally; and to be prepared to dole out advice when it was sought. Chaudhury (1997) experienced similar insider–outsider relationship with her participants where she was expected to take on the role of an elder sister and dole out advice during some stressful events in the participants' life.

of them had dropped out of the study, the elder sister relationship would have prevailed because it was not contingent on maintaining a researcher/researched relationship. Needless to say, at the end of data collection the kinship relations with both Neerada and Yamini remained and deepened.

I was also conscious of not becoming an essentialized "Third World" informant. Heeding Chow's (1993) warning, I questioned what needed to be done to address the imperialistic ways of knowing that plague the insider/outsider transnational de/colonizing researcher when speaking of, to, and at an audience. Keeping in mind that I occupy the subject position of a privileged Third World informant in the United States, my insider/outsider culture crossing within Western academia

> [is] made possible by socialized capital, or from the point of view of the indigenous people intellectual or professional elite in actual Third World countries. Among the latter, the desire to "cross" culture means accession, left or right, feminist or masculinist, into the elite culture of the metropolis. This is done by the commodification of the particular "Third World culture" to which they belong. Here entry into consumerism and entry into "Feminism" (the proper named movement) have many things in common. (Naomi Schor, cited in Chow, 1993, p. 69)

The danger in playing such an insider/outsider informant role is the commodification of "native" knowledge produced in Western academia. The commodification of knowledge might not attend to critiques presented in de/colonizing epistemologies, especially when imagining a primary readership of White academics. Therefore, for this research I have primarily imagined a South Asian readership before any other readership. Such posturing calls for different kinds of accountability when a female South Asian transnational scholar in the United States studying other female transnational scholars places her accountability first to the people about/with whom she writes. However, since this work is produced in Western academia, and since many South Asian transnationals work in Western academia in the United States, the insider/outsider negotiations are already influenced by the "elite culture of the metropolis."

Consent Form and Ethics

Through my kinship relations and insider status, I developed a trusting relationship with the participants. This trust affected the way participants negotiated their consent and membership in the study. While both participants completed the consent form at the outset of the study, their understanding and negotiations of those conditions varied during the study and we continually revisited intent, desires, and ways of participation. For example,[8] Yamini, one of the participants, remained busy

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[8] Participant descriptions are provided in the chapter findings and the selection of participants is elaborated earlier in this chapter.

during the year with her program, which required her to be out of town frequently. Therefore, I was not able to "hang out" with her as much as I was with Neerada, the other participant, and so our conversations were more structured by time and Yamini's limited availability.

Furthermore, knowing that I am interested in photo-elicited conversations, both Yamini and Neerada found the exercise to be fruitful and provided me with more information than I requested. Neerada was more interested than Yamini in discussing her experiences through her photography, and so the research space, dialogue, and Neerada's participation were modified by her intent to participate more through photo-elicited conversations than through conversational interviews.

Neither participant had ever taken part in a research project. Therefore, they placed a tremendous amount of trust in me that I would cause no harm to them. This trust and understanding extended beyond providing pseudonyms and fictionalizing identifiable contexts and details. As our relationship grew more into friendship, and later into kinship relations of being an elder sister, lines needed to be drawn around what information I had access to as an elder sister versus as a researcher. Since, as a researcher, I found myself to be always "on" whenever I interacted with Yamini and Neerada, I continued to question how such information affected the way I understood Yamini's and Neerada's production of experiences as recently arrived female Indian graduate students in the United States. The lines between being a friend, elder sister, sometimes a mentor, sometimes a support system, and always a researcher were blurry and any discrete occupation of one subject position without being affected by the others was an impossibility.

Ethically, I faced a dilemma about how to represent such findings when they were shared with me based on the relationship that developed as a result of my insider status and access. Consulting with the participants resulted in remarks like, "I trust you. You can use whatever you think would help your research." Granting me such privilege became more of a burden than a relief. Continuing to battle the ethical dilemma, I considered the following questions: Do they understand what it means to give me such access and permission? Should the researcher play the role of a protector and tell them the implications of sharing such information? Am I assuming that the participants are too naïve and incapable of understanding the qualitative research process? Is this an arrogant posturing of presumptive agency that I have as a researcher? I asked the participants what they would feel comfortable sharing assuming their mothers or grandmothers might be reading. This question was designed to identify some boundaries that I did not have before.

As the participants started looking at the data and identified spots that would be appropriate and inappropriate for their families to read, I was reassured about which data could ethically be included in this study. Furthermore, as the participants became more involved in the research process they authored their roles differently. They also understood and negotiated their participation differently. Yamini wanted to see all the interpretive work and data poems I created, whereas Neerada wanted

me to share with her my writing, discussions about the study, and how she as a "case" fit into the general purpose of the research. Neerada wanted to help me sort through the data and wanted to meet more frequently than I outlined in the consent form, whereas Yamini kept to a more structured meeting schedule. However, toward the end of the study, Yamini interacted with me in multiple group situations and began to invest more time and interest in the study, becoming an integral part of authoring interpretations.

Through these interactions it became clear that consenting to the research does not fix the manner in which one participates in research. Rather, the consent form and consenting are contingent on varied negotiations of multiple subject positions, life events, and shifting understanding of research. Moreover, through transformatory experiences, the ethics of re-presentation included tension-filled negotiations, which took into account the combined subject positions of a well-wisher, a friend, and even an elder sister. An insider/outsider position complicates the ethics of consent and representation because they are both shifting concepts. Certainly there are no specific ethics or guidelines, but attempting to present the implications and clarify understandings of participation in the research may shed light on the ethical decisions a researcher must make in these situations.

Data Collection Procedures

After transcription and expansion of field notes, I was able to generate about 700 pages of raw data from the following data collection methods.

Adda/Time-Pass

Typically, Indian students allocate certain times for "hanging out" and conversing across multiple related and unrelated topics. These times are called "adda" in Bengali and "time-pass" in English as used by Indian students. I visited both Neerada's (eight conversations) and Yamini's (five conversations) homes and engaged them in conversations without any prearranged, focused interview questions. In the beginning, I would start the session with simple questions such as "How was your day?" or let the participant begin the conversation. Because of the saliency of their experiences, any information they shared with me pointed to issues that stood out for them in various spaces such as formal academia, informal academia, general US culture, or the Indian communities. Toward the end of the conversation, I would go back and clarify thoughts or ideas, or ask some focused questions based on previous conversations. These informal conversations were conducted most often in English, but sometimes they were in a combination of Hindi and English. The choice of language always came from the participants.

Photo-Elicited Conversations

Given the complexity of human behavior, photo-elicitation can take understanding to a place that may not be possible within the limits of using text. Advocating this alternate understanding, Harper (2002) writes:

> Photo elicitation may overcome the difficulties posed by in-depth interviewing because it is anchored in an image that is understood, at least in part, by both parties. If the interview has been successful, then understanding has increased through the interview process. (p. 20)

Consequently, Harper advocates any form of photo-elicitation to cross-cultural boundaries and urges researchers to seek a new "framing of taken-for-granted experiences … to deconstruct their own phenomenological assumptions" (p. 21).

Similarly, Allen et al. (Allen et al., 2002; Allen and Labbo, 2001) and Ziller (1990) conducted cross-cultural research studies through photo-elicitation, in which participants photographed their lives and objects around them to explore their cultural understandings. Integrating photo-elicitation interviews with reflections, stories, and participants' journals, Allen et al. looked at teachers' assumptions about culture and learning occurring within the contexts of leisure.

Ziller's (1990) use of reflective photo-elicitation research with domestic and international students to capture their impressions of American culture displayed distinctly different responses between the two groups. Using inexpensive cameras, the domestic students took pictures of their families and neighborhoods; the international students were more interested in photographing American businesses they perceived to be iconic to the world, such as McDonald's restaurants, Coca-Cola vending machines, etc. Through his photo-elicited interviews and thematic analysis, Ziller was able to create an understanding between domestic and international students about cultural perspectives and assumptions.

In this study, I provided the participants with disposable cameras and asked them to take pictures of anything that they thought reflected their experiences of being a female Indian graduate student in the United States. The participants were excited about taking pictures and soon discarded my cheap disposable cameras and used their digital cameras to create their own personalized digital albums. Both participants enjoyed taking pictures, and Neerada particularly enjoyed expressing herself through photography. While there was a predetermined timeline, Neerada and Yamini became excited to share their pictures with me. I had anticipated two photo-elicited conversations, but with the participants' enthusiasm, there were five photo-elicited conversations with Yamini and seven photo-elicited conversations with Neerada generating 2,137 photos.

Both Yamini and Neerada called me to talk about their pictures and I recorded these conversations. They put the pictures on a slideshow mode in their computers and the conversation floated from being in the United States, to cultural assumptions, to arranged marriages, to discovering extraordinary ideas – thoughts without any pre-designed forced or focused questions. Neerada and Yamini initiated the conversations while I chimed in with probes and clarifications. The following is an example of a photo-elicited conversation with Yamini.

Time: Early November, 2004

Yamini: This is New York. I went there the first holiday right after I got into US.

Kakali: With whom?

Yamini: With no one. By myself. I booked my ticket and I decided to go to all the places they showed in the movie *Kal Ho Na Ho*, where Shah Rukh Khan went and I wanted to go there and I just went.

Kakali: How did you know where to go, what to do, where to stay and all that?

Yamini: Oh that's easy. The Lonely Planet Guide. That book is my bible. I was able to use that book to figure out all the cool places and I hit them all. My parents were really worried. And I stayed at a youth hostel. The people in the apartment complex thought … well God knows what they thought of me and I really do not care. I wanted to go to New York and I went. I knew you would like this trip because I went alone. I am an independent person and traveling alone is ok with me. New York is like Mumbai so I really felt much more at home than I do here in Arborville. I feel more alienated here.

Experience-Box Conversations

Apart from informal conversations, the participants stored artifacts in a box that highlighted their experiences while in graduate school in the United States. The rationale for this form of elicitation was same as the rationale for photo-elicitation conversations – to elicit information that might not come out in informal conversations. Understandably, there are many events and circumstances through/against which the participants negotiate their experiences. Creative reflective practice became a better way to elicit some of that information than relying only on verbal responses.

I provided the participants with boxes in which both Neerada and Yamini stored objects that represented some aspect of their experiences as a female Indian international student in the United States. Though both participated in this activity, neither of them enjoyed the activity, as it seemed more unfamiliar to them than taking pictures. Yet these boxes were able to elicit ideas about cultural distances and assumptions which were integrated into the findings. There was one object-elicited conversation per participant, in which the participant initiated the conversation without any prompts or questions. The following is an excerpt from an object-elicited conversation with Neerada.

Neerada: I collected this baby leaf for the experience box. I was sitting by the Creamery, having coffee. I go there whenever I feel lonely and then there were all these leaves on the ground and on the table where I sat. Orange, red, brown, so many big leaves. Then there was this one small dead baby leaf. I felt so sad for that small dead baby leaf. It looked so isolated. Or maybe that I am really stressed out.

Participant Observations

Having an insider/outsider status with the participants, I was part of 12 informal, social, cultural, and religious gatherings where I conducted participant observation. I was mostly informed by the works of Spradley (1980) and Dewalt and Dewalt (2002) when conducting participant observation that promoted an immersion in the sociocultural contexts in order to observe the participants, their interactions and activities. Events at which participant observations occurred were never initiated or organized by me. Instead, these were participant- or community-initiated activities to which I was invited either by the participant or by

another member of the Indian graduate student community. My membership role toward the beginning of the study was peripheral at first (Dewalt and Dewalt, 2002, p. 21), changing later to a more integrated role at the request of the participants. For example, when attending a cultural festival called *Garba*, I was expected to join the participants in their dances instead of staying on the side of the room recording notes in my digital voice recorder.

I bought a slim, small digital voice recorder and a digital camera that I carried with me at all times. Whenever an opportunity presented itself, I turned the recorder on either to record my own notes or to record conversations of the participants with other people. However, during these conversations I was also expected to participate in the events, as people would otherwise feel uncomfortable seeing me take notes or speak into my recorder. I took pictures of events, spaces, and interactions to trigger multiple forms of sensory memory.

I expanded the recordings into field notes immediately after each event, integrating jotted notes, verbal recordings, and pictures. In the beginning, knowing that I would not be able to capture all the details while observing, I focused on big patterns of events. Later, as I expanded my field notes, I recorded questions and hunches, and discussed them with the participants and a peer debriefer. My peer debriefer was a member of the Indian graduate student community with training in qualitative methods. After adding the feedback of the participants and peer debriefer to my notes, I continued to write to develop ideas. I recorded 150 pages of participant observation field notes involving Yamini and Neerada.

Written Data: Notes, Journals, and Critical Personal Narratives

Richardson (2000) identifies writing as a mode of inquiry informing methodological practices. He also delineates writing practices in four categories of notes, whereas St. Pierre explores the contingent construction of knowledge based on our understanding of method and writing. Minh-ha (1989) explores the multiple ways of writing from transnational feminist perspectives. Minh-ha looks at issues of race, class, gender, abilities, and the roles of each in creating a space for knowledge constructed through writing:

> Neither black/red/yellow nor woman but poet or writer. For many of us, the question of priorities remains a crucial issue. Being merely "a writer" without doubt ensures one a status of far greater weight than being "a woman of color who writes" ever does. … She will sooner or later find herself driven into situations where she is made to feel she must choose from among three conflicting identities. Writer of color? Woman writer? Or woman of color? Which comes first? Where does she place her loyalties? (Minh-ha, 1989, p. 6)

I struggled with contested loyalties during this study and anticipated being in this unreconciled space permanently. I participated in a writing group to continue to develop and interrogate ideas and obtain feedback. I continued to imagine multiple audiences as I explored ideas around being a transnational researcher working with other transnational female Indian graduate students. Inspired by Richardson, apart

from journaling and writing critical personal narratives, I took notes on various aspects of the study that served as data as well. These included:

1. Data collection notes, which included information about organization, logistics, post-conversational and observational thoughts, and notes from participants' responses after sharing transcripts and findings with them
2. Notes on emotions, which included feelings, doubts, anxieties, indulgences, assumptions, and expectations that I might have about myself, the participants, and the iterative research process
3. Instinct notes, which included my hunches, assertions, gaps in my understanding, and limits and possibilities of the hunches and assertions
4. Decision notes, which included some of the ways I made decisions about cognitive selection of data, ways to work with participants, ethical issues, re-presentational issues, and other emergent issues during the research

While expanding, transcribing, and reading field notes, I kept parallel written accounts of thoughts, understandings, hunches, questions, etc., asking questions like, what is going on here. What are two or three things I know for sure? Where are the silences? and continuing to record my responses relentlessly. Sometimes, until I wrote and explored my ideas, I did not know how to articulate my thinking and its contribution to the research as data.

I looked at my own colonization and how such colonization influenced this study. A colleague agreed to conduct some bracketing interviews which were recorded and transcribed. I conducted several intense free-writing exercises around the interviews and the research to explore and interrogate my subjectivities, in order to remain vigilant with the autoethnographic gaze.

Tacit Data

While I have listed all the tangible forms of data I collected for this research, I cannot ignore the role of those data that are unseen, unheard, undescribed, and unrealized, yet continue to shape and influence the research. I found that there are research spaces in which words were not always adequate to describe emotions, sensual information, dreams, and various forms of (conscious and unconscious) psychological negotiations (St. Pierre, 1997) during data collection and analysis. The forms of data produced within these spaces cannot be captured even by the most sophisticated technological resources or the most "accurate and systematic transcription procedures" (Mishler cited in Scheurich, 1995, p. 243). I refer to these forms as *tacit data*, a category that includes information and experiences that constitute alternate ways of knowing which cannot be textually articulated, but which nevertheless inform the study.

For example, while conducting a peer debriefing session, I realized that even with detailed field notes of dialogue, body language, and the site description, the peer debriefer interpreted an interaction with the participant negatively. Certainly

not every piece of information can be captured in field notes, but this interpretation alerted me that I knew more than I could articulate, and that my knowledge exceeded the information that could be captured in text. It could have been a shared understanding, a way of being, something that I could not and did not attend to consciously. I remembered feeling the kindness in the participant's eyes, a feeling of comfort and belonging during our conversations, all of which were expressed only partially in their intensity and effects in my field notes. Some of this information never made it to the representation plate as it did not play any directly relevant role in answering research questions. This unspoken, unthought, unrealized ontological awareness continued to play a role as I interpreted more tangible forms of data.

Data Transformation and Representation

Transforming qualitative data usually involves some form of organization, management, description, analysis, and interpretation of data, with accompanying documentation of the process the researcher used to transform that data into evidence that provides answers to her/his research questions (Lincoln, 2002; Wolcott, 1994). However, this process is riddled with iterative procedures often without clear entry or exit points. I was aware that the voices of the participants would never be captured in their entirety. Nevertheless, I wanted to remain close to the data despite the tension between voice and transparency.

While I could never completely divorce myself or the decisions I made about data collection, management, analysis, and interpretation from theoretical influences, I wanted the data to be the driving factor, with theoretical arguments supporting the data, thereby avoiding the creation of a preconceived theoretical foundation and locking the data within those foundational borders. Folk understanding can and should become a legitimate site of authoring transnational perspectives, and I continued to embody that belief throughout the research in order to privilege ways of knowing that may or may not have been legitimized or voiced.

In this section I describe the processes and the journeys I took toward data management, analysis, and representation.

Data Management

I organized my data using both electronic devices and paper printouts. Using the software NVivo as a data management tool, I transcribed my tapes, expanded my field notes, and wrote researcher journals. I kept a dated process log every time I opened NVivo, in order to remember my previous actions. In NVivo, I sorted out all photo-elicited interviews, object-elicited interviews, conversational interviews,

and participant observations, and assigned separate analytical spaces for each of the data collection methods. While writing about the data, I connected to the appropriate data file for quick retrieval. Using writing as a form of inquiry and analysis, I was able to return to previous assumptions, evolving subject positions, and discourses with which I identified as I developed analytical ideas.

The freedom I experienced when using this software resulted from the fact that anything could be used as data as long as the software could create a file for it. Therefore, I connected my entire bibliography and theoretical notes to the dissertation file in NVivo, so that I could browse through electronic references whenever I deemed appropriate. However, NVivo, like other forms of data management software, is not value neutral, and is informed by certain theoretical frameworks that were different from the ones informing this study. I continued to stay vigilant of the incommensurability of those perspectives with my work so that I would not be falsely seduced by the features of the software. The advantage of the software lay in its ability to conduct sophisticated search and retrieval, which reduced the hours of time I might otherwise have spent looking for a strip of paper data in a detailed filing system.

Moreover, the writing and modeling tools in NVivo allowed me to interrogate continuously, develop, and connect multiple pieces of data in one space as I continued to ask, "What is going on here?" Interrogating my data allowed me to question my subjectivities to maintain an autoethnographic gaze. For example, if I was sure that racialized experiences were playing a big part in the data, I could search for certain key terms and locate the contexts in which they appeared. If the context displayed my written notes, hunches, and questions rather than the spoken data of the participant, I would begin to question the implications of the evidence and the claims warranted from such evidence. Being able to save such searches and write around them allowed me to document reliably my process and thereby offered me the ability to retrace my footsteps when needed.

Maintaining a paper-based binder of all the data was also a useful process as I printed and sorted out conversations, photo- and object-elicitations, participant observations, and written data. I used this binder to tactically connect to the data, move away from the office and reflect on the data somewhere else, and develop alternate ideas. Hence, a combination of NVivo and paper-based organization of my data allowed me to remain messy and organized simultaneously.

Reading through the data, I could not separate one-word or phrased codes into their discrete boxes without acknowledging that they were all intertwined in complex ways. The participants negotiated their experiences in messy spaces, in contradictory ways. I wanted to capture some aspect of the messiness it would resonate with transnational feminism, which advocates developing an understanding that starts from a site of multiplicity. If the world exists in multiplicity, if people process information in multiple interconnected ways, then sorting, managing, analyzing, and re-presenting the messiness would be commensurable with ways of knowing that remain closer to the participants. Through this process, I continued to question the theoretical influences in my reading of the data to break apart my established ways of knowing in order to discover some alternate forms of knowing.

One such alternate way of knowing came from an Indian[9] Vedic mantra, *Om tat sat*, whose literal translation is: *Om* the vital force is the key element, *tat* in all existence, and *sat* which is culturally understood as that which exists beyond all categorizations. *Om tat sat* is used sometimes in meditation, sometimes as a philosophy, and sometimes as a way to understand the world as it transcends any fixed forms of categorization. Invoking the same philosophy, the participants' racialized experiences were not always separable from their gendered or cultural experiences. These codes existed in ways that were inseparable, creating vital experiences for the participants.

For example, the code "racialized experiences" functioned differently in different spaces, held different meanings, and was negotiated differently by the participants across time and space. Each of those negotiations interacted intricately with other aspects of the participants' experiences, legitimizing that which exists, exists in all its riddles. Thus to understand such intertwined aspect of negotiations and productions of experience, I needed additional ways of knowing to better capture the multiplicity of interactions between time, space, events, negotiations, and contradictions, with room for permanently deferring meaning.

I listened to the conversation tapes closely to obtain a sense of more than the textual representation of data, a reminder of how some of those tacit data sources shaped understanding. Then, just as Neerada or Yamini would finish discussing an idea and proceed to talk about something else, I would begin to write about the idea. As I wrote, I began to connect to multiple points in the data either from memory, by searching through the data sources, or by rereading portions of the data. I developed these ideas based on connections to similar and contradictory ideas, changes in their lives including turning points and epiphanies, and intense reactions to events, people, and circumstances. This process, represented in a single electronic document, became a space for developing ideas while remaining intimately connected to the data.

My initial analytic focus was loosely structured to explore how the participants negotiated their experiences, and to examine the contexts in which those experiences were produced. I was hoping that this focus would provide a starting point that would help me stay close to the data and open up possibilities through writing. I went through the entire data set and began writing every time a different topic came up in the conversations. As I continued with this process I came up with several written pieces linking to multiple pieces within the data. However, the pieces did not exist independently. Instead, they were connected to each other, almost creating a network feeding into and out of one another, mostly because I was influenced by the philosophy of that which exists, exists in all its inseparable complexities.

I returned to the data again and looked for silences and misses, and asked, "What else is going on?" Wherever there was silence, I made that a point of inquiry and began writing around that idea as well. In rereading, I assigned "new values to texts ignored or discarded" (Visweswaran, 1994, p. 17) in my previous reading. During this entire process I conducted several member checks with the participants, and

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[9] Vedas are ancient sacred Indian texts.

worked with a local peer debriefer from the community. Their ideas and suggestions were then added to the stories as points of clarification, providing depth and continuing to build on the complexity through which the participants authored themselves.

I began to look at the written pieces again for patterns and silences. For each of the pieces, I created a demographic chart that outlined who the actors were, where the significance was attached, which outcomes were valued over others, what cultural practices were described by the participant, and where the event occurred. I also created a search based on the various attributes within the demographic charts. This search produced a pattern of events in certain spaces. For example, for Neerada, feelings of cultural alienation were strongest in her formal academic space. Anytime Neerada discussed cultural alienation she returned to experiences in formal academia. Thus, I began to look at the spaces and the experiences produced in those spaces.

Soon I was able to produce a list of events in spaces like formal academia, informal academia, living contexts, alternate communities of support, and memories of India. By now I had written around every idea and connected similar and dissimilar ideas to discuss tensions resulting from the oppressive effects of certain hegemonic discourses. The following is an example of such writing:

> Neerada resisted her professor when he was making fun of the students by making a prolonged eye contact which is a clear sign of disrespect and disruption. She still walked away from being tempted to say that she felt awkward or offended that he was laughing at people's papers. Her resistance *(connect to another portion of data)* was an indication of her becoming. She has seen that people argue with their professors here and that it is ok to criticize some professors *(connect to another portion of data)*. The most strategic thing for Neerada to do at that time was to resist in silence *(connect to another portion of the data)* with her body language.

Such interconnected data, listed in spaces where the participants had to function, led me to further analysis and representation of the data as described in the next section.

Data Analysis and Representation Strategies

Analysis began when I designed my research questions and continued as I moved through the research process. Troubled by the loss of the subaltern voices, I invited both Neerada and Yamini to write descriptive vignettes.

These descriptive vignettes were composed using the participants' words throughout the research study. Both participants were intimately involved in composing their vignettes, selecting portions from their speeches and adding ideas and words for clarification and elaboration to the excerpts and phrases chosen for the vignette. They cleaned up certain speech elements (e.g., um, like, you know) to make the text flow better. Informed by my need to create a descriptive self-portrait using our conversations, Neerada and Yamini became excited, and immediately participated in authoring themselves.

We discussed what the descriptive vignette should tell people about the participants. We went back and forth in several rounds of conversation, both in person and via

e-mail, until we came to a satisfactory conclusion. For example, for Neerada, we decided that the vignette should capture:

- Her love for her pets
- Her love for the outdoors and her friends
- Her struggles when she chose to study veterinary science
- Some of the ways women are expected to behave in India
- How Neerada pursued her own desires, sometimes in contradiction to her parents' and cultural expectations
- How she was taught not to be authored solely by her class and caste status
- Some of her battles in trying to come to the United States
- Some of the loneliness that she faced in the United States amidst unfamiliar environments

We looked at the data and started to pick out lines, phrases, and excerpts that matched our criteria. While constructing this vignette, Neerada added more information or altered or abbreviated some expressions to communicate carefully what she perceived were the most appropriate words and phrases to represent her to the anticipated readers of our work.

Once the participants had selected important parts of their lives that they were comfortable sharing, I helped them search through the data and continued to dialogue with them to see why they were including certain parts and what those parts meant for them. We went through three to four drafts per participant before both of us were happy with the alignment of what we produced. My role as a facilitator was to assist the participants with all the information they required in crafting the descriptive vignettes and to do whatever I could to minimize their workload without dismissing their enthusiasm and interest. While they pointed to data pieces and talked through their ideas, I would type, cut, and paste excerpts and pictures, and probe for clarification and elaboration.

Once the vignettes were completed, I invited the peer debriefer to read them and she identified points that I had not considered. For example, for Yamini, the peer debriefer suggested that I look at her enhanced sense of Indianness in the United States and provide some examples because that is a salient aspect of Yamini's negotiations. Once I added the information and checked with Yamini, the portrait became richer, with thick descriptions of the participants' lives authored mostly through their voices.

After sorting out the data through topics, events, stories, and spaces, I was still burdened by the responsibility of analysis that went beyond sorting, categorizing, and managing. To sharpen my analytical questions, I considered the following questions: What is going on in these spaces? What are the contradictions and tensions? Where are the silences? What are the negotiations and reworking of subject positions in these spaces? I created a[10] chart that offered visual clarity and some answers to

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[10]The chart in Appendix served as a form of data reduction. By using writing as a form of inquiry I was able to generate ideas that I organized visually in these charts, providing me with a visually accessible representation of ideas developed during data analysis. I approached the ideas in the charts as continuously shifting, always suspect, and filled with tensions. Therefore, I referred more to my writing than to the charts when I was interpreting the data, but the charts were helpful in presenting an overview of developing ideas.

these questions (see Appendix). Furthermore, a revisit to the research questions became a helpful focusing strategy.

Recognizing that there was a performative element in the participants' acts, I looked at ethnodrama as a potential analytical and re-presentational strategy. However, nothing mentioned in ethnodrama connected participants' stories to each other, showing that they existed in relations of accommodation, resistance, contradiction, tension, or support for each other, until I came across a figuration of front- and backstage in the writings of Goffman (1997). This figuration of front- and backstage became most useful for me in conceptualizing and interpreting the data. Goffman's theoretical framework is not used when implementing the front- and backstage idea in this study. Phrases like "in front of the curtains" and "behind the curtains" could serve similar purposes, but seemed clunky to me, so I moved instead toward Goffman's elegant figuration of front- and backstages.

I followed the literature in performance ethnography to ground the re-presentational strategies. Denzin (2003, p. 14) notes that the "move to performance has been accompanied by a shift in the meaning of ethnography and ethnographic writing." Denzin privileges performance ethnography because he feels that the "writer-as-performer is self-consciously present, morally, and politically self-aware." Visweswaran (1994) extends the argument by asserting that there is something allegorical yet tangible about dramaturgical performative acts. Performance ethnographies have the potential of creating a politics of possibilities (Madison, 1998) that can interrogate existing social structures and practices.

Butler, on the other hand (1993, p. 141) states that "there are no original performances, [that] every performance establishes itself performatively as an original, a personal and locally situated production." Denzin further elaborates on how the writer and the performance come together in performance ethnography:

> Focusing on epiphanies and liminal moments of experience, the writer imposes a narrative framework on the text. This framework shapes how the writer's experience will be represented, using the devices of experience of plot, setting, characters (protagonists and antagonists), characterization, temporality and dialogues; the emphasis on showing not telling. (Denzin, 2003, p. 46)

I choose performance ethnography as a re-presentational strategy to highlight the messiness that results from intersections of the researcher and the researched in one space with fleeting subjectivities and assertions.

Saldana (2003) identifies the move to ethnodrama as a relatively new trend in qualitative research. He suggests:

> A key question to discern the most appropriate mode of representation and presentation for qualitative research is, will the participant's story be credibly, vividly, and persuasively told for an audience through a traditional written report, video documentary, photographic portfolio, Website, poetry, dance, music, visual art installation, or ethnodrama? If it's the latter, then a qualitative researcher playwrites with data. (Saldana, 2003, p. 219)

I grappled with the question Saldana posed and concluded that a traditional written report could not do justice to the performative acts of the participants, especially when their shuttling between multiple spaces produces the performative actions and reactions.

I recognized that by juxtaposing the performative spaces against each other, I could "show" instead of tell the reader about the discursive effects of those spaces. I continued to follow Saldana's primer to inform the plotting, character development, deliverance of monologues, and scenography. When creating a plot for performance, Saldana recommends:

> Dramatic structures include the number of acts, scenes, and vignettes ("units" to most theatre practitioners); whether the time line of events is chronological or randomly episodic; and whether monologue, dialogue, and/or lyric are the most appropriate narrative forms for its characters. The story line is the sequential arrangement of units within the plot. (Saldana, 2003, p. 220)

Therefore, I identified a storyline that mainly involved episodic encounters in multiple spaces and the participants' subsequent actions and reactions. These episodic encounters corresponded to the plot of being racialized, gendered, and classed; belonging in certain groups; and resisting and accommodating to different sociocultural expectations.

These episodic encounters were at times chronologically developed and at other times randomly put together depending on the episode. For example, Yamini was uncomfortable networking at the beginning of her program. Toward the end she was able to develop some networking skills. This representation was chronological. On the other hand, Neerada experienced multiple oppressive incidents in the context of formal academia which I represented in episodic instead of chronological terms.

To develop characters in ethnodrama, Saldana suggests making attempts to present a three-dimensional nature of the participant. He recommends that:

> Portrayal of a participant in ethnodrama [should be]: (a) from interviews: what the participant reveals about his or her perceptions or constructed meanings; (b) from field notes, journal entries, or other written artifacts: what the researcher observes, infers, and interprets from the participant in action; (c) from observations or interviews with other participants connected to the primary case study: perspectives about the primary participant or phenomena; and (d) from research literature: what other scholars offer about the phenomena under investigation. (Saldana, 2003, p. 223)

Following Saldana's suggestions, I incorporated information about the participants from photo- and object-elicitation conversations, conversational interviews, researcher-written data, and field notes. This incorporation added to a multidimensionality of data which went well beyond the textual re-presentation of data.

Saldana also recommends using monologues as an effective way to dramatize the data. He explains:

> Monologues are extended passages of text spoken by one character that are (a) addressed to another character listening on stage, (b) addressed directly to the audience, or (c) reveal inner thoughts spoken aloud – a soliloquy – for the audience. A playwright in ethnodrama is not just a storyteller, he or she is a story-reteller. You don't compose what your participants tell you in interviews, but you can creatively and strategically edit the transcripts, assuming you wish to maintain rather than "restory" their narratives. Interviews with one participant generate transcript data suitable for transformation into one-person reflections. (Saldana, 2003, p. 224)

This suggestion became especially helpful for me as I was able to incorporate and manipulate multiple excerpts for dramatic effect as monologues to develop both Yamini's and Neerada's characters. Because I had abundant conversational data, I had access to various forms of reflective data and strategically incorporated them in the plays.

Next I looked at Saldana's recommendations for scenography to add multidimensionality to re-presentation. He suggests:

> [B]ecause ethnography analyzes participants in action, there are things to show on stage: descriptive replication with subtextual inferences of the way participants facially react, walk, gesture, pose, dress, vocally inflect, and interact with others. These nonverbal cues reveal much about characters – and real people. Scenography establishes time and place of a play, evokes mood, and serves the required action of characters. This article cannot discuss in depth the potential of costumes (participant clothing), hand properties (artifacts), or scenery, lighting, and sound (the fieldwork environment) to enhance the ethnographic performance. But from my own experience, I offer the classic design adage for guidance: "Less is more." (Saldana, 2003, p. 227)

I used my field notes to construct the scenography and remembered that "less is more" in terms of performance and reenactments. Included in the scenography were descriptions of chairs in formal academic offices to establish the subtext of power relations between the participant and the professor. I also included gestures, body language, and other nonverbal aspects (i.e., rolling eyes for Yamini) when developing a scene. All scenes were marked with time and relations to another scene that served either as a front- or backstage for the current scene.

Armed with a compatibility with performance ethnography I began to examine the front- and backstage figuration closely. These front- and backstages could become the spaces where the participants experience certain events, topics, and epiphanies. Sometimes these spaces were physical (i.e., a classroom) and sometimes they were imagined (i.e., memories of India) or temporal. Realizing that the front- and backstages have separate audiences (see Fig. 4), and that each audience
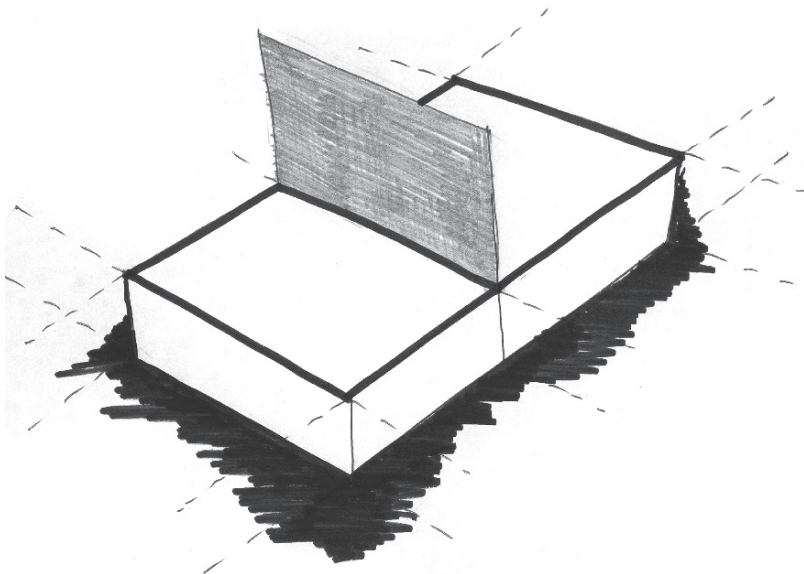
Fig. 4 Front and backstage

is privy to different kinds of performances, I began to develop the idea of front- and backstage further, concluding that front- and backstages are relational terms and are not fixed in their performative spaces. This means that what is backstage for one audience could be front stage for another audience who is observing performances at the backstage.

The general argument is that there is always a performative aspect to our acts and actions and depending on who the audience is, these acts and actions vary. Front- and backstages are useful constructs in relation to each other, but they do not hold on to their absoluteness for too long. One can move within multiple back and front stages depending on one's acts of accommodation, resistance, and reworking of multiple subject positions and spaces. These front- and back stages can become a labyrinthine structure through which the participants navigate in their everyday lives (see Fig. 5).

The performative self is full of contradictions, inconsistencies, tensions, voices, and silences. The front and back stage allegories show multiple forms of shifts, border crossings, and negotiations between spaces – shifting spaces of lived experiences. Therefore, for this study, the front stage became where the participant chose to perform in one way and the backstage became a space in relation to the front stage where the tensions, contradictions, elaborations, and giving voice to silences were addressed. The labyrinthine depiction of front and back stages allows for participants' existence and movement in multiple spaces, and reveals how acts of border crossing are informed by competing and contradictory discourses.

Since at any given time any stage could be a front or back stage performance for a specific audience, every stage has a front and back stage component to it. The
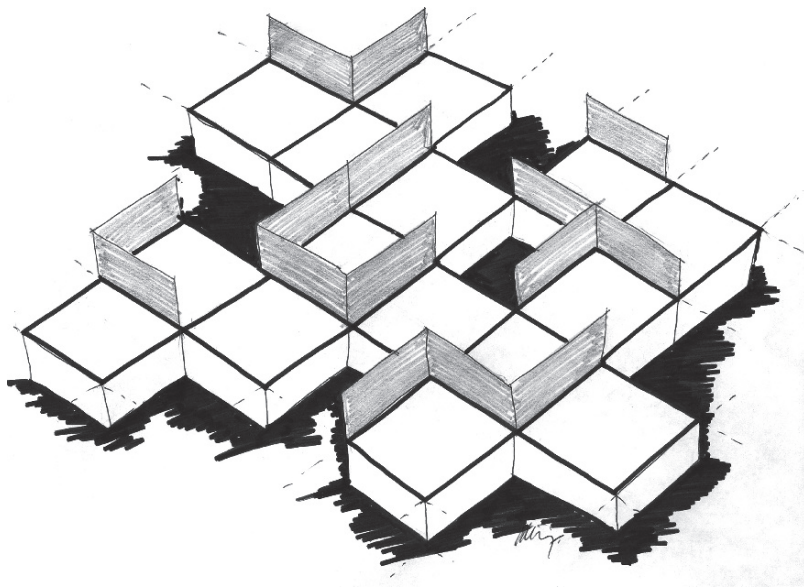
Fig. 5 Labyrinth of front and backstages

stages for this research denote the regions or spaces in which participants' lived experiences are produced. Using a visual representation to demonstrate the front and back stage performances separately for each performance allowed me to show specific negotiations and relations. Incorporating the field notes and pictures into the stage as settings and as the backdrop enabled me to create a multidimensional representation of the data.

To select appropriate performances that would be the "nuggets" of the representation, I chose those performances based on the intensity with which the participant described events and/or events that the participants repeated over multiple times and spaces. Once the spaces were identified, attending to the research questions for both participants provided further understanding of negotiations, relations, tensions, and contradictions. Consequently, the performative acts in each of the spaces soon began to appear in relation to other spaces. Thus, if the participants identified the relationships directly, then I placed the performative act(s) as front and back stage plays, demonstrating the different ways participants negotiated an experience in those spaces. If a relationship was researcher-identified, then I clarified such relationships through further member checks and peer debriefing before situating the plays in front and back stage relations to one another.

After the front and back stage plays were constructed, the need to crystallize the main arguments became the driving force for designing the plays. The plays were named from those arguments. During the entire time, there were periodic member checks and peer debriefing for enhanced focusing and sharpening of ideas. The plays presented are those with which the participants were most comfortable, narratives they agreed with, and for which they understood my intentions. This is not to imply that the participants did not disagree with my interpretations. Instead, we talked through the disagreements while I continued to emphasize that they had the final say over what got produced about their lived experiences.

Once I interpreted the participants' disagreements to their satisfaction and made the necessary changes, I would put forth that representation as findings. The staged interpretation was always a co-construction that honored the participants' interpretations. The subsequent discussion space served as a site for my subjectivities and interpretations. For example, Neerada disagreed about an experience that I interpreted as gendered and racialized. However, since this was the first time Neerada was experiencing racialization, she did not perceive the incident to be racializing or gendering her as an Other. I mention this discrepancy in the discussion so that the reader can situate herself/himself within the overlapping subject position. Finally when all the plays were constructed, I created visual diagrams demonstrating the relationships between each act of the plays for clarity and organization. This construction process was iterative as I continued to think through the plays and returned to my initial data analysis questions about silences, tensions, and contradictions.

Another iterative strategy that enhanced the sharpness of the plays included consideration of the following questions: Where do the plays get the participants and where do they get me? Why is there a need to occupy such subject positions and what are the possibilities and pitfalls generated through these occupations? The final draft of the plays was produced through extensive writing around these questions to identify nuggets.

Chapter Summary

This chapter is grounded in various de/colonizing approaches informing research design, data collection, analysis, and re-presentation. By attempting to abandon a will to know; identifying a continuum between silence and voice; highlighting the need for multiple forms of border crossings by breaking the oppressor/oppressed binaries; and incorporating various methods of data collection, analysis, and representation, this study captures multiple ways of producing knowledge. While the voices of the participants were always already mitigated through several mitigating filters, I tried to honor these voices as much as possible. The participants' interests and continued participation became integral parts of this study, ensuring collaborative construction of knowledge and authoring even though I continued to monitor and facilitate the direction of the study.

Such a collaborative research process, along with de/colonizing departures, member checks, peer debriefing, and shuttling between interrogative and reflective posturing added to the rigor and trustworthiness of this research. Since this study began with the intent to implement de/colonizing epistemologies, the approaches taken were consistently informed by theoretical and methodological frameworks of such epistemologies, allowing varied forms of data analysis and re-presentation.

My transnational subjectivities remained under and outside an autoethnographic gaze through writing, member checks, peer debriefing, constructing critical personal narratives, and a relentless desire to blur boundaries and binaries anywhere I saw them. In the next two chapters, Neerada's and Yamini's negotiations are presented in multiple spaces.

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Appendix   Neerada's Negotiations

1. What are the material and discursive conditions of transnationalism that produce the experiences of two newly arrived female Indian graduate students in the context of higher education in the United States?

Formal academia

Material and discursive conditions of transnationalism

- International student
- Other
- Power relations

Alliance with teacher/professor-centered academic environment as she experienced in India

- Homogenization of culture
- Differences in education standards
- Patriarchal/authoritative relationship with male professors (expectations)

Informal academia

- Homogenization of culture (cultural specimen, ambassador, myth breaker)
- Experiences of Othering
- Racial divide in the community
- Invisible privileges (McIntosh) of Whites
- Non-Indians' *understanding* of Indianness (inscription to traditionalism)
- Erasure of own privileges that were present in India

Baldwin Towers

- Proper Indian girl
- Hybridity different from college culture hybridity in India
- Erasure of privileges (class, caste, social status, visibility)
- Power relations worked in terms of resources and access
- Disciplinary gaze (straddling between modernity and tradition)
- Expectations of participation

Indian community graduate-student housing

- No overt expectations of participation
- Dismissal of Baldwin Towers discourses
- Improved material conditions of existence from Baldwin Towers
- Varied understanding and acceptance of transnationalism

Support system for dealing with Baldwin Towers, formal and informal academia, and general US and nonresident Indian (NRI) culture

General US culture

- Communication protocols
- Ethnocentric news/entertainment media
- Helpfulness of people (compared to employed university staff in India)

Nonresident Indian culture

- Distorted cultural practices
- Distorted religious practices
- One-stop shop for all things Indian during religious festivals
- Loss of pride in language
- Gendered gazing and comparing
- Westernized and delayed celebrations

2. What relations and practices are enabled by the material and discursive conditions of transnationalism and how in turn do the two female Indian graduate students construct/maintain/dismiss subject positions from those relations and practices?

Material and discursive conditions of transnationalism	Relations and practices	Subject positions	Maintain/construct/rework/dismiss
Academia (formal and informal)	Docile student presence in classes	International student	Maintain obedient student position
Homogenization of culture		Other	Rework obedient student position
Racial divisions	Combination/exploitation of roles – researcher and assistantship	Nonresident alien	
Relations of power (patriarchal, authoritative)		Female Indian student	Rework understanding of Indianness
Understanding Indianness	Dialogues about India and being Indian/Asian?	Obedient student	Rework understanding of Otherness
		Indian (backward /traditional?)	Rework cultural and racial divide in department
	Silences in dialogues about communication protocol		Rework relations of power
	Erasure about specific ways of being Indian (Marathi, Brahmin, upper caste, class, etc.)		Construct new subject position as a colleague
Baldwin Towers	Initial participation in community	Indian female	Rework proper Indian girl, nonresident Indian, and the straddling between modern and traditional expectations
• Proper Indian girl	Later do not need community	Proper Indian girl	Dismiss new student position when it means lack of privileges and access to resources by about 3–4 months of being in the United States
• Hybridity different from college culture hybridity in India		Nonresident Indian	
• Erasure of privileges (class, caste, social status, visibility)	Support	Modern/progressive Indian girl	Rework proper Indian girl
	Align with expectations initially to gain access to resources, privileges (cooking, cleaning, spending time)		

(continued)

(continued)

Material and discursive conditions of transnationalism	Relations and practices	Subject positions	Maintain/construct/rework/dismiss
• Power relations worked in terms of resources and access		New student	Maintain strong alliance with certain caste and religion based gendered subject positions carried over from India
• Disciplinary gaze (straddling between modernity and tradition)	Deconstructing		An overall process of belonging and becoming, dismissing some belonging thereby becoming, transnational with varied subject positions contesting expectations of Baldwin Towers community
• Expectations of participation	Otherness Cultural festivals Religious festivals Conducting daily puja = proper Indian girl Being secretive about certain modern practices (drinking, interested in new men) – maintaining agency and proper girl expectations		

The Cultural Capital of Cultural and Social Capital: An Economy of Translations

Glenda Musoba and Benjamin Baez

Translate

> 1. to change from one place, position, or condition to another; to transfer; 2. to put into the words of another language; 3. to change into another medium or form.

Those of us in the field of education, in the United States and elsewhere, have drawn from the work of Pierre Bourdieu, James Coleman, and Gary Becker for some time. More recently, scholars of higher education in the United States have embraced the theories of cultural and social capital. Research on higher education in the United States repeatedly makes reference to cultural or social capital, especially with regard to students' academic preparation for college (Horvat et al., 2003; Ream, 2005; Roscigno and Ainsworth-Darnell, 1999); college access (Anderson, 2005; Karen, 2002; Kim and Schneider, 2005; McDonough, 1997; Perna and Titus, 2005; Persell et al., 1992; St. John, 2006; Tierney and Jun, 2001); choice of college major (Porter and Umbach, 2006; Simpson, 2001), college experience (Aries and Seider, 2005; Pascarella et al., 2004; Walpole, 2003); transfer rates (Wassmer et al., 2004); persistence (Deil-Amen and Rosenbaum, 2003; Longden, 2004; Paulsen and St. John, 2002; Valadez, 1993); and success (Gandara, 1999; Perna, 2004, 2005; Zweigenhaft, 1993). The uses of theories of economic, cultural, and social capital in much of this research do provide an explanation of the social maladies in the US educational system, particularly in the precollegiate settings (e.g., many students fail to succeed in higher education because of inadequate prior schooling and, thus, a lack of capital). Much of this research also offers us solutions (e.g., give more economic, social, or cultural capital to those students who were deprived of it). A number of these authors refer back to Coleman, Bourdieu, and Becker as if they were interchangeable and synonymous. In the US context, Bourdieu's work is conflated with that of James Coleman – indeed, both scholars are cited often in the same sentence, an issue we find to be emblematic of a particular mistranslation of Bourdieu.

We argue for a separate understanding of these authors, one which appreciates their strengths and weaknesses and unique contributions. Much of this research, to the extent that it uncritically assumes that access to higher education leads to individual or group mobility, adheres to a uniquely American understanding of capital

that is premised on theories of rational action and individual agency. In particular, we think that the work of James Coleman, often cited in the higher-education literature listed in this paragraph, but less so than Bourdieu, attempts to reconcile theories of agency with those of structure in his explanation of social capital (for an excellent critique of Coleman's methodological assumptions, see Portes, 1998). Given the importance of Coleman to this research and to our argument, we discuss his work in some length. Coleman and those that follow appear to justify ways of ensuring more access and equity to historically discriminated groups (see, e.g., Kim and Schneider, 2005; Perna and Titus, 2005). The logic of much of this research relying on theories of cultural and social capital goes something like this: Students from historically discriminated groups have been deprived of cultural capital, and as a result of this deprivation, they have been unable to achieve as have students who have such capital, despite the elimination of state-sanctioned barriers. Thus, to help them succeed in higher education, we should help them attain more cultural or social capital.

We will argue that this logic, for all its good intentions, fails to grasp adequately the theoretical, and thus very practical, implications of the notions of cultural and social capital as defined by Bourdieu. We argue that Coleman and those that follow his work err in ascribing greater agency to oppressed groups than is legitimate.

To the extent that these researchers draw from Bourdieu's work, they are governed by a heuristic: an elaboration of class structures. Bourdieu's theories of social and cultural capital have great appeal in the field of higher education because they provide ways of illustrating how access is constrained by forces of oppression. Capital involves oppression that functions in a covert and "natural" way which privileges those in the dominant group.

It is our premise in this chapter that the theories of cultural and social capital commonly used in the field of higher education derive from Coleman's and Bourdieu's work but that their theories are far from interchangeable. We argue that Bourdieu's theories have been poorly translated to fit a uniquely American perspective. In other words, the predominant uses of the idea of cultural capital in the United States convert Bourdieu's theory from one focusing on class formations to one focusing on individual interests, which is concerned with the investments individuals make of themselves in order to ensure their economic well-being. In essence, when scholars use Bourdieu's theories to make individualist arguments, they are essentially converting those theories from ones concerned with social structures to ones concerned with human capital. Human capital theories rely on notions of human agency (particularly economic agency), which Bourdieu's theories, for all their remarkable heuristics, obscure. We discuss the implications of both the (mis)translations and of the drawbacks that both Coleman's and Bourdieu's theories provide us in the field of higher education. A theory of human capital translated into theories of cultural and social capital may undermine the value of Bourdieu's original theories, which developed in a European context in which classes, not individuals, were the foci of concern. The problem with such a translation for us is less that the translation is a misappropriation, for misappropriations are, after all, not by definition bad and may even open up new avenues of thought and practice. Indeed, the original theory of

cultural capital has embedded within it certain problematic assumptions and over-determinations, and a misappropriation is necessary if we are to translate such a theory into a different context. However, we argue here that the translation of a theory of classes into one of individuals hides more than it tells, and does more than it wants, for it obscures the ways in which class structures get formed and re-formed in the United States, as well as how individuals, while not completely determined by such structures, are nevertheless constrained by them.

This chapter uses normative analysis, and as such it engages in critical argumentation which does not rely on empirical research for its logic. Critical argumentation may be derided as engaging simply in speculation, and to the extent that such analysis is driven by normative frameworks it is indeed speculative. Our argument is not attempting to establish the "proof," if by that we are relying on a correspondence theory of truth; our argument is inviting readers to wonder whether it is possible that what we take for granted is *im*possible, that is, subject to be different. In short, we offer no pretense that our claims are empirical; they are theoretical and normative, motivated by a desire to push readers to think differently, which is the most practical thing we can offer them.

Specifically, our chapter attempts to account for the kinds of discourses underlying the uses of the theory of cultural and social capital in the United States. It will seek to uncover what gets promoted via theories of cultural and social capital. Given that in the United States, at least, theories of cultural and social capital are particularly concerned with issues of individual mobility, the theories have fallen under the "economics of education" umbrella, and while this is problematic, as we explain later, it does require us to attend primarily to the texts in such an area. However, contrary to most economic accounts of higher education, we do not rely upon traditional economic analytical tools. Instead, we take our cue from what has been called the "new economic criticism," which draws from literary criticism and cultural studies (see Osteen and Woodmansee, 1999). This interdisciplinary approach, in simple terms, treats economic texts as narratives, powerful ones that shape greatly the reality they purport to describe.

Our major argument is that the uncritical use of Bourdieu presents several problems, one that is not particularly harmful but another that is troubling. The first problem is that the uncritical use of Bourdieu is really a mistranslation of his work, as we explain. Misappropriation is not inherently wrong and is in many cases, including this one, necessary. However, the second problem is that the US misappropriation actually masks what is good about Bourdieu's theory, which highlights class structures and class struggles. To mistranslate him is to take his forms of capital as an individualistic idea, an idea of social mobility. This is harmful because it masks serious class struggles and structures and to obscure them in effect reinforces them.

Therefore, we discuss at length the theories of cultural and social capital as Bourdieu and Coleman elaborated them. We pay particular attention to Bourdieu's sociology of education. We think an in-depth elaboration of Bourdieu's work will make clear to the reader why we later critique the uses of social and cultural capital in higher education. Following, we summarize Coleman's articulation of social capital, and we speculate whether it is in fact Coleman's theory of social capital that actually

grounds the uses of the theory of cultural and social capital in the United States, not Bourdieu's. We think of this as "(Lost In) Translations," but it could almost be understood as a new language rather than a mistranslation. It is here where we argue that a US understanding is not of social class but is a theory of individual mobility.

In "(Re)Translations," or "Capital Culture," we critique this translation of social and cultural capital, arguing that, as we indicated above, it hides more than it tells and does more than it wants. We conclude with an argument that calls for more attention to the original purposes of Bourdieu's theories of cultural and social capital, but we also argue that these theories themselves suffer from a particular mistranslation themselves: they borrow too easily from the language of economics, undermining their democratic potential. In this chapter, therefore, we offer critiques of the original and translated theories of cultural and social capital in the hopes of engaging debates that will allow for a more fruitful elaboration of theories of marginalization. We end with a critique of Bourdieu's theory as being too structural and deterministic; a good misappropriation must make room for some form of agency. We must use Bourdieu's theory so that its value to highlight oppression is maintained, yet acknowledging the problematic effect of applying him too strictly.

On Bourdieu's Capital

For the most part, Bourdieu's oeuvre is concerned with power relations, and particularly with how social hierarchies reproduce themselves without the conscious or intentional actions of individuals (Swartz, 1997). He sees domination in modern advanced societies as perpetuated less by state-sanctioned discrimination or individual acts of prejudice than by social or cultural distinctions which are assumed to be natural. According to David Swartz (1997), Bourdieu develops a political economy of practices (i.e., social actions) by extending the idea of economic interests into a theory of action that reconceptualizes the relations between the symbolic and materials elements of social life.

Bourdieu's concern with the interplay between social hierarchies and individual consciousness leads him to the familiar terrain of sociology, whose defining issue may be the distinction between structure and agency. The core of this agency versus structure debate, as Fine (1992) explains, is an attempt to understand intentional actions (agency) and the systemic limitation of those actions (structure). Bourdieu tries to transcend this dichotomy. His theory of structure/agency is dialectical, not dichotomous.

In short, Bourdieu encapsulates his theory of action in this way: [(habitus) (capital)] + field = practice (or action). The habitus sets up the possibilities of actions, and it does it only in particular "fields," which are the spaces in which action and structure meet in a dialectical fashion. The number of possibilities is a result of the amount of capital available to an individual or to the social group. We will say more about all these concepts, but for now it is worth repeating that Bourdieu attempts to conceptualize the agency/structure issue dialectically.

Bourdieu does not so much reject the theory of intentional action as much as reworks it to suit his theoretical commitments. He argues that all action (or "practice") is *interested*, that is, "oriented" toward maximizing profit, material or symbolic. This notion of *interest* in maximizing profits differs from that of intentional or calculated action assumed by rational-choice theorists (e.g., Becker, 1993; Coleman, 1988), but action is not simply a mechanical response to an external environment either, as structuralists imply (e.g., Althusser and Balibar, 1998). Instead, he sees action as "patterned" or "dispositional," which is to say that it results from a tacit, pre-reflective level of awareness that occurs over time (Swartz, 1997). To explain this he offers the concepts of "cultural capital," "social capital," "habitus," and "field."

Before elaborating on these key concepts of Bourdieu's theories that have played a part in important research on higher education, particularly in the United States, we should stress that Bourdieu's theories of capital are parts of his general theory of symbolic power, which is the power to legitimate what are essentially arbitrary distinctions in fields characterized by social hierarchies. The creation and legitimation of distinctions are functions of power, a power that legitimates itself by legitimating the distinctions it creates (Bourdieu, 1990). Distinctions made within the field of higher education carry particular force: the attribution of status given by education's degrees and certifications not only classify but ensure the assignment of individuals into hierarchically ordered social classes (Bourdieu, 1984). Thus, institutions of higher education exercise a form of symbolic domination that reinforces material domination, which often is accomplished by varying levels of educational and professional opportunities and economic wealth – at least in the United States and in other Western nations.

Bourdieu's theories of capital are premised, as we indicated, on a number of other theoretical presumptions, and so it is worth discussing these in more detail. We should note that others have a different view of the concepts underlying Bourdieu's work (e.g., Swartz, 1997), but we conceptualize his work by first focusing on what Bourdieu believed by "capital"; second, we will discuss his notion of the "habitus"; third, we discuss his concept of "fields"; and last, we end with his sociology of education.

Forms of Capital

Capital, for Bourdieu, as is the case for most political economists (such as Marx) and econometricians (such as Gary Becker), is accumulated labor (in its material or incorporated/embodied forms) which, when appropriated on a private basis by individuals or groups, enables them to appropriate social power. The logic and organization of the distribution of different types of capital, at a given moment, represents the immanent structure of society, thus establishing the possibilities and constraints which govern individuals' successes (Bourdieu, 1986). However, not all of these forms of capital are economic in the ways economists think of them.

Bourdieu sees three interrelated but distinct forms of capital: economic capital, social capital, and cultural capital. We discuss each in turn.

Bourdieu understands the power of economic capital (i.e., wealth). For him, the group with economic capital constitutes the dominant class. Yet, Bourdieu extends the notion of capital beyond its economist constraints, thus clearly differentiating himself from traditional Marxists. Indeed, Bourdieu finds problematic those who function under what he calls "economism," which in education is the privileging of the relationship between rates of educational investment and economic investments, thus only accounting for monetary investments and profits or those easily convertible into that (e.g., tuition, financial aid, etc.). Individuals of this mold, for Bourdieu, fail to account for the variations of social and cultural investments within classes (Bourdieu, 1986).

Thus, Bourdieu also sees two other forms of capital, and social classes are to be defined primarily in relation to the amount and number of all forms of capital. So while economic capital appears to be important for him, he also maintains there are other forms of capital that have to be considered in any analysis of socially stratified societies. For example, Bourdieu sees the power to distinguish, that is, the power to create distinction, as instantiating a kind of cultural capital because distinctions yield a profit and ratify stratification. He does not mean "profit" in a strictly economic sense, but in the ability to control what is legitimate (or attractive, tasteful, distinctive, etc.) in order to set oneself apart from, and thus above, others.

Cultural capital involves a wide variety of resources, such as verbal competence, cultural awareness, aesthetic preferences, knowledge about school, and educational credentials (Swartz, 1997). These cultural products function as forms of capital because they yield a profit in distinction, proportionate to the rarity of the means required to appropriate them (Bourdieu, 1984). Bourdieu argues that cultural capital can exist in three forms: (1) in the embodied state, that is, in the form of long-lasting dispositions of the mind and body, or, in short, what individuals and groups gain from the habitus; (2) in the objectified state, that is, in the form of cultural goods (e.g., books, instruments, machines); and (3) in the institutionalized state, or, in the form of objectification which confers entirely original properties on the cultural capital which it presumes to guarantee, such as academic qualifications (Bourdieu, 1986).

Bourdieu's idea of cultural and social capital have to be distinguished from, say, Becker's (1993) idea of human capital or Coleman's idea of social capital because Bourdieu focuses on class-based formation in socially stratified societies, while the latter focus on individual mobility in the labor market. And unlike the selfishly motivated, upwardly mobile individual premised by human-capital theories, Bourdieu sees cultural capital as becoming more and more a new basis of social domination, particularly as education becomes more and more important for economic and professional success. Just as economic capital cannot function as capital until it is linked to an economic apparatus, so cultural capital cannot be constituted as capital until it is inserted into the fields which must "produce the producers" through inculcation, such as the school and the family (Bourdieu, 1977a). It is the workings of this inculcation, we think, that forms the major part of Bourdieu's oeuvre. Bourdieu's cultural capital is also distinct from his concept of social capital and Coleman's social capital, which we discuss later.

Bourdieu also acknowledges social capital, which we think, is really at the root of the problematic translations of Bourdieu's theories into the US context. Social capital is what comes from being in possession of a durable network of more or less institutionalized relationships of mutual acquaintance, which provide individual members with the backing of the collectively owned capital (Bourdieu, 1986). Social capital is, in essence, an "advance," an acceptance that only the group's beliefs and values can grant the best symbolic and material benefits the group can offer. While not irreducible to economic and cultural capital, it is related to these other two because to receive profit from social capital presupposes a minimum level of homogeneity with members of the group, and such homogeneity is best assured by economic and cultural capital. Similarly, the appropriate social networks expose one to the most valued cultural capital and are best converted into economic capital. Social capital is, as Bourdieu theorizes, a product of our endless effort at institutionalization, which is necessary if we are to produce and reproduce lasting, useful relationships that can secure material or symbolic profit. We think social capital has such appeal in the United States because social capital is not reducible to economic capital. In other words, the United States collectively holds a belief that even if one is not born wealthy, one can still somehow be successful if one simply has the right connections (see Coleman, 1988); Bourdieu's conception of social capital would support this view, at least in theory.

Bourdieu understood the convertibility of each capital into the others. This convertibility is the basis for strategies aimed at ensuring the reproduction of capital by the least-costly means in terms of the labor required and of losses inherent in the conversion itself. The risk of conversion is riskier for cultural capital than the others because its transmission is concealed, and this concealment is a crucial part of why culture can become capital (i.e., cultural capital functions best when it conceals its role in social stratification). To the extent that the conversion of cultural capital (e.g., educational qualifications) into economic capital disposes the dominant group, struggles over conversion will take place. And so it goes that as the official transmission of capital is prevented or hindered, according to Bourdieu, the more likely the effects of concealed circulation of cultural capital is determinant in the reproduction of social stratification (Bourdieu, 1986).

Indeed, the greater the extent to which the task of reproducing the mechanism of social domination is taken over by objective mechanisms, such as schools – as opposed to, say, brute force – the better they serve the interests of the dominant class without any conscious effort on the latter's part, the more indirect and impersonal become the strategies oriented toward reproduction. In other words, when social distinctions – which are the basis for social domination – are determined by institutionalized mechanisms, such as the market, the educational system, or the judicial system, where they have a permanence and opacity, they lie beyond individual consciousness (Bourdieu, 1990). Therefore, once these objective mechanisms ensuring social stratification are in place, the dominant class needs only to sit back and let the system take its course and themselves become less aware of the discriminating system. In societies in which more overt oppression meets with strong disapproval (as in the United States), the mechanism for reproducing cultural capital become important, and, actually, more efficient (Bourdieu, 1977a; 1990). Relations of domination are no longer dependent on individuals but on objective mechanisms

which guarantee, legitimize, and allocate the distinctions, which in turn establish the social hierarchies crucial for material domination (Bourdieu, 1990). Cultural and symbolic distinctions are thus determined by socioeconomic structures, but they are supported by mechanisms which obscure that determination (such as colleges or universities). Bourdieu's theories of capital, therefore, are really theories of domination. Yet, this still begs the question of how it can happen. Why, according to Bourdieu's theory, do people allow themselves to be dominated in this way? This is where the theory of the habitus functions.

The Habitus

The habitus for Bourdieu, in short, proffers to explain how individuals act to reinforce social structures and how social structures influence actions. Bourdieu (1990) intends the habitus to be a concept used to understand classes, not individuals, for, he says, in a "society divided into classes, all the products of a given agent, by an essential overdetermination, speak inseparably and simultaneously of his class, or more precisely, his position and trajectory (rising or falling) within the social structure" (p. 79). Bourdieu (1984) has offered very little in the way of an unambiguous definition of habitus but says that

> [t]he habitus is not only a structuring structure, which organizes practices and the perception of practices, but also a structured structure: the principle of division into logical classes which organizes the perception of the social world is itself the product of internalization of the division into social classes. Each class condition is defined, simultaneously, by its intrinsic properties and by the relational properties which it derives from its position in the system of class conditions, which also is a system of differences, differential positions, i.e., by everything which distinguishes it from what it is not and especially from everything it is opposed to; social identity is defined and asserted through difference. (pp. 170–172)

The habitus, if we can get around this convoluted language, appears to be the embodied form of dispositions which are set up by the social structure and in turn reinforce the social structure. It allows individuals to apprehend conditions and practices in accordance with principles and processes of differentiation that further social stratification but that are perceived by individuals as natural. In other words, social structures are misrecognized by individuals as natural. The habitus, then, is a set of embodied dispositions reflecting an entire history of a group and acquired through formative experiences in childhood (Holton, 1997; Nash, 1999), so that over time it becomes

> an ethos, a set of flexible but enduring mental structures and bodily schemas that organize, orient, and direct comportment in private and public space. … [The] habitus generates regular and immediate responses to a wide variety of situations without recourse to strategic calculation, conscious choice, or the methodical application of formal rules. (Topper, 2001, p. 38)

The habitus, however, can function to dominate individuals by reinforcing class distinctions, and, therefore, class structures. (We will question whether this notion negates human agency later in this chapter.)

More specifically, the structures which constitute the material conditions characteristic of classes produce habitus, which are systems of durable, transposable dispositions (thus being structured structures) predisposed to function as principles for generating and structuring practices and representations (thus also being structuring structures). Because the habitus mediates structures which generate themselves and other structures, it is both "regulated" (by preexisting structures) and "regular" (because it generates structures) without being simply the product of obedience to rules or of the orchestrating actions of a conductor (Bourdieu, 1977a). If the dispositions forming the habitus appear to anticipate behavior, it is only because it is determined by past structures that are still in effect. The habitus generates and constrains thoughts, perceptions, and actions consistent with the objective conditions that formed the basis for it in the first place. And, therefore, because the habitus is determined by objective conditions that engender only those aspirations and practices objectively compatible with those conditions, the most "improbable" practices (because they do not match their conditions) are excluded as unthinkable (or unnatural, or inevitable) and thus refused (Bourdieu, 1977a). The world which individuals inhabit is a world of already realized ends (Bourdieu, 1990).

But what actually forms a "class?" Bourdieu argues that classes are determined by homogeneous conditions of existence which enables practices to be objectively "harmonized." In other words, members of a class share the same internalized objective structures which give them the same objective meanings necessary for mediating those structures, thus transcending subjective intentions (Bourdieu, 1977a). The habitus is the internalized class norms which regulate individual and collective practice (Garnham, 1986). The homogeneity of habitus enables the products of collective history to be reproduced in the form of shared dispositions. The members of the class need not have shared the experiences, but they must face the same objective conditions (e.g., poverty, poor public schooling, etc.), which harmonize the practices of the same class more than the members know or even wish. Thus, for Bourdieu, a class cannot be understood in terms of statistical patterns, but only in terms of the class habitus (Bourdieu, 1977a), which means also that the social scientist, to understand the habitus, must relate the social conditions in which the habitus was generated to the social conditions in which it is being implemented (Bourdieu, 1990).

If regularly observed practices seem to correlate with subjective aspirations (such as low aspirations to college by racial minorities), this is not because individuals consciously adjust their aspirations to their chances of success. It is because the aspirations are inscribed in objective conditions, which generate dispositions compatible with those conditions (Bourdieu, 1990). In other words, aspirations are not the results of psychological states, but of sociological conditions. As we see it, the conclusion of Bourdieu is that giving better schooling to historically subordinate groups (or access to college, as we will argue later) will always be inadequate for altering objective conditions leading to social hierarchies, for it is the habitus that must be the focus of attention, and it is there, apparently, where any change can take place. We will have occasion to question some of the presumptions of the habitus later in this chapter, particularly its negation of agency, but the point here is that the

analysis of class must account for two things: The conditions of its existence and the conditions of its practice. For the former attention must be given to the dispositions inculcated by the family, the community, and early schooling (primarily); for the latter one must look to the fields in which the habitus seeks to practice to ensure its reproduction, a point we turn to next.

Fields of Practice

"Fields" for Bourdieu are not to be understood literally in spatial terms (e.g., education is a field under Bourdieu's logic). They are mutually supporting combinations of intellectual discourses and social institutions, which have no reference to realities beyond themselves but that function to legitimate social structures, which also have no absolute meaning beyond themselves (Robbins, 1993). In other words, fields are structured arenas of practice and conflict, the "spaces" in which the interplays of habitus and structures are enacted, but which also maintain relative autonomy from each other (Swartz, 1997). This interplay is not necessarily a smooth process, as there can be tensions between the legitimate ways of acting or thinking defined by a field and the individual's habitus-specific predispositions to think or act otherwise.

To the extent that there is near agreement between habitus and field, we have "doxa"; to the extent any previous disagreements have been negotiated, we have "orthodoxy"; and to the extent that there is little agreement between habitus and field, we have "heterodoxy." Bourdieu offered little in the way of explaining orthodoxy or heterodoxy, as it seems he was concerned primarily with doxa, which involves immediate adherence in practice between the habitus and the field to which it is directed, constituting the preverbal, taken-for-granted views of the world, which are determined by social conditions that appear natural, making things appear sensible. Doxa is "in this way that because agents never know completely what they are doing that what they do has more sense than they know" (Bourdieu, 1990, pp. 68–69).

A field is a structured environment of social positions and also a structure of power relations. The relations between individuals, groups, and institutions determine, at any given time, the structure of the field – the powerful ones are those with their particular social and cultural capital valorized in the field (Topper, 2001) That is, the power of individuals, groups, and institutions within fields is largely (but not completely) determined by the cultural and social capital they own. Cultural capital and social capital, as we indicated, are the effects of the arbitrary distinctions which maintain group coherence and networks and that legitimate social domination. In other words, distinctions are enacted in particular fields that mark and reinforce group relations by establishing differences. Fields (and their subfields) are governed by specific laws of practice that determine both the conditions of entry into the field (e.g., economic capital, professional degrees, social connections) and the specific relations of force within it (e.g., who is authorized to speak and how) (Topper, 2001). Because of these specific laws applying to particular fields, they are

relatively autonomous from each other, in the sense that distinctions valuable in one field or subfield (e.g., the Ph.D. in academe) are not necessarily valuable in another (e.g., the Ph.D. in many other professions). For example, the privilege given to theory over practice in higher education may not be easily translated into a similar privilege in the nonacademic workplace, which, indeed, may privilege the inverse, that is, practice over theory. Power works by establishing difference and binaries that are set up in opposition to each other (e.g., theory/practice, micro/macro, education/ training, and researcher/practitioner). Such dichotomies mislead and become more real than the processes they aim to represent (Grenfell, 1996).

Fields are environments of inter-field and intra-field conflicts. The distinctions that will matter are contested, especially if the power relations within them are unstable, that is, where doxa has not taken hold. In cases in which the conflict between fields cannot be resolved easily, there are attempts to adapt the distinctions that govern other fields, and if this stabilizes the conflict, then orthodoxy takes hold. But the point here is that to discuss distinctions that apply to given fields (e.g., educational distinctions), without accounting for the struggles within and between fields, miss altogether the temporality of particular orderings, as power relations within and between fields do shift. These struggles, we must stress, reflect the mechanisms of power at work. To put any position in a distinction above another is to gain control over the power to do that. And one must understand power for that very fact, rather than attempt to explain a distinction as if it did not have meaning beyond itself (e.g., the distinction associated with parental education as a basis for deciding who gets into college is often treated without attention to how this distinction is part of the power struggle). The power to distinguish is what is at stake in fields, but this power is obscured by the embodiment of the distinctions themselves; the distinctions appear natural, obvious, and inevitable. Individual and group identities shape themselves according to these distinctions (via the habitus). Thus, the important point here is that distinctions cannot be assumed to relate to things in themselves but to the effects and conditions of power and struggle.

Our discussion of social and cultural capital, determined and reinforced by the habitus, and enacted and "cashed in" fields of practice now allows us to move into the last point we want to address in this part of our chapter: Bourdieu's sociology of education. Bourdieu aligned himself with those who argue that the school is an instrument of social reproduction, not of individual mobility, as we tend to assume in the United States.

Bourdieu's Sociology of Education

For Bourdieu, the educational institution, perhaps as much as the family, produces habitus by reproducing class distinctions (Nash, 1999). The educational institution functions as a field where competencies are constituted and given positive or negative sanctions, reinforcing what is acceptable and discouraging what is not. It inculcates dispositions and reproduces class structures. Educational systems, then, much

like market systems, seek to produce and reproduce the institutional conditions required for their inculcating function and for reproducing the cultural arbitrariness necessary for social reproduction (Bourdieu and Passeron, 1977). As a system of reproduction, the educational system cannot easily serve egalitarian functions, something which the scholars of higher education often fail to grasp when they introduce Bourdieu's theories in their analysis of marginalization (see Perna and Titus, 2005). Such a system directs itself only to students already equipped with the capital that the system presupposes and legitimates without asking for it explicitly or methodically transmitting it (Bourdieu and Passeron, 1977). The success of the educational system, therefore, is not related to how many students it credentials – for those students are essentially and crudely taught what they already are predisposed to know – but to how well it sorts out students, since it must make it seem that most students fail because of their innate abilities or because of social conditions beyond the educational system's control.

Indeed, under a logic of social reproduction such as this, the extent to which the educational system can be said to be failing any students, it is only when those students who they were presupposed to serve from the outset and for which the system was institutionalized in the first place fail that the system truly fails. An example might help here: The logic of social reproduction would deem an institution such as Harvard University to "fail" only if wealthy, elite students are not being served (i.e., not admitted, retained, etc). Harvard cannot be said to be failing if, say, low-income students do not succeed, since those students are not the presupposed subjects of such an institution. Failure comes only when the social reproduction fails, and success is when social reproduction appears natural. The full effectiveness of the educational system, then, is only relative to the extent to which it addresses itself to individuals who have been previously granted a certain familiarity with the culture inculcated by the educational system (as a result of their social capital) and which was likely also attained via family upbringing and preschool experiences (Bourdieu, 1977b).

At the risk of redundancy, the education system is most effective when its distribution of cultural capital closely matches the hierarchy of class relations, and thus when its pedagogic practices match those of the dominant culture and its mode of instruction is most aligned with families in the dominant classes. An institution of higher education would provide the dominant class with a "theodicy of its own privilege," and not just because of the ideologies it inculcates (e.g., "hard work," "merit," and "just deserts," etc.) but because it masks the relationship between the credentials obtained and the inherited or attained cultural capital of the students it admits (Bourdieu, 1990). We think scholars of higher education concerned with egalitarian goals and who espouse cultural or social capital as the basis for their politics have likely focused on the "attained" possibility of cultural capital – i.e., cultural capital can be attained via social capital – but, to the extent they fail to address the role of colleges and universities in a system of social reproduction, they undermine the value of the theories they use. They undermine the heuristic of cultural capital, which is part of a system of justifying social hierarchies, and thus giving cultural capital to students is only to ensure the repro-

duction of hierarchies; and they undermine the heuristic of social capital, which is coherent only by first acknowledging the hierarchy, and thus advocating social networks is only to grant that those networks are successful because of their position in a hierarchy.

To explain how and why institutions of higher education can play their role in social reproduction so effectively we must look to how they exert power, namely through the creation and legitimation of academic distinctions or classifications. Scholastic classifications are to cultural capital what money is to economic capital. By standardizing its classifications (e.g., grades, awards, degrees, etc.), institutions of higher education standardize their currency, and thus any person can take the place of another within the same classification. This standardization allows the institutions to minimize the obstacles to their circulation of cultural capital, for they relegate everyone who holds what they offer (and those who do not) to a unified set of standards, giving them a single market for their cultural capital and guaranteeing that this capital does not need constantly to be proved (e.g., an Ivy League MBA is a lifetime credential that is broadly well known) (see Bourdieu, 1977a).

The best-hidden effect of a system of higher education, then, is the power to establish its distinctions as cultural capital. For, as Bourdieu (1984) states,

> [t]he official differences produced by academic classifications tend to produce (or reinforce) real differences by inducing in the classified individuals a collectively recognized and supported belief in the differences, thus producing behaviors that are intended to bring real being into line with official being. (p. 25)

The production of academic distinctions, particularly because these distinctions attribute status, then, assigns individuals to hierarchically ordered classes. Such distinctions are more like patents of nobility than titles to property (Bourdieu, 1984), as strictly technical definitions make of them, especially if one argues simply for the admission of low-income students but otherwise fails to question the system of exclusions at stake. The creation of groups is always a demarcation and reorganization of individuals: there will be those *in* the class and those *out* of it.

Among other questions, this discussion should raise important ones:

- Can institutions of higher education ever serve altruistic goals?
- Can they end marginalization?
- Can researchers be advocates of such things?

We think so, but a close reading of Bourdieu would suggest otherwise. Bourdieu (1984) argues that academics, for example, to the extent they are a "dominated fraction" of the dominant classes, might have a "structural homology" with other economically and culturally dominated groups, but they too have an interest in distinction and in all other values that are recognized as highest and different from others. Thus, academics may find affinity with the dominated groups, and they may believe themselves to be working for the latter's interests, but as *academics* they also have an interest in maintaining a structural dominance over those groups by distinguishing themselves from them. Note that for Bourdieu, neither "structural" nor "interest"

implies intentional action; academics too are subject to a habitus. Indeed, nothing in this entire discussion implies that any of this domination results from conscious behaviors; they are dispositions determined by objective conditions.

Bourdieu, it appears to us, would be leery of the liberal-humanist view of education so common in US educational discourse, which presumes that schools as gateways to the professions – particularly institutions of higher education – function for individual mobility. Those subscribing to this mobility view of higher education might focus on the part of Bourdieu's theory that explains that classes rich in cultural and social capital invest in their children's education, and this might also imply that giving more of such capital to the children from other classes would reap similar benefits for them (this seems to us Coleman's (1988) view). But such a logic should also grasp the class struggle in which Bourdieu situated his theory of capital, such that, parents with cultural capital not only invest in their children's education, but at the same time they would also seek to maintain and increase the specific rarity of such capital in order to maintain their relative distance from other classes (Bourdieu, 1977b). Oakes research on de-tracking schools demonstrated this in the US context (Oakes and Wells, 1998; Oakes et al., 2000). Those most resistant to de-tracking schools were those parents of students in the top track and their teachers. Even when the curriculum given to these students would not be diminished and all students would be given the more rigorous curriculum, they resisted the loss of their students' privileged position.

Efforts to equalize higher-educational opportunities for individuals from the different social classes, even if resulting in an empirically ascertained change in these classes, does not by itself constitute a sign of "democratization" (Bourdieu and Passeron, 1977). In other words, if the social system is premised on the creation of hierarchies, which are maintained by institutions which legitimate those hierarchies via cultural capital, then even making more individuals "successful" does not mean that such a system is democratic and egalitarian. Institutions of higher education must be situated in a larger system of class relations, according to Bourdieu, which recognizes that the relative autonomy of institutions of higher education from other social institutions (e.g., the state) comes with their dependence on those class relations. Educational institutions thus cannot be analyzed separately from legal systems, market systems, and so on, systems which too further and legitimate class relations though differently. Indeed, what makes the educational system so effective in a larger system of social reproduction is its success in hiding its role in class relations, a role with a dual function: that of inculcating the dispositions required of those relations, and that of producing the producers of the relations, that is, for example, the professionals, the lawyers, and especially the professors (via credentials, degrees, etc.). In other words, according to Bourdieu and Passeron (1977), "the most hidden and most specific function of the educational system consists in hiding its objective function, that is, masking the objective truth of its relationship to the structure of class relations" (p. 208).

Cultural and social capital is a product, therefore, of a struggle to identify and keep up with the group immediately above and to distinguish oneself from the group below (Bourdieu, 1990). The attempts by some individuals to help subordinated

groups overcome the effects of marginalization, then, for all their good intentions normally aim not to abolish scholastic classifications, or the authority of educational institutions to create them, but to modify individual positions within the social hierarchy. This by default implies a tacit agreement with the classifications that guarantee the hierarchy (Bourdieu, 1990). The program does not advocate overturning the system, but moving more people up the hierarchy. Behind the empirically verifiable relationship between cultural and social capital and a particular type of knowledge or practice, there are relationships between groups with distinct and even antagonistic relations to such capital, knowledge, and practice (Bourdieu, 1984), and it is the task of any sociologist of education to make these relations explicit.

In summary, Bourdieu's theory is one of class-based social reproduction, not emancipation or individual mobility. While Bourdieu's theory has some weaknesses, which we discuss later, it is not a theory of individual mobility and research that discusses social capital as individual mobility probably originates in a uniquely American understanding of the term somewhat originating in the work of James Coleman. Given the importance of this line of thought, we summarize important aspects of it here and critique some of its assumptions.

Coleman's Social Capital: Lost in Translation

In the United States, the uses of the theory of cultural and social capital in precollegiate settings predate its use in postsecondary research. In their meta-analysis of the use of the concept of social capital in K–12 research, Dika and Singh (2002) conclude that much of the K–12 literature bases its theoretical foundations on Coleman's concept of social capital rather than Bourdieu's concepts of capital, even though the latter is often cited and supposedly frames the bulk of the discussion on these issues. The same might be said of the research in higher education, where social capital is made central to the analysis of marginalization (e.g., Perna and Titus, 2005; Kim and Schneider, 2005).

Coleman (1988) seeks to offer an understanding of how theories of human capital, which he deems to emphasize notions of agency, and social capital, which he offers as a substitute for a notion of structure, can be reconciled to (1) transcend the dichotomy between agency and structure, and (2) present an adequate theory of why high school students drop out of school and what might be solutions to this problem. In this work, Coleman does not address cultural capital; he does not even cite Bourdieu in his work. Coleman argues that social capital, entailing a series of networks involving family, community, and schools, does not inhere in individuals (as does human capital), but in the structure of relations between actors and among actors. Human capital, by contrast, is created by changes in persons that bring about skills that make them act in new ways.

For Coleman (1988), the point of social capital is to create human capital and to stabilize cohesive communities. Social capital under Coleman is a theory of individual and social mobility. Coleman elevates the cohesive family and community

where members help one another succeed together. The families with rich social capital wisely convert it into human and cultural capital in the form of educational opportunities for their children. Assuming a fully informed rational actor, Coleman looks favorably on parents who make these efforts for their children; therefore, by extension, parents who lack the social networks to help their children can be blamed for failing to provide that assistance. Coleman relies on a deficit theory of families with less social capital when he argues that the "most prominent element of structural deficiency in modern families is the single-parent family" (p. S111). To be fair, he understood social capital as entailing more than the family, but his conclusions essentially place primary responsibility for acquiring social capital and for student performance on parents as the conveyors of social capital to their children. Schools convey less influence and therefore bear less responsibility. For example, one major conclusion of the Coleman Report (Coleman, 1966) was that additional resources would not improve the performance of children in predominantly African-American schools because their problems were characteristics of students' families, rather than of schools, which strongly influenced student achievement. Daniel Patrick Moynihan (1965) took this further in his argument that the major problem of the African-American community was the decline in the two-parent family. Moynihan's role as a US Senator took this argument to the mainstream.

Coleman's logic has serious moral implications, but it is premised on a uniquely American understanding of agency and individualism. Indeed, a benign extension of Coleman's deficit approach would suggest that colleges should be responsible for ameliorating the differences in academic success; thus, educational institutions might intervene on behalf of students in order to make up for the parents' deficit (Coleman, 1988; Portes, 1998). With notable exceptions such as Puente and Indiana's Twenty-First Century Scholars Programs, a number of postsecondary encouragement or TRIO-type programs appear to follow this logic. Rather than empower parents with the cultural and social capital necessary to support their children (which would also be an intervention with moral implications), these programs substitute experts who give the students the capital their parents failed to provide them (see also Berger, 2000; Kim and Schneider, 2005; Perna and Titus, 2005; Ream, 2005). While not saying that these programs make a conscious choice to sideline parents, they do provide trips to cultural events, college campuses, and other social or cultural capital where these students are perceived to be deficient. There is an implicit message to participating students that they are deficient in these experiences and therefore are not college-ready without repair work. The focus appears to be on remediating the students rather than questioning the educational institutions that prepared them. We appreciate that our reading of Coleman is speculative, but we find that a logical extension of his concept, and those who argue that social networks can be secured by educational institutions, would indeed require intervention into the sovereignty of the family, which does not come without obvious moral and political consequences. Rather than questioning a system that requires such intervention while still espousing a discourse of individual just desert, a logic like Coleman's would have educational institutions replace parents in providing the social capital that students need to acquire academic credentials.

Contrasting Translations: Bourdieu and Coleman

Juxtaposing a reading of Bourdieu with Coleman exposes a contradiction that many fail to tease out (see Table 1 for a summary of their differences). Coleman uses social capital as a proxy for structural conditions, which can be converted into human

Table 1 Comparison between Bourdieu and Coleman in understanding social and cultural capital

	Bourdieu	Coleman
Purpose/focus	Explain class structure and hierarchy	Explain differences in individual attainment
Theory	Theory of social reproduction and oppression	Theory of individual social mobility in social communities
Forms of capital	Cultural, social, human/ economic capital	Social and human capital
How capital functions	(habitus) (capital) + field = practice	Social and human capital are exchangeable. Social capital is shared within a network that creates community and rewards those individuals and families who participate in the community. Parents with more capital give more to their children. Anyone can acquire more and better social capital
How capital is understood	Social and cultural capitals create and sustain distinctions between groups. Social capital is a force of oppression	Social capital is good because it creates cohesive stable communities and facilitates opportunity for individuals to enhance their success
Solution	Make the social reproduction visible to all. Challenge the structure. Almost impossible because the system functions without overt effort by the dominant group. Difficult because dominant group will adapt as group differentiation dissolves. Difficult because it is against the dominant groups' self interest to change the structures	Give those with inadequate social capital the capital they are missing. Fix the students and families who fail to participate in the social networks
Weaknesses	Denies individual agency and is overly deterministic	Denies oppressive structures and blames those parents excluded from more elite social networks. Ignores the fact that the dominant group will redefine the valued capital and credential if it fails to differentiate and maintain their privileged position. Fails to account for the role of habitus and field in enhancing or restricting the opportunities for social mobility

capital, a proxy for agency. But Bourdieu illustrates that such structures have an independence that individuals can barely affect, and, indeed, such structures are maintained by individual actions, a maintenance he explains by his formula: (habitus) (capital) + field = practice. Essentially, the objective condition constituting social relations is "fixed" by a logic of individual empowerment. Attention to social or cultural capital would not focus on individual choices or family deficiencies – these are unthinkable outside of the social relations that make them possible – but on the conditions that maintain class relations and which individuals, rather mechanically (a problem that Bourdieu's theory cannot fully address), reproduce in a disguised form.

We should note that we do not seek to create a straw man argument here. We do not argue that Coleman read Bourdieu wrong, for he did not reference Bourdieu at all in his work. But it has been the tendency of many researchers of higher education to conflate the arguments of the two; that is, studies have referenced both Coleman and Bourdieu as authorities for their arguments about the importance of social capital in a process of educational attainment and social mobility, as if both made similar arguments (e.g., Kim and Schneider, 2005; Perna and Titus, 2005). We think the use of Coleman or this understanding of capital in such studies may indeed be coherent, since Coleman would justify a logic of using social capital as a way of understanding individual mobility; but we are not certain that their use of Bourdieu for such logic is correct, or at least such use should explain its re-appropriation of Bourdieu. Bourdieu, as we have been arguing, sees social capital as a part of the processes of social reproduction. He identifies social capital as the resources available to individuals and families as a result of the social networks, relationships, and familial connections that establish the norms and values of a social class and provides them with power and opportunity over those outside these networks (Bourdieu, 1986).

Coleman explains networks within a logic of human capital. While both Bourdieu and Coleman would consider an academic literary club as entailing more social capital than a network of single parents in a government-housing project, the latter theorist would likely suggest simply that people engage in academic literary clubs, while the former would go on to analyze how those with the more valuable forms of capital would seek to set themselves off from, and thus dominate, those with less valuable forms of capital. This oppressive aspect of social relations is ignored in Coleman's conceptualization of social capital. He can only speak to the individual mobility associated with social capital but fails to account for the roles it plays in the social processes which will continue to demand that individuals own this or that kind of capital in order to be deemed worthy of the social resources invested in them.

In short, while Bourdieu distinguishes between the opportunities to obtain capital and the actual possession of capital, Coleman blurs these. Coleman does not address the systemic ways that those in privileged positions adapt to maintain their positions, while Bourdieu focuses on those very power relations. An understanding of social (or cultural) capital that fails to account for the role of habitus in enhancing or restricting the opportunities for social mobility, then, strips out what we believe to be the value of such understanding.

Having now laid out what we believe to be the essential components of Bourdieu's and Coleman's theories of cultural and/or social capital, we can now turn to how such theories have been used in the field of higher education. We will argue that it has been a liberal-humanist view of individual mobility that has been furthered by the uses of theories of capital to explain marginalization in higher education, not the structuralist view of social reproduction that underlies Bourdieu's sociology of education. We tease out what we believe to be the theoretical and political consequences of this (mis)translation.

Troubled Translations

In the research on access to, and success in, higher education we see problematic assumptions regarding social and cultural capital. Our reading of this research leads us to conclude that it is built on a foundation more like Coleman's rather than Bourdieu's. Researchers have at times cited Bourdieu, Coleman, and Becker (as authority for the notion of human capital) in a somewhat troubled understanding of capital which seeks to reconcile both structure and agency. One example of such a study is Perna's (2000), which used econometric models that controlled for social and cultural capital and found that African-Americans were more likely than Whites to enroll in 4-year institutions (see also Perna, 2005).

Kim and Schneider (2005), examining transitions to selective postsecondary education, argue that "there are ways for parents who are educationally disadvantaged to improve their children's chances of being admitted to selective four-year colleges. However, this potential is critically linked to institutional programs guiding those parents and the efforts of high schools to persuade parents to participate in them" (pp. 1197–1198). They suggest that institutional agents can provide networks and information that "compensate for family networks when students' parents have limited economic and social resources" (p. 1184). Indeed, they conclude that students from more disadvantaged family backgrounds showed greater benefits from institutional action than more advantaged students (see also Berger, 2000; Pascarella et al., 2004; Perna and Titus, 2005; and Ream, 2005).

Similarly, the work of many researchers focuses on social or cultural capital as things that can be "given" to students to help them succeed, without fully extending the logic of habitus that goes with such concepts in Bourdieu's work. Walpole (2003) explains differences in graduate school attendance among low socioeconomic status (SES) students by suggesting that faculty (through working on a research project or talking with students outside of class) or students (through peer groups, athletics, and clubs) "somehow communicated a high SES habitus to low SES students" (p. 64). Walpole also implies that when low SES students choose to seek employment rather than continue on to graduate school it is attributable to their ignorance of the economic benefits of graduate school.

The accuracy of these findings is unassailable to us; that is, such researchers accurately describe the effects of social and cultural capital (assuming, of course,

that their proxies for such capital are valid, a point we do not contest here). What we question is the failure to extend social and cultural capital as theories of class relations to the US context to determine if they explain systemic patterns. For one, suggesting that simply "giving" students such capital will go a long way toward their empowerment downplays at least two things: first, there are other factors, including financial-aid caps, debt burden, and family responsibilities, that make, say, graduate schools a great challenge for low SES students; second, and more important, focusing on such supposed exchanges in knowledge obscures whether there are social processes in place that are designed to obscure such knowledge from low SES students.

Accounting for such processes might illuminate important social relations. If Bourdieu's work has value in the United States, then it would lead us to watch for ways that dominant groups will alter what cultural capital will be valued once the nondominant groups have acquired the cultural and social capital that has been denied them. For example, according to a recent *Chronicle of Higher Education* article (Oxtoby, 2007), as more high schools in low-income communities offer Advanced Placement courses, some of the elite private schools have discontinued them, no longer considering them the best choice. Perhaps this choice is for innocuous reasons; alternatively it could be understood as an adjustment by the leaders of the dominant group in the power struggle among groups. As they help set the standard for the best college preparatory curriculum, it may be that they are changing in order to set themselves apart. Cultural capital is valuable when it creates distinctions from other groups in a process of social reproduction. Again, is it possible that the processes of social reproduction will change to ensure antagonistic class relations? Bourdieu's sociology of education would suggest so. Of course, his sociology of education might not be a good fit in the United States, but our point is that his sociology should be extended it to logical conclusion.

Less Troubled Translations

Here we offer two examples of studies that we believe provide an analysis of reproductive processes. The work of Edward St. John, referencing Bourdieu, acknowledges the reproductive aspects of institutions of higher education, and his work convincingly points out how economic conditions, college pricing schemes, and financial-aid policy all work to ensure this social reproduction (see Paulsen and St. John 2002; St. John, 2006). We see this as aligned clearly with what we think is Bourdieu's understanding of the objective conditions that ensure particular social relations. What we question in this study is the reliance on those very institutions that are crucial to the reproduction of social relations as solutions to social inequality. We think studies like this, which correctly point out how inequality is reproduced, stop with an unresolved contradiction if they also do not question institutions of higher education.

Similarly, Tierney and Jun's (2001) work also relies on Bourdieu's work, and they take on explicitly the assumption of cultural deficit that often characterizes the

studies of racial and ethnic minorities in education. They acknowledge and affirm the cultural backgrounds of students, and they have us attend to what they call "cultural integrity," essential if we are to develop strategies to assist these students in attending college (see also Ream, 2005). Again, their understanding of the problem is clearly aligned with Bourdieu's theories of domination, but their solutions stop short of where Bourdieu's theories would take them. They do not make central an understanding of the dominating effects of institutions of higher education, which are actually put forth as the solution to the problem of domination. Bourdieu would suggest it is difficult to expect a tool of the oppressor to be the liberator. Bourdieu fails to offer a good solution, but to ignore the complicit role of the institution in the oppression is also dangerous.

To repeat, our critique of the studies above was less with their findings than with the fact that they did not extend Bourdieu's theories to their logical conclusion, which to us is really a serious questioning of the practices of institutions of higher education, particularly the selective ones.

More Direct Translations

We believe other studies more or less concern themselves with the role of higher education in an overall system of social relations. Most of these studies are of precollegiate settings and studies of college readiness, but we cite them here less for their subjects than for the logic. For example, Klein et al. (2000), adhering more strictly to Bourdieu's work, suggest that accountability and testing systems exploit inequalities rather than improve them. They suggest that such accountability-based solutions do more harm than good when they lead to a teaching-to-the-test pedagogy, a narrowing of the curriculum to focus only on testable subjects, or pushing low-performing students out of school to raise test scores. Their study is a questioning of testing regimes rather than a study offering solutions to how marginalized students might do better on standardized tests. Similarly, Rothstein's (2002) study concludes that the SAT is, essentially, a form of "affirmative action" for the wealthy in the college admissions process (p. 3). These studies suggest that policies privileging such testing further the distinctions between groups. In line with Bourdieu's theory of cultural capital, they argue that schools are designed by those in power to reproduce current class structures and to legitimize class distinctions by defining merit and testing as the cultural capital of the wealthy.

Jeannie Oakes' work on K–12 education and on access to a college preparatory curriculum has consistently applied Bourdieu's social reproduction theory to critique school practices (Oakes, 1985; Oakes et al.,1997, 2002; Oakes and Wells, 1998). Oakes et al. (2002) suggest, for example, that the definition of merit and intelligence put forth by the privileged has hardened into common sense, so that the "cultural capital of White and wealthy families masquerades as meritorious 'natural ability' rather than as a function of social privilege" (p. 112). Oakes' work requires that we ask ourselves to challenge the current definition of merit and intelligence

and to challenge criteria used to identify which students "merit" a rigorous curriculum. She argues that the tracking of students reflects a White upper-middle-class definition of intelligence, and under such logic minority students are by definition deemed deficient, since they cannot be White. It is not surprising, therefore, that minority students receive less rigorous curricula, thus legitimating the a priori expectation that these students would fail.

Oakes' work illustrates well the class struggles that adherence to Bourdieu's requires. In schools or districts where administrators may have started off with democratic intentions, they end up compromising the reforms to some degree in response to intense resistance (Oakes and Wells, 1998; Oakes et al., 2000). Similarly, some researchers have pointed to how powerful these parental social networks can be in getting the schools to work for them (Horvat et al., 2003). The point here, however, is that Oakes' research (and a few others) more closely aligns with the kind of social critique to which a close reading of Bourdieu's work would lead.

In the context of higher education, we think McDonough's (1997) research offers a promising read of Bourdieu's work. Her work on college choice is a recent example of the application of Bourdieu's concept of the habitus in a study seeking to understand college access. McDonough demonstrated how social class and school governance (private versus public schools) influenced student access to higher education. Among McDonough's findings were these: (1) low-income students were more likely to have a choice set of local higher education institutions, while upper-income students set their eyes on national and more prestigious institutions; (2) high schools with greater resources provided more individualized career and college admission counseling; and (3) high school guidance counselors served as gatekeepers for who were included on the college preparatory path. In subtle ways, guidance counselors working with the low-income public school students lowered students' college choices under the auspices of helping students get a safe start. Her conclusion is that without structural changes schools would continue reproducing the current social order.

Similarly, Anderson's (2005) article requires us to also focus on the curricular and pedagogic practices, and not just on access, in understanding why minority students are denied access to elite institutions. He illustrates that a diversity discourse available through texts disembodied from diverse students' experiences advantages White students without offering similar benefits to minority students. Furthermore, elite colleges that separate race and class in the admissions process do so in ways that advantage those individuals with greater cultural capital, and their good intentions do little if they do not also address the systemic unequal distribution of educational opportunities.

Zweigenhaft's (1993) study of differences in attainment and scholastic practices between public- and prep-school graduates at Harvard University also illustrates how the American elite reproduces itself. In spite of their lower SAT scores at admissions, students from the elitist private high schools had an advantage in admissions. Furthermore, the elite high school graduates differentiated themselves throughout not by their academic achievement but by the efforts to acquire and utilize their cultural capital. They earned lower grades than public school graduates but were more likely to pursue law school, a career Zweigenhaft suggests would utilize their cultural

capital, while public school students were more likely to acquire academic credentials through high grades and graduate school. Her findings and, more importantly, her interpretations are consistent with an understanding of cultural capital and of the particular role of elite institutions in the reproduction of class relations.

(Re)Translations or Capital Culture

Having said that translations of Bourdieu's theory in the US context need to more closely align with his sociology of education, we have not offered a critique of whether his sociology could be easily translated. We think Bourdieu's theories offer those of us in the United States an important starting point for understanding social relations, relations which are masked by an overriding ideology of individualism. However, we also think that Bourdieu's theories cannot be easily translated, for they are expositions of a different context, one less troubled by a heuristic of class than we are here in the United States.

In the next section, we offer our take on what we think are promising avenues of thought in Bourdieu's theories, but we also offer a critique of these theories as well. This may seem odd to spend a great deal of this chapter explaining Bourdieu's theories, and showing how they have been mistranslated, and then to offer a critique of them, identifying the inadequacies of the original theory. But our commitments are not to any particular theory as much as to a desire to spark scholars of higher education to find ways of accounting for how social relations in the United States are (re)produced. Whether or not Bourdieu's work winds up having the most merit is important to us not because our professional reputations and career are tied to it, but because we are committed as scholars to pursuing work that allows us to change oppressive practices.

Bourdieu's theories of cultural and social capital reflected his European intellectual heritage of creating heuristics of class, unlike in the United States, which has an intellectual (and practical) heritage of focusing on individual liberties guaranteed by an almost blind adherence to liberalism (which is, paradoxically, an European idea which has been perfected in the United States). The American political imaginary understands its political and educational systems as existing in and supporting a fluid individualistic system (i.e., "we all can achieve the American dream") in which "classes" reflect less a concept for understanding stable social stratification than a temporal economic grouping of individuals, a myth which is a necessary illusion for its capitalist practices.

In the field of higher education the failure to account for the arbitrary and *interested* nature of social distinctions (e.g., parental credentials, student merit, intelligence, etc.) leaves one with little but a conclusion that greater cultural and social capital should be given those who have less. It is assumed, in other words, that if educators can provide cultural or social capital to the students without it, then those students can rise above their current position. We see this as the underlying assumptions in college-access programs or summer-bridge programs, which seek to give the students the information they otherwise lack (Hagedorn and Fogel, 2002), a laudable goal. Yet, Bourdieu (1977b) would suggest, we think, that such college-access

programs obscure the oppressive nature of the system, since their accommodation deflects attention from the systems' own mechanisms of distinction and exclusion. These programs are premised on a logic of individual lack, and as such they undermine the very democratic purposes intended by these programs, since they never challenge the arbitrariness of these distinctions that make those programs necessary in the first place. Clearly, programs can help the selected students who do participate. Our argument is not against these programs, but against ignoring the real worth of Bourdieu's writing: to highlight class structures and oppression. Bourdieu argues that allowing or assisting a few students through the obstacle course of college access obscures the systemic imbalance where some students do not have an obstacle course. In a sense, the successful few help protect the stability of the system. Bourdieu does not suggest that we give up but also does not provide good answers on how to change the system. However, he does provide insights into the system that are obscured when convoluted with theories of social mobility.

Thus, to the extent that the uses of cultural capital theories in the United States fail to analyze these relations, they also fail to see how they work in the processes of class domination. Educational institutions, and especially institutions of higher education, because they provide gateways to the professions and thus to the economic realm, determine social classes and the hierarchies associated with them, for they demarcate and reorganize individuals into groups: the well educated, the professionals, the liberally minded, the practitioners, and so on. Even our choice of labels may help the dominant class justify their oppression. If the understanding of individual agency predominates in our understanding of cultural capital, then those who fail to maximize their capital can be labeled dropouts without acknowledging the systemic structure that almost guaranteed their outcome. Cultural capital theories, therefore, can provide powerful lenses for uncovering and challenging oppressive class structures, even in spaces that are deemed not to have classes (or to have fluid ones), such as in the United States.

The "Individual" Myth

A liberal view of schooling, even if premised on egalitarian or altruistic intentions, sees cultural capital in isolation from the class struggles (liberalism is a system that privileges the sovereignty and sanctity of the individual). This liberal view of schooling, when tied to egalitarian politics (and clearly it can be), takes as its premise a logic that one can simply "give" cultural capital to someone else who does not already have it, or to argue as Yosso (2005) does, that subordinated groups have their own stock of "cultural capital" which they use to mediate oppressive social structures. This may be true, but it misses the structural aspects behind Bourdieu's ideas of cultural and social capital, which imply that any stock of capital must be exchangeable into others for the purposes of maintaining or realigning class relations. The cultural capital of the single mothers in government housing does not convert to the same financial capital as the literary club.

Given Bourdieu's understanding of how cultural capital comes into being and how it works in a system of domination, it does not seem possible to us that his work can be used for ensuring individual access and achievement in higher education, for such access and achievement are determinants of how hierarchical class interests are legitimated in the United States. To cite Bourdieu for the point that access to higher education can be equalized by redistributing cultural capital to minority and low-income students illustrates a logic beset with a structural incoherence. It is to assume that a theory of domination can become a theory of salvation, which is not only problematic from a theoretical – and thus very practical – standpoint, but it also strips the original of its heuristic value: Its attention to the subtle forms of discrimination and oppression which take place through educational institutions that is a key value of the theory.

Part of the problem with the translation of theories of domination into theories of liberation has to do with the logic of the distinctions we make in the United States. In the United States the distinctions relate less to an elitism tied to particular classes that characterized the French social milieu that Bourdieu described than to an egalitarianism tied to liberalism that carries particular cultural force, and which cannot be rejected without some loss of the cultural coherence that characterizes the American way of life. For all the critiques of the 1983 report, *A Nation at Risk*, it does reflect a uniquely American belief that schools further individual much more than social interests, and, indeed, the latter can be served only by attending to the former:

> All, regardless of race or class or economic status, are entitled to a fair chance and to the tools for developing their individual powers of mind and spirit to the utmost. This promise means that all children by virtue of their own efforts, competently guided, can hope to attain the mature and informed judgment needed to secure gainful employment and to *manage their own lives*, thereby serving not only their own interests but also the progress of society itself. (National Commission on Excellence in Education, 1983, p. 7)

The elevation of the idea of the individual supports the myth of equality of opportunity, which is, as Freeman (1998) suggested, presented both as a description and a transcendental ideal. It incorporates the twin universals of personal desert (self-fulfillment) and societal advantage (maximize the product). But in either form, it presupposes a world of atomistic individuals, without a rigid class structure, and an objective, transcendent notion of merit or qualification.

Equal opportunity, however, Freeman argued, is neither a description nor an ideal but an institutional ideology – an ideology that is the major rationalization of class domination in this country. Central to its effectiveness, Freeman argued, is the lived, internalized experience of lower class status as personal failure and as lack of ability. The disparity between the ideal and its practical realization should debunk it as a practice, but it continues to work because the idea of the individual's sovereignty and sanctity works to legitimize class distinctions (Freeman, 1998). It is the embeddedness of the sovereignty and sanctity of the individual in our social conscience that trumps fruitful (re)translations of theories that are premised on entirely contrary perspectives, even if those other perspectives might shed better, or, more accurately, different, light on power relations in the United States.

This is also probably why the idea of human capital (i.e., capital embodied in knowledge and skills) can be so easily attached to those of social and cultural capital

in many studies (e.g., Coleman, 1988; Perna, 2005). Notions of human capital do not require us to relinquish the myth of the individual that governs social life in the United States. The notion of human capital is distinct from that of social and cultural capital, at least as Bourdieu understood them, and it is our contention that many scholars in higher education have confused the two concepts. But human capital is a concept developed by neoclassical economics to explain *individual* behavior (agency), unlike cultural and social capital, which explain *class* behavior (structure) – even in Coleman's (1988) view.

Research that simply seeks to increase the number of students from subordinated groups in prestigious institutions of higher education is democratic only to the extent that it advocates for more just bases for determining such access. Yet, also, to the extent it is premised on the notion of individual mobility it will only help individual minority or low-income students but do nothing to challenge the system that marginalizes these students in the first place. Moreover, by not challenging the system, such research only reinforces the right of the dominant class to continue to define what is valued. The education system, if Bourdieu is even remotely correct, must be challenged at its very roots: its pedagogy. It perpetuates initial inequities, so this pedagogic communication cannot be ignored in analyses of access. The educational system cannot feel the effects of social changes except in the form of pedagogic difficulties (Bourdieu and Passeron, 1977). It is not enough, therefore, to focus only on students' aspirations or parental behavior. What must be done as well is to make explicit and to challenge the ties the educational system, as the producer of legitimate cultural capital, has to the system of class relations in the social structure, relations made possible by the ease or difficulty associated with "reading" the pedagogic communication offered by institutions of education (Bourdieu and Passeron, 1977; see also Bernstein, 1986 for a discussion of pedagogic discourse). The overall point here is that for Bourdieu social stratification is not threatened by granting access to select individuals who have been traditionally left out, so long as the dominated classes enter the game under the rules of the system and generally against their own interests (Bourdieu, 1984).

So far these arguments appear to affirm our complete acceptance of Bourdieu's theory of social reproduction, but again, our task is not to spark studies that account for marginalization in all its forms, and we think there are aspects to Bourdieu's theory that have the potential to exert their own form of domination. Again, we think Bourdieu's theory of cultural capital is indeed of considerably more heuristic value than that of human capital, and thus comes with considerably less political consequences, but we do believe that Bourdieu fell into some traps that are worth teasing out before we can translate his theory beyond the French context.

The "Class" Myth

We believe that to the extent that one uses capital theories to promote individual mobility, one essentially misuses a theory of classes (structure) for one of individuals (agency). Of course, theories of agency, often rational choice theories common in

the economics literature, such as human capital ones, should be questioned because those theories are premised on the myth of the individual. But if the individual is a myth, is agency possible? Yes, but only if one attends to the interplay between agency and structure. Power is, as Butler (1997) theorized, "never external or prior to the subject, nor can it be exclusively identified with the subject. If conditions of power are to persist, they must be reiterated" (p. 16). That is, institutions, structures, and relations are not disembodied concepts; they require reiteration in order to maintain their coherence as such. The conditions and structures of subordination, therefore, are "temporal," since they must be enacted constantly in order to remain effective, and because they are temporal, they are vulnerable to redefinition at each moment of enactment.

We believe Bourdieu's theories of social reproduction cannot be easily translated, at least without some misappropriation, because it is not completely adequate for understanding power relations in the United States and in other settings in which rigid lines between high and low classes do not exist. With regard to the United States, we think the theory of cultural capital over-determines class structures and focuses too little on human agency. His theory assumes that class distinctions, and thus classes themselves, are more static and stable over time and space than seems to be the case. Bourdieu seemed to understand the idea of class as Marx did, that is, as a formation, one to which, in addition to culture, can be attributed a class consciousness and a struggle (see Williams, 1983 for the evolution of the idea of class). There may be limits to the application of the theory of cultural capital in highly differentiated societies, particularly since Bourdieu developed his theories within a distinct national high-culture tradition, and so it appears tied to a strong assumption of high cultural hegemony. But in the United States, where high culture has not played quite the dominant role that it has in France, the concept seems stretched (Swartz, 1997). It stands for a universality that cannot be justified empirically (Brubaker, 1985). Indeed, the notion of habitus itself is too vague to be of complete use, for it fails to explain how it is both durable and transformable (DiMaggio, 1979).

Part of the difficulty in Bourdieu's theories, especially in their translations to other context, then, lies in the term "class," for in the United States, for example, the term class is used to designate economic categories, to which have been attributed more or less a culture. But the term "class" in the United States cannot stand for such simplistic categories. The class at issue in the United States, and in other heterogeneous countries – and we would guess even in France itself – cannot stand for a coherent ontological concept. A class here is a matter of perspective and of definition. Thus, a class can signify not only socioeconomic categories, but also racial, ethnic, linguistic, and sexual ones. This overlap is what, perhaps, makes class analysis particularly difficult in such contexts, and if class is useful in France then we would guess it is because these other "things" like race and sexuality are ignored, as we believe Bourdieu did.

In addition to the ontological status given to class, Bourdieu seems to belie his own project of seeking to move beyond the dichotomy of structure and agency, or, as he refers to it, the objectivism/subjectivism divide in the social sciences. His theory of social reproduction underestimates human agency, which clearly is

constrained by class structures, but is not completely captured or defined by them. Individuals do exercise, following Judith Butler (1997), an agency that emerges from the margins of power. As Butler points out, while Bourdieu's theory provides an important way of understanding how individuals incorporate class norms and conventions, it nevertheless fails to account for how individuals, once initiated, resist and confound those norms and conventions which regulate them.

Given how institutions of higher education have tended to reproduce social classes in American society, especially because, paradoxically, they do so by denying this reproduction and by exalting individualism; Bourdieu's arguments about habitus appear particularly seductive. But ultimately we find problematic the ontological status his theory of habitus confers to the idea of *class*, as if it had an empirically verifiable content of its own. It seems, in other words, to over-determine class behavior and sets up a problematic dichotomy between a dominant group and a dominated group. To be fair, Bourdieu argued that the habitus is not infallible (Bourdieu, 1984). And he asserts that his theory is governed by neither notions of agency nor structure. But it is hard for us to see, however, how the habitus does not entail a determinist theory of class, since interpersonal relations are "never, except in appearance, *individual-to-individual* relationships and that the truth of the interaction is never entirely contained in the interaction" (Bourdieu, 1977a, p. 81), or since the habitus "engenders all the thoughts, all the perceptions, and all the actions consistent with the particular conditions in which it is constituted" (Bourdieu, 1977a, p. 96).

Thus, to the extent one seeks to use cultural and social capital theories as intended, that is, as determinative of class structures, one fails to give an adequate account of power relations if such theories provide no account of the interplay between agency and structure. And the value of the theory of cultural capital espoused by Bourdieu is its heuristic of struggle. But such struggle should be understood in particular fields and in particular sites within those fields (the local sites of enactment, e.g., an individual attending a college), for it is in the local sites of the interplay of structures and agency in which individuals live, and so promising empirical analyses of Bourdieu's theories attend to those local sites, even if they come at the expense of easy measurement (see Lamont and Lareau, 1988, for a good explanation of the need to focus on the struggle that takes place "on site," so to speak). Indeed, the search for easy measurement which permits generalizations may be part of the ways in which academic classifications work to maintain social structures.

Conclusion

When research relates to marginalized social groups, such as racial minorities or "at risk" students, but fails to account for the social processes that lead to their marginalization, they cover struggles over classifications that will govern the social positions of groups. Researchers who put forward empirical evidence about individuals and groups would be well advised to remember, Bourdieu warns, that such empirical

evidence captures only a particular moment or state in the struggle to make and unmake groups (Bourdieu, 1991). If any of this is possible, we might conceive of institutions of higher education as both weapons and as prizes in a political struggle.

It is difficult for us to argue against any research that seeks to close the socioeconomic gap between wealthy and poor students, to make better the conditions of social minorities, and so on. But even when researchers adopt the particular vantage points of those who suffer oppression, if they fail to describe the game in which those vantage points, and the beliefs underlying them, are produced, then they invoke one among many contributions to the creation of beliefs whose foundations and social effects should be described (Bourdieu, 1991). It is by letting go of the dream of "royal science," as Bourdieu puts it, that scientists can take up as their object the game whose stake is the power to govern the vision of the world, and in which researchers have no choice but to mystify or demystify that game (Bourdieu, 1991, p. 227). In short, we must question ourselves and the role we play in social struggles. If we question the systemic processes that ensure stratification, and the key institutions that guarantee and are guaranteed such processes, then we will have played our part in changing them. This questioning, we might say, comes with a risk: it puts at risk those very institutions which grant researchers the authority to do research. But those are the stakes in the game to which Bourdieu refers.

Education as a field often draws on theories, knowledge, and research from other venues, intellectual and geographical. What we hope readers see in our analysis is not an argument for a whole-scale rejection of the notion of cultural or social capital, but for a reconsideration of how it can be made useful in furthering social equity (i.e., by highlighting oppressive institutional practices, and by attending to how these work in local sites of enactment). Our first task, however, is to "trap *Homo Academicus*, supreme classifier among classifiers, in the net of his own classifications" (Bourdieu, 1988, p. xi). In other words, we must be leery of our own academic theories, for they are as political as the forces we seek to describe with them.

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The Rise and Fall of Need-Based Grants:
A Critical Review of Presidential Discourses
on Higher Education, 1964–1984

Julie Renee Posselt

Introduction

Calls today for a reinvigorated federal role in higher education come from across
the political spectrum and are framed by moral, economic, and political impera-
tives. One prominent thread in this dialogue is the continuing decline of Pell Grant
availability for low-income students and the related trend of grants' weakening
purchasing power relative to total college costs. By all indicators, the future of
need-based grants is uncertain. On the basis of historical and correlational evi-
dence, economists Friedman (2005) and Fogel (2000) have separately advanced an
economic rationale for reinvesting in grants that higher education scholars have yet
to include in their policy debates. Social equality and economic development in
America, they assert, depend on enhancing human capital formation, which may be
achieved by returning to the education policy of the 1970s (Fogel, 2000), including
a reinvestment in Pell Grants (Friedman, 2005). However, historiographical review
and analysis of US presidential discourse between 1964 and 1984 reveal that the
problem of equal opportunity today is more complicated than reasserting a purely
economic rationale to direct more funding toward Pell Grants. Given higher educa-
tion policy's contingency upon historical events and policy in other arenas, equal
opportunity may need to be reconceptualized for our historical and political con-
text. Furthermore, economic rationales for financial aid policy since 1964 have
reliably been intertwined with arguments based on political ideology and the
desired sociopolitical aims of education, suggesting the need to reconstruct a mul-
tidimensional argument for reinvestment that balances these rationales.

US presidential discourse on higher education has yet to be reviewed in the litera-
ture, despite higher education's prevalence in presidential speeches as a theme linked
to other domestic policies. Discourse analysis facilitates deeper historical understand-
ing of policy by revealing the rationales that motivate policy and drive public opinion,
a critical task in that these rationales delimit the acceptable boundaries of proposed
policy and frame our eventual evaluation of a policy's success or failure. Scholars
from education, history, and the social sciences have identified three types of ration-
ales for higher education investment circulating between 1964 and 1984, as well as
shifts in focus occurring within each type. First, they find that justifications grounded

in the desired sociopolitical ends of education shifted from concerns about equity to excellence. Second, rationales aligned with prevailing political ideologies[1] followed the nation's political shift from Johnson's liberalism to Reagan's neoconservatism. Changing beliefs about the capacity and responsibility of the federal government to help meet social needs constitute an important dimension of political ideology during this time. Finally, economic rationales grounded in human capital theory focused on the economic returns of higher education investment and shifted from aims of upward social mobility for the poor to national economic growth. Clearly these three types of rationales are linked, but scholars have yet to explore the nature of those relationships. This chapter uses a review of presidential discourse to investigate how various rationales converge and diverge and to trace US presidents' rationales for college access policies in the context of other policy debates and interests.

Presidential discourse suggests that the politics of higher education generally, and financial aid policy specifically, are more complex than the dichotomous categorizations previous scholars have suggested. All three types of rationales described above are evident in presidential speeches, but none neatly predict a given president's approach to college opportunity. Equity and excellence are neither mutually exclusive nor static in meaning. Moreover, both the human capital justifications and the equity to excellence shift are related to a deeper ideological shift toward neoconservatism. Juxtaposing educational history with presidential rhetoric shows that the political revolution and decline of need-based grants typically attributed to Reagan was a much longer process that began with Richard Nixon's 1968 election and unfolded throughout the 1970s.

Methodology

Periodization

This study begins with the policy-crafting conversations preceding President Lyndon Johnson's announcement of his Great Society legislation. Johnson advanced the 1965 Higher Education Act (HEA) as part of a large-scale policy response to the civil rights movement and, with the Elementary and Secondary Education Act, represented a major enhancement of the federal role in education. Drawing on egalitarian rationales and faith in the government's duty and ability to

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[1] Ideology is defined here as a system of beliefs that guides the action of individuals, groups, and/ or institutions. As in critical theory, ideologies are examined to help uncover the ways that inequality is reproduced over time by perpetuating deeply held assumptions about what count as acceptable policy and social relations. Likewise, consonant with the postmodern tradition, ideologies are regarded as historically situated, socially constructed discourses that assert a "regime [and] general politics of truth" (Foucault, 1980, p. 131). For an excellent review of ideology in social science and education research, see Slaughter (1991, pp. 60–64).

solve social problems, HEA created college encouragement programs, aided historically black colleges and universities (HBCU) and, under Title IV, expanded the availability of resources to defray students' college costs. President Richard Nixon's 1972 amendments to the HEA promised Basic Educational Opportunity Grants (now known as Pell Grants) to all income-qualifying students pursuing postsecondary education. The 1972 amendments retained Johnson's view of higher education as a mechanism for social mobility, but leaned more visibly on human capital arguments and introduced market-based logic by tying grants to students who could take their funding to any postsecondary institution. Through executive orders and influential speeches, Johnson and Nixon also promoted affirmative action in college admissions.[2] However, despite Nixon's promotion of higher education access by class and race, he sparked public doubts about the capacity of government to solve social problems and thus laid the groundwork for a political realignment and the ideological revolution typically attributed to Ronald Reagan.

From 1965 to 1975, despite a ballooning budget for the war in Vietnam, federal student aid expenditures grew rapidly. And while tracing historical causality is a spurious business at best, it is more than a simple correlation that college enrollment disparities declined in the wake of Johnson's and Nixon's college access policies. By 1975 the college enrollment gap among White, African-American, and Latino high school graduates reduced to zero (St. John, 2003, p. 23). As the 1970s progressed, though, a middle-class majority pressured the federal government – now the dominant player in the financial aid enterprise – to facilitate their financial access to higher education as well. In both student aid and other policy arenas, scholars and politicians alike increasingly justified policy on the basis of majority interests, fiscal restraint, and protecting America's competitiveness. Thus, the first set of existing policies to be challenged was the so-called entitlement programs, including Pell Grants. In 1978, President Jimmy Carter's Middle Income Student Assistance Act (MISAA) began shifting federal aid support from grants for poor families to loans for middle-class families, and the Supreme Court established limits on affirmative action in the case of *Regents of the University of California vs. Bakke* (1978). Under President Reagan, and especially with the release of *A Nation at Risk* (1983), the educational/political revolution begun with Nixon's election was fully realized. Principles of limited, laissez-faire government took hold, excellence became the watchword in education policy at all levels, and the strongest rationale for higher education investment became its potential to advance the national economy vis-à-vis international competitors.

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[2] Although this work analyzes aid policies, presidential advocacy has also proved critical to the rise and fall of affirmative action, and it should thus be considered in studies of the contemporary struggle over affirmative action in state ballot initiatives. Johnson spoke out in 1965 for affirmative action as a means of redressing the unequal representation of African-Americans in higher education, and his Executive Order 11246 required postsecondary institutions to draft admissions policies to that end. Nixon's Executive Order 11478 both broadened and deepened the federal requirements.

Secondary Data

Historiography

Within the education literature, considerably more historical policy research has been published on equal opportunity in K–12 schooling and the role of the federal government than on higher education. Most histories of college access and opportunity tend to focus on either admissions or student financial aid, with the exception of Gelber's (2007) comprehensive history of equity in college access which considers both, tracing two centuries of access to American higher education by race, class, and gender using policy frameworks of preparation, access, finance, and completion.

Several works from the higher education literature trace and interpret changes in federal financial aid policy through historical research. For example, Karen (1991) charts changes in access to higher education from 1960 to 1986 across race, class, and gender, concluding that the mobilization of interest groups representing women and minorities positively influenced the legal environment for affirmative action. Lower-income families, whose main access issue was financial, did not similarly mobilize and so did not directly affect the climate for aid policy.

Hearn (1993) offers a particularly rich history of financial aid policy by investigating the paradox of sustained growth in federal aid spending from 1965 to 1990 in the absence of the usual prerequisites of rational policy development. One of the elements of rational policy development glaringly absent from the federal aid history is philosophical coherence. Driven by multiple logics and sometimes unconnected goals, aid programs have frequently been developed in response to noneducational goals, such that compromise across competing interests has become a major characteristic of aid policies. Nevertheless, the lack of a singular logic has not hindered aid's steady growth when total expenditures are tracked. Using this paradox as an analytic tool, Hearn delineates four phases of federal aid policy history under various instantiations of the HEA and presents five possible explanations for the paradox. Four of the five explanations put a different set of actors at the center of the paradox. Bureaucrats, interest groups, legislators, and the middle class each may influence the nonlinear process of policy development and/or the steady growth of expenditures according to the first four views. Hearn's fifth interpretation, which he considers the most viable, makes sense of aid's sustained growth on the basis of "organized-anarchy" as a characteristic of federal education policymaking. While substantially enriching our understanding of aid policy development and implementation over 25 years, and spurring needed dissatisfaction with the incrementalism observed during that time, Hearn's (1993) attention to total growth downplays the important shift that occurred in the population targeted for aid (i.e., from low- to middle-income families) and changes in the types of aid that predominated (i.e., grants versus loans and work study).

Attending specifically to those facets of aid policy history, St. John and Elliott (1994) argue that aid history may be divided into three periods: pre-1965, 1965–1978, and post-1978. Their view highlights the development of consensus

around equal opportunity as an aim of federal aid policy between 1965 and 1978. They bracket the time before 1965 as a phase of establishing the foundations of modern aid programs and the period since 1978 as a phase of greater concern with aid policy's fiscal sustainability and with universal access goals over and against equal opportunity for historically disadvantaged groups. In presenting future policy researchers with a framework for critical analysis, St. John and Elliott (1994) also encourage critical questioning of the assumptions that underlie the paradigms within which we research.

Rationales for Federal Higher Education Investment

A review of existing research also makes clear the predominant rationales for federal higher education investment between 1964 and 1984, creating a framework for this study's analysis of presidential discourse. Three major perspectives emerged: the sociopolitical ends of education, the dominant political ideology, and the economic returns of education (see Table 1).

Table 1 Rationales for federal higher education investment, 1964–1984

	Sociopolitical ends of education	Dominant political ideology	Economic returns of education (i.e., human capital)
Summary	Education is a tool in which investment can bring about positive social and political outcomes	Education is an institution that reflects prevailing beliefs about society, and the degree of investment should align with those beliefs	Throughout history, broadening educational attainment has stimulated individual mobility and collective prosperity
Shift in focus from 1964 to 1984	Equity to excellence as desired ends of education	Liberal, to market-based, to neoconservative ideology	Individual income to national economic growth
Presidents who deployed	Johnson, Reagan	Johnson, Nixon, Ford	Johnson, Carter, Reagan
Assets of rationale	Gives focus to specific policies and programs	Grounds policy in deeply held values	Historically strongest justification; widely accepted; pragmatic appeal
Liabilities of rationale	Subject to changing political conditions	Unstable across time and constituencies; policies tend to lack sustained and mass appeal	Cannot cut through political ideology; only addresses material conditions
Relationship to other rationales	Desired ends of education manifest political ideology	Encompasses the sociopolitical and economic rationales	Economic advancement facilitates equity and excellence
Examples in the literature	Berube (1991); Hansen and Stampen (1987)	Anderson (2007); Giroux and Giroux (2004)	Becker (1964/1975); Friedman (2005)

Sociopolitical and Ideological Rationales

Berube (1991) and Hansen and Stampen (1987) exemplify the view that educational priorities shifted from equity to excellence during this period. Berube's (1991) view seems derived in part from his close attention to developments in K–12 education and in part because of a sort of selection bias in his data. Rather than tracing the historical narrative across presidencies, his book presents case studies of education policy under three presidents – Johnson, Reagan, and George H.W. Bush – and how the presidents shaped the focus of policy. From this perspective, presidents' education policies emerge as they rearticulate education's social aim in response to perceived external pressures. Johnson's response to the civil rights movement motivated his view of education as a tool to erase inequality in the 1960s, Berube argues, while Reagan's Cold War-driven agenda in the 1980s justified his treatment of education as a tool to bolster American preeminence. By skipping directly from Johnson to Reagan, however, Berube fails to capture what role the presidents and events of the 1970s played in reshaping the national education agenda. He places presidents' approaches in the context of specific historical events, but takes the events out of a broader historical context.

Anderson (2007) takes a different view, perceiving a qualitative shift in educational policies due to the rise of neoconservative political ideology. To some extent, his interpretation can be understood as a function of his methodology, a discourse analysis of congressional debate preceding major education legislation of this era. Critical discourse analysis assumes that individuals' beliefs influence discourse and, especially when congressional debate is the specific discourse being analyzed, we may expect the debate to be at least partly driven by political ideology. While he makes a compelling case for the role ideology plays in shaping educational policy discourse, Anderson (like Berube) presents case studies of the debate preceding individual policies. The effect for both authors is that these histories lack a historical narrative that places the actors, policies, and events in appropriate contexts.

Critical theorists Giroux and Giroux (2004) read the history of higher educational policy from Johnson through George W. Bush as part of a politically charged story in which, "assault on big government" quickly turned into an "ideological war against the 'underclass'" (p. 189). Progressives' perceptions of a crisis in educational equity can partly be explained by federal cuts to education that began under Reagan, who argued that public schools were wasteful and ineffectual due to the federal government's monopoly over their interests. Giroux and Giroux's interpretation implicitly maps the rise of neoconservatism in domestic policy onto the erosion of an equity agenda for higher education that consisted of desegregation and affirmative action policies. However, for today's context they argue that the first policy efforts should aim to improve K–12 education (including desegregation efforts) and financial aid availability, and that affirmative action does little for the student who cannot afford tuition.

Lavin and Hyllegard (1996) come closer to an explicit integration of the equity/ excellence and liberal/conservative perspectives than other histories. They use the City University of New York's transformation to an open access system in the late 1960s as a prism for exploring higher education access and opportunity. They argue that

the liberalism of the 1960s and early 1970s motivated policy efforts to reduce inequality, and ascendant conservative reform efforts of the late 1970s and 1980s specifically blamed higher education for an alleged decline in academic standards. They also acknowledge that the excellence movement of the 1980s affected the political climate for higher education. However, one finds less evidence for an ideological conflict in their treatment than the existence of a simple policy dispute over the effectiveness of higher education opportunity programs.

Economic Rationales

Disagreement exists over the extent to which equity/excellence concerns and political ideology influenced rationales for investing in education through this period, but scholars agree that variants on Becker's (1964/1975) human capital theory assumptions about the economic benefits of educational investments proved persuasive to legislators from both parties. Whether benefits of education accrued to individuals or society and how much the government should subsidize education were subject to debate, but the theory's flexibility and relatively apolitical assumptions have made it a broadly appealing rationale (St. John, 1998). Slaughter (1991) finds it such a prominent theme in the testimony of university presidents to Congress from 1975 to 1985 that she cites it as a core element of the "official ideology of higher education" (p. 70). Indeed, in a period characterized by political discontinuity on several levels, human capital theory's sustained acceptance from 1964 to 1984 stands out as one of a few continuities.

Although outside the higher education literature, two recent economic histories offer fresh perspectives on human capital rationales for higher education investment that any contemporary dialogue on the topic should consider. Through comparative historical analysis, noted economist Benjamin Friedman (2005) analyzes the meaning of economic growth conditions for individuals, finding that an increasing standard of living in a society is associated with greater openness, tolerance, democracy, and other social virtues (p. 11).[3] To stimulate economic growth in America (and, by implication, growth's positive moral consequences), he advises economic policy that combines renewed physical capital investments and greater human capital formation. Targeted higher education investments keep students in school longer, thus raising the labor force's overall education level, and therefore its productivity.[4] By Friedman's calculation, at least 8% of Americans remain

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[3] A major critique of Friedman's (2005) text has been that he implies a causal relationship between growth and social virtues (e.g., the book's title is, *The Moral Consequences of Economic Growth*), yet presents solely correlational evidence for the relationship.

[4] Friedman's (2005) position on the needs of K-12 education is very different. He advocates enhancement of choice at both the primary and secondary levels to create conditions of competition, which he believes function as performance incentives for schools (pp. 429–430). Collectively, schools will have better outcomes under market competition, "thereby enhancing the nation's human capital formation" (p. 431).

financially constrained from college attendance (p. 425), and he implicitly regards policy efforts to facilitate their financial access (e.g., Pell Grants) as a means of achieving his primary objective – national economic growth. As Friedman puts it, "[t]he central question is not the poverty of the disadvantaged, nor the success of the most privileged. It is the economic well-being of the broad majority of the nation's citizenry" (p. 435). Friedman also contends, however, that equalized opportunities are frequently a byproduct of higher education investments made with an eye to economic growth. According to correlational data, he finds that when human capital arguments are deployed, the least advantaged benefit most.

In a very different style of historical analysis, Robert Fogel, a Nobel laureate in economics, integrates economic, political, and religious views of American history. Four Great Awakenings (i.e., revivals) in evangelical religion have not only shaped the texture of contemporary American religion, he contends, but each has also produced a set of egalitarian political and economic reforms.[5] Of particular interest here is the relationship between disciples of the third and fourth Great Awakenings. Those influenced by the third grew up on Social Gospel theology and produced what Fogel calls a modernist egalitarian agenda aimed at material redistribution through the programs of the New Deal and Great Society. According to Fogel, these programs essentially offered forms of physical capital, and this agenda can reasonably be seen to include the HEA of 1965 and its 1972 amendments. The fourth Great Awakening began with the spike in religious conversions in the late 1950s to early 1960s and the subsequent migration of churchgoers from mainline to evangelical churches. Adherents of this revival retooled the meaning of equal opportunity to their own ends to produce a "postmodern egalitarian agenda" emphasizing equal distribution of immaterial and spiritual assets, including human capital.[6] That human capital has displaced physical capital as a more highly valued commodity is not a new argument, but Fogel's position that the trend has its origins

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[5] Egalitarianism has been a "national ethic" (Fogel, 2000, p. 4) in American history, but there has been a struggle to define and implement specific egalitarian agendas. Fogel argues that overlapping politico-religious cycles (i.e., Great Awakenings) have played an unacknowledged yet key role in shaping this struggle. Born in revivals of religious interest, Fogel (2000) explains:

"These Great Awakenings are reform movements with an ethical/programmatic phase followed by a legislative/political phase, both of which arise out of the lag between technological change and institutional adjustment. Each awakening lasts about one hundred years, including a declining phase during which exponents of one Great Awakening clash with those of the next" (p. 9).

[6] Postmodern egalitarianism, according to Fogel, provided the intellectual inspiration for movements like lifelong learning (Fogel, 2000, p. 179). The fourth Great Awakening also created the reforms and agenda associated with the Moral Majority and Christian Coalition. Leaders of these politico-religious groups pitched a form of Christian political activism marked by single-issue campaigns such as abortion and prayer in schools. As individuals supported these campaigns, the organizations' leaders both downplayed the Social Gospel-inspired egalitarian agenda and, in some cases, presented it as at odds with the new evangelicalism. As a result, many evangelicals groups since the mid-1970s have rejected the religious relevance of education, health, and welfare policies produced by disciples of the third Great Awakening. However, Fogel anticipates that a significant portion of the evangelical bloc may yet come to support antipoverty policies and programs, including education.

in evangelical revival certainly is. Given that the aims of the modern egalitarian agenda were never fully realized and that the postmodern egalitarian agenda holds sway in contemporary public opinion, he advocates simultaneously advancing both. While Fogel recognizes the challenge of competing demands in modern and postmodern egalitarianism (e.g., a focus on correcting historical inequality versus generally broadening opportunity today), he does not suggest how they might be reconciled. Instead, on the basis of both groups' support for universal education, he assumes contemporary evangelicals influenced by the politics of the fourth Great Awakening will also support education for material equity. However, as this review will show, among followers of the fourth Great Awakening the perception of a zero-sum game in pursuing equal opportunity became a major obstacle in the sustainability of programs supporting need-based grants.

Primary Data

The historiographical review helped create a framework for discourse analysis of 35 US presidential speeches given between 1964 and 1984. Transcripts of inaugural speeches were accessed and downloaded from the Avalon Project at Yale Law School; transcripts for all State of the Union addresses were downloaded from ThisNation. com; and other notable speeches made by individual presidents were accessed and downloaded from online archives of the respective presidential libraries (see Table 2 for a full list of speeches analyzed). These speeches reveal several layers of meaning.

Table 2 Presidential speeches analyzed ($N = 35$)

	Johnson	Nixon	Ford	Carter	Reagan
Inaugural addresses		1969, 1973		1977	1981
State of the Union Addresses	1965–1969	1970–1974	1975–1977	1978–1981	1982–1984
Other speeches	Signing of ESEA (1965) Affirmative action speech at Howard University (1965)	Comments to Congress on EEO (1972) Signing of Education Amendments (1972)	Tulane University convocation (1975)	Receipt of honorary-doctorate from Notre Dame University (1977)	Receiving the Final Report of the National Commission on Excellence in Education (1983)
		Special Message on Education Priorities (1974)	Accepting the GOP presidential nomination (1976)	Crisis of Confidence (1979)	Signing the Education for Economic Security Act (1984)

Most importantly, presidents' speeches uncover the terms of discourse on federal postsecondary educational policies and spending. Taken at face value, the speeches also provide a chronicle of what the presidents viewed as the nation's most pressing issues and how they framed those issues. They also illuminate how presidents viewed education in the context of the larger policy arena, and how education policy relates to other salient elements of the historical narrative during this time.

Data Analysis

The objective and method of discourse analysis is to study texts in relevant contexts, working outward from words to understand the contexts in which they are expressed (see Table 3). Johnstone (2008) defines discourse as, "conventional ways of talking that both create and are created by conventional ways of thinking. These linked ways of talking and thinking constitute ideologies (sets of interrelated ideas) and serve to circulate power in society" (p. 4). Of the many types of discourse, this research focuses on rhetorical discourse, which is marked by relative self-consciousness, a public context, and strategic aims of persuasion.

Critical discourse analysis is a qualitative technique intended to be open-ended and inductive rather than prescriptive, but in order to uncover embedded assumptions, the researcher is directed to pay close attention to the array of choices a speaker makes in creating discourse. Informed by guidelines set out by Johnstone (2008), Table 4 delineates the heuristic guide developed to analyze the discursive choices presidents make. Persuaded that these choices are not made randomly in political discourse but to accomplish specific aims, rhetorical choices are always evaluated in the context of what those aims might be. Thus, to each of the questions listed in Table 4, one could append the question, "[t]o what end?"

Table 3 Aims and assumptions of discourse analysis

Aims	Assumptions	Assumptions vis-à-vis this review
Study texts in relevant contexts	Context informs meaning of discourse; discourse informs subsequent contexts for discourse	Presidents' discursive power shapes the national agenda; the national agenda also sets the context for and shapes the terms of acceptable presidential discourse
Uncover assumptions to reveal ideological structure of discourse	Discourse and ideology are inseparable	Presidents speak and act from particular social locations and ideological orientations
Analyze the array of choices that a speaker makes (to uncover assumptions)	Rhetorical choices are not made randomly; one must consider to what end (and to whose benefit) discourse takes the shape it does	Presidential speeches are designed to persuade, but may hook into or use prevailing opinion as a means of persuasion

Table 4 Heuristic framework for analyzing presidential speeches (Adapted from Johnstone, 2008)

Analysis	Questions to ask of the text	Textual cues
Representation of actors	Who is an actor? Who is not? Who is portrayed as having responsibility? Who is not?	Passive/active voice
Representation of knowledge	What is portrayed as truth? As debatable? How secure/certain is the president's position?	Syntax of certainty
Naming	How do words chosen correspond to ideologies? Which ones?	Euphemism/dysphemism
	How are names used to constitute claims about a subject?	Metaphors
Intertextuality	How does the president connect/distinguish his from prior discourses?	Allusion
	How does the president build on/draw from other paradigms?	Direct quotation/paraphrase Parenthetical comments

Discourse analysts regard presidential rhetoric as a critical tool for buttressing public support and constitutional authority, generally, and in the case of presidents during this period, a way to define the legacy of the civil rights movement on their own terms (Aune and Rigsby, 2005; Shogan, 2006). Critical policy discourse analysis assumes that presidents' discursive power shapes the national agenda, but also that the national agenda sets the context for and shapes the terms of acceptable presidential discourse (Johnstone, 2008).

Theoretical Framework

Policy researchers are exhorted to transparency about the analytical assumptions of one's chosen methodology. St. John and Elliott (1994) likewise encourage researchers toward a posture of reflexivity about their own tacit assumptions and the ways those assumptions influence the language of research. The methods and interpretations of presidential discourse in this review are informed by perspectives found at the intersection of critical theory and postmodernism; however, because of the diversity of views inherent in both, critical and postmodern theory may be better characterized as groups of theories. Indeed, some postmodern stances toward values, truth, and progress are clearly at odds with fundamental assumptions of critical theory, while others are clearly aligned with those same critical assumptions. Tierney and Rhoads (1993) concur that postmodernism and critical theory are "contested terrain"

(p. 316), yet promote the value added by research and practice in higher education that occurs at the intersection of the two approaches.[7]

Table 3 introduces the assumptions embedded in methods employed for this review. Critical discourse analysis assumes all texts are value-laden and assumes speeches such as those analyzed here to be highly intentional, "loaded" discourse. This view of discourse does not presume deceptive intent from the presidents, but given their strategic aims of persuasion it does not take words simply at face value. One of the key tasks of deconstructing discourse, then, is uncovering embedded assumptions by placing claims in relevant contexts. Rhetorical discourse is designed simultaneously to hook into prevailing opinions and to persuade – and in some cases to *use* prevailing ideas as a means of persuasion.

The approach to historical analysis employed here also assumes that discontinuity may be used as a working concept and analytic frame, and that meaning is as much to be made of inconsistency and incongruence as it is of neatly aligned claims, historical evidence, and interpretive narratives. This view derives largely from Frankfurt School theorists' approach to dialectic (e.g., Marcuse (1964) and Habermas (1987)) and Foucault's (1972) compelling critique of grand narratives in historical research.[8] Historians' search for meta-narratives has tended to obscure the value of that which is historically important, but which does not fit our conventional wisdom. For this review, then, to make meaning of the federal politics of higher education in the 1970s, discontinuities over time were examined with reference to (a) the meaning of equal opportunity and the parties for whom it was deployed and (b) inconsistencies of political ideology with policy during the Nixon, Ford, and Carter administrations.

In studying the social and political world historically, this acceptance of discontinuity also leads the researcher to question the shorthand of standard categorizations (e.g., liberal/conservative) and to understand how these categories have been constructed over time. By reducing complex phenomena to simple labels, categorization (especially dichotomous categorization) is an essentially modernist project. In historical research it is also presentist, for the meanings of social categories are historically situated. Liberal and conservative, for example, had different meaning in 1984 than they did in 1964; therefore, in assessing the discourse and policy of presidents between those years it was important not to conflate (and thus mischaracterize) their policies, ideologies, and public discourses into a single word.

In addition to informing my method of analysis, critical and postmodern theory intersect in my interpretations. Giroux's (1983) and Foucault's (1980) overlapping conceptualizations of power frame my perception of how political power is

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[7] Tierney and Rhoads (1993) identify five premises for "critical postmodern" research: (a) Research should investigate the structures within which research exists; (b) Knowledge should be treated as contested and political; (c) Difference and conflict are accepted as organizing principles; (d) An effort to integrate theory and practice (i.e., praxis) is made; (e) Scholars admit their positivities and own assumptions (p. 327).

[8] The Frankfurt School refers to a collective of neo-Marxist scholars associated with the Institute for Social Research at Germany's University of Frankfurt am Main. Their work spans several generations of thinking (beginning in 1930) and is widely recognized as an important origin of critical theory.

structured and operates in a late modern, pluralistic democracy. Not the singular attribute or possession of individual agents, power "works both on people and through them" (Giroux, 1983, p. 63). Similarly, Foucault (1980) views power as a set of strategies working synergistically:

> Power must be analysed as something which circulates, or rather as something which only functions in the form of a chain. It is never localized here or there, never in anybody's hands, never appropriated as a commodity or a piece of wealth. Power is employed and exercised through a net-like organization. … Individuals are the vehicles of power, not its point of application. (Foucault, 1980, p. 98)

Critical theorists acknowledge how power may be used for both oppressive and emancipatory ends, and that individuals' capacity for agency and resistance frame a case for hope (Tierney and Rhoads, 1993). In a fragmented and diverse democracy such as America's during the period under analysis, Congress and the President clearly wielded power to effect change, but so did vigorous movements of aggrieved citizens in acts of civil disobedience and voting realignments. Thus, elected officials are as wrapped up in the reciprocity of democratic power as citizens, whose power is evident in forms including direct political action and collective (re)election of leaders.

Review of Presidential Discourse

This research traced US presidents' rationales for federal investment in higher education in the context of other policy debates and analyzed the consistency of presidents' expressed ideologies with the higher education access policies adopted under their administrations. While histories of student aid policy to date emphasize the role of human capital rationales for federal investments in higher education, analysis of presidential speeches from 1964 to 1984 reveals that presidents also substantively drew from rationales grounded in their political ideology and/or sociopolitical aims for education. An historic political realignment occurred between the Johnson and Reagan administrations, evidence of which is observed in inconsistencies between each president's ideology – reflected in their discourse – and the substance of their education access policies. Despite contemporary views that Reagan is culpable for the decline of need-based grants as a focus of aid policy, this research finds his leadership and the decline of grants marked the culmination of a movement toward neoconservativism that, ironically, had begun even before need-based grants were legislated in 1972.

Lyndon Johnson, "The Ultimate Education President"

With 60 education bills signed in 5 years, Lyndon Johnson rightfully earned the name he coined for himself: "the ultimate education president" (quoted in Berube, 1991, p. 59). It was how he wanted to be remembered and his Great Society programs – including the HEA and the Elementary and Secondary Education Act

(ESEA) – dramatically increased the federal role in education. His college access and opportunity efforts had two fronts: financial aid and college encouragement programs through the HEA, and expanding college admissions opportunities among students of color through affirmative action.

On May 22, 1964, Johnson gave the commencement speech at the University of Michigan and announced his intentions to gather "the best thought and the broadest knowledge from all over the world" to develop policy that would "begin to set our course toward the Great Society" (Johnson, quoted in Graham, 1984, p. 55). This policy was not to be crafted through public debate or the typical legislative process. Instead, Johnson gathered 14 small task forces of technical experts to develop education, metropolitan, and environmental policy proposals to "strike out in bold new directions," emphasizing that these groups "will operate without publicity" (Moyers, cited in Graham, 1984, p. 56). Several months later, after his November 1964 election, Johnson stood before Congress for the 1965 State of the Union address (SOTUA) and laid the policy plans that had been developed for America to become a Great Society. His proposals were framed by three goals: (a) a growing economy, (b) opportunity for all, and (c) improving the quality of American life. Education is his cornerstone intervention to both increase opportunity and the quality of life for all Americans, and his argument draws from personal experience. "As a son of a tenant farmer," he said, "I know that education is the only valid passport from poverty" (Johnson, 1965b, p. 3). In outlining the substance of the Great Society, "[w]e begin with education," he says, and recalls Thomas Jefferson's rationale for public investment in education in his own. "No nation can be ignorant and free. Today, no nation can be ignorant and great" (Johnson, 1965b, p. 3). His reference to greatness assumes comparison with less great nations, although he never really specifies whether he has in mind the United States in the past or other nations. Johnson regarded ESEA as "a major new commitment of the Federal Government to quality and equality in schooling," and its signing marks the beginning of "a new day of greatness in American society" (Johnson, 1965a, p. 2). Thus, while we may interpret Great Society programs as an effort to overcome inequality and poverty, Johnson clearly viewed equality as more than a moral good. Historians Berube (1991) and Skrentny (1996) both convincingly argue that Johnson's equity policies are born of political pragmatism. Skrentny's revisionist reading specifically regards his civil rights and Great Society legislation as "crisis management" (Skrentny, 1996, p. 67) aimed at protecting America's precarious reputation given the war in Vietnam.

Johnson rhetorically treats education as a single cause, with early childhood education programs advocated in the same breath as support for low-income schools and resources to enhance college access. In his 1965 State of the Union address, he cites the government's imperative to "help at every stage along the road to learning," and the forms of college "help" he specifically mentioned that night included scholarships to high achieving, high need students and guaranteed low-interest loans (Johnson, 1965b, p. 5). Johnson gave form to these commitments through the HEA of 1965, which created college encouragement programs, aided HBCU development, and vastly expanded the federal financial aid enterprise. Hearn (1993) regards

HEA as "a landmark event destined to make earlier need-based student aid award levels seem trivial" (p. 101). Johnson never spoke directly about the 1965 HEA in his public speeches, however. One of his private task forces specifically studied education, and Parsons (2005) argues this powerful group set the terms of the HEA and its subsequent six reauthorizations. While the HEA's "programs rested on a common ground no larger than a metaphorical dime, the narrow overlap of social and economic rationales shared by liberals and conservatives was enough to nurture, develop, and support a massive higher education policy arena" (Parsons, 2005, p. 137). The tight-knit "communication community" devoted themselves, Parsons contends, to problem solving guided by their own beliefs and relationships with each other as individuals and institutional representatives (p. 134).

Making college affordable, however, was only one facet of Johnson's policy efforts to increase college access. Johnson never publicly appealed to racial justice as a basis for ESEA or HEA, framing that policy in a philosophy of cross-generational uplift and broader notions of equity as a characteristic of his Great Society. However, St. John and Parsons (2004) persuasively argue that the sociopolitical *context* of civil rights, in which racial injustice was so salient, motivated Johnson's pursuit of equity in college access (Chapter 12). Their view is consistent with Graham's (1984) and Berube's (1991) interpretation of Johnson's education policy (and domestic policy, more generally) as a product of external pressures created by the civil rights context.

Thus, later in Johnson's 1965 State of the Union address, the man who had voted multiple times against antilynching legislation while a Texas senator claimed the rallying cry of the Black freedom struggle, declaring in the chamber of Congress that "[w]e shall overcome" (Johnson, 1965b, p. 2). In proposing the specifics of Great Society legislation, Johnson argued that Blacks' "cause must be our cause too. Because it is not just Negroes, but really it is all of us, who must overcome the crippling legacy of bigotry and injustice" (Johnson, 1965b, p. 6). Steinberg (1994) asserts that Johnson's speech that night represents the "last hurrah" of the civil rights movement. With its legislative objectives met, the movement's future was uncertain,[9] as was the place of racial issues in the Democratic agenda.[10]

African-American leaders as ideologically diverse as Martin Luther King, Whitney Young, and James Baldwin recognized that political rights and compensatory educational programs like those under ESEA would not translate into racial equality, that something more would be needed to counteract disadvantages accumulated over 300 years (Steinberg, 1994). First promoted from the Oval Office

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[9] Critical race theorist Howard Winant (2008) interprets the second half of the 1960s as a period in which a new racial hegemony was institutionalized through codifying legal equality without adequate enforcement. With the new laws on the books, movement activists were expected to cease protests, putting power back in the hands of government to control civil rights implementation.

[10] Johnson, himself, is said to have commented after signing the 1964 Civil Rights Act that he had "just handed the South over to the Republicans for at least a generation" (Johnson, quoted in Scott, 2008, p. 1).

by President Kennedy, affirmative action in college admissions, hiring, and housing was picked up by Johnson as one effort to level the playing field (Skrentny, 1996). Receiving an honorary J.D. from Howard University in June 1965, Johnson gave a landmark speech to this effect. "To Fulfill These Rights," began with an acknowledgement that legislating justice and freedom did not ensure an equal playing field. Johnson (1965c) explained:

> Freedom is not enough. You do not wipe away the scars of centuries by saying: Now you are free to go where you want, and do as you desire, and choose the leaders you please. You do not take a person who, for years, has been hobbled by chains and liberate him, bring him up to the starting line of a race and then say, "You are free to compete with all the others," and still justly believe that you have been completely fair. (p. 2)

At this point Johnson's speech, written by Daniel Patrick Moynihan, Assistant Secretary of Labor and architect of the War on Poverty, sharply and strangely turned to explorations of perceived inadequacies in Black families and the role of families in "stunting students' abilities" (Johnson, 1965c, p. 3). Conflating ability and opportunity was pervasive in contemporary sociological research, some of it personally conducted by Moynihan. The culture of poverty or the cultural pathology perspective blamed inequality, as Johnson (1965c) put it, on "circumstances present in the family within which he grew up" (p. 3), and was used with human capital theory as a crucial rationale for compensatory War on Poverty programs. Perceiving matriarchal family structure at the heart of inequality, Moynihan and Johnson sought a body of policy that would "create conditions under which most parents would stay together," including jobs (which he argued would "permit a man to provide for his family"), homes, an "equal chance to learn," welfare, and social programs (Johnson, 1965c, p. 4).

In a marvel of political rhetoric, Johnson's speech thus juxtaposed a rationale for compensatory programs like those under HEA and ESEA that deemed Black families and individuals liable for unequal conditions with a rationale for affirmative action that acknowledged the government's responsibility for inequality. When this speech was leaked to the press, public furor ended up sabotaging a conference that had been planned to craft policy to fight racial inequality (Scott, 2008). Rancor came from opposition to the speech's equally radical stances that (a) the government should seek not only equal opportunity, but also equal outcomes, and (b) Black families suffered from a "cultural pathology." Moynihan retreated from the administration back to academia within weeks.[11]

Still, that August, Johnson signed the Voting Rights Act and a month later filed Executive Order 11246 which delineated affirmative action requirements in hiring, contracting, and higher education. All higher education institutions receiving federal aid would henceforth be required to draft affirmative action plans (Steinberg, 1994). However, the dominant core of the Democratic coalition that had held sway since the New Deal pragmatically argued that highlighting racial issues would be a

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[11] Moynihan left the administration in 1965, but returned to Washington in 1968 to join President Nixon's closest circle of advisors (Steinberg, 1994).

self-defeating move, one that would drive a wedge into the coalition (Steinberg, 1994). Instead of affirmative action, they rationalized that the focus should be on programs to eliminate poverty for everybody, which would ultimately serve Black interests since they counted disproportionately among the poor (Steinberg, 1994). This logic helped justify an expansion of college encouragement and aid policies in subsequent iterations of the HEA.

Constraints borne of the escalating Vietnam War also figured into discourse about the place of race-conscious policy. With televised riots in Watts breaking out just days after the Voting Rights Act was signed, White sympathy for civil rights waned. Richard Goodwin, one of Johnson's speechwriters, admitted that the war was sapping the "moral energy" it took to persuade Americans to fight inequality at home (Scott, 2008, p. 2). Johnson's 1966 State of the Union address urged, "Vietnam just must be the center of our concerns," yet the war on poverty should also be "prosecuted with vigor and determination" (p. 1).

Johnson's aim of domestic equity, as expressed in the 1968 State of the Union address, was to "[c]reate a better life for the many as well as the few" (Johnson, 1968, p. 6). Aware that explicitly expanding the definition of whose interests counted (i.e., taking a nonmajoritarian view) was controversial, he called on the will of the people to carry forward the gains made to date. He challenged his audience to view them as a "foundation for further progress" and not mere "monuments to what might have been" (Johnson, 1968, p. 4). Among the accomplishments of the last 3 years, he highlighted Head Start programs giving one million children a "chance to learn," improving the education of seven million "deprived children," and enabling one million students to enroll in college (p. 5). Publicly, Johnson consistently rationalized investment in education as a means of ameliorating perceived cultural deprivation for which the country and its government had some responsibility.

However, when speaking to legislators he frequently presented a different perspective. While a strong case for equity as an end of education was made early in his administration, later he relied on the more widely accepted assumptions of human capital theory. Justifying ongoing support for education, Johnson (1967) rationalized: "Learning brings skills; and skills bring jobs; and jobs bring responsibility and dignity, *as well as taxes*" (p. 2; italics added). Enhancement of fiscal revenues via employment, then, was also a primary goal of education – with individual character improvement a fortuitous byproduct. Despite the ascendancy of human capital theory in congressional debates over education policy during the Johnson administration, his first public mention of economic returns to educational investments did not come until 1968 (Slaughter, 1991). In that year's State of the Union address, he regarded college access as one type of evidence for the country's economic prosperity. He cited the near weekly establishment of new colleges, the college enrollment rate of high school graduates, and comments with a sense of wonder, that "hundreds of thousands of fathers and mothers who never completed grammar school will see their children graduate from college" (Johnson, 1968, p. 3). Yet despite this prosperity, "there is in this land a certain restlessness – a questioning" of whether to continue investing their abundance in interests supportive of "all" Americans (Johnson, 1968, p. 3). As in his 1967

speech, in 1968 Johnson tried to galvanize the will of the people to continue a course of "sharing our abundance" through the War on Poverty and Great Society programs (Johnson, 1968, p. 9).

Throughout this period, economic prosperity was an important context for Johnson's policy. He made the case for the Great Society on both moral and pragmatic grounds. "The first test of a nation," Johnson said, "is the quality of its people. … We built this Nation to serve its people" (p. 4). Yet, his choice of words makes clear that some economic contexts make public investment more feasible than others. Based on the strength of the economy he asserted: "We *can* turn increased attention to the character of American life" (Johnson, 1965b, p. 3; italics in original). Indeed, it was in part *because* of the country's current economic well-being that investments in the people should be made.

Scott (2008) argues that after 1965, the vast majority of racial discourse by presidents went underground, that race was only spoken of in coded terms. This perspective clearly holds true in an analysis of Johnson's major speeches, and complicates interpretations of his work of justifying equal educational opportunity. Responding to mounting public fears about urban decay and crime that had been spurred by race riots, in both the 1967 and 1968, in the State of the Union Address Johnson devoted considerable attention to these issues. Although he did not directly comment on the riots, in both speeches he referred to lessons learned in the summer months about "how wide the gulf is for some Americans between the promise and the reality of our society" (Johnson, 1968, p. 4). Those events "represent the bitter consequences of more than three centuries," and thus "cannot be changed in a day"; nevertheless, the imperative to work toward change remained (Johnson, 1968, p. 4). As part of this work, but also to advance the social mobility of non-Blacks, he proposed an Educational Opportunity Act that would "speed up our drive to break down the financial barriers that are separating our young people from college" (Johnson, 1968, p. 7). This legislation, in hardly recognizable form, eventually passed both houses of Congress in 1974. He also urged Congress to reauthorize the HEA in 1968, which they did.

In his last State of the Union address, just days before Richard Nixon was inaugurated, Johnson again cited Head Start and student financial aid programs among those accomplishments of his administration that have "taken on the flesh of achievement" (Johnson, 1969, p. 1). Yet his speech reflects a sense of inevitability that the Great Society he envisioned would not come to pass. "Now it is time to leave," Johnson (1969) concluded:

> I hope it may be said, a hundred years from now, that by working together we helped to make our country more just, more just for all of its people, as well as to insure and guarantee the blessings of liberty for all of our posterity. That is what I hope. But I believe that at least it will be said that I tried. (p. 7)

In summary, Johnson was a political idealist whose ideals were shaped by the political demands of his historical context. Fogel (2000) regards him as a classic example of a modernist egalitarian and his War on Poverty as the twentieth century's "boldest initiative" (p. 132) for material redistribution. His ideology of New Deal-style liberalism was characterized by faith in policies and programs as instruments

of social change. In particular, he held up education as a social panacea, once declaring it "the answer for all our problems, the answer for all problems of the world" (quoted in Berube, 1991, p. 96). Aims of equity across class and race formed the core of his public rationale for the many new forms of education spending he introduced. To Congress, however, he balanced a case for equity returns on higher education investment with human capital arguments of the economic returns – a critical adjustment given the ballooning budget for the war on Vietnam. By bridging social and economic arguments, his HEA of 1965 passed and vastly expanded loan availability to low-income college students. In so doing, Johnson established the context in which grants for the same population could be justified under President Nixon.

Richard Nixon and 'The Emerging Republican Majority'

President Nixon's administration extended Johnson's legacy in higher education access and in several ways expanded on it, but his rhetoric and style of politicking also laid the groundwork for an ideological revolution and major political realignment that culminated with Ronald Reagan's election. The inconsistency between his public policies and political ideology makes for delicate historical interpretation. Acclaimed historian Rick Perlstein aptly summarizes the duality of Nixon's administration:

> The Nixon White House, a machine for manipulation: its story can only be told by observing two separate documentary records. There was a public transcript: the inauguration address, the photo opportunity, the bill proposal. Then there was a private transcript, only to be revealed by historians in later generations from the traces a presidency leaves behind, even in the lies the president tells himself. (Perlstein, 2008, p. 363)

A staunch Republican, Nixon nonetheless supported the expanded federal role in education that Johnson initiated. Unlike Johnson, though, "[t]here is little to suggest that President Nixon was deeply involved in any phase of shaping the Administration's higher education proposals. … Certainly this was not a program that he personally inspired or initiated" (Gladieux and Wolanin, 1976, p. 67). Nevertheless, in addition to maintaining funding for programs already in existence, his reauthorization of the 1972 HEA created Basic Educational Opportunity Grants (i.e., Pell Grants) for all income-qualifying, enrolled college students. Political scientist Erwin Hargrove wrote of him in 1973 as follows: "A conservative president has acted as we said only a liberal should act" (p. 819). This would not have been a problem if his lack of fiscal restraint, together with the Vietnam War budget and oil crisis, had not led to rapidly rising inflation at the same time as slow economic growth.

While Nixon's higher education policies appear progressive by early twenty-first century standards, there is no doubt that he initiated the rise of a new political ideology characterized by a much reduced role for the federal government, especially in correcting historical inequities of race and class. Moreover, 1968 was a trying, emotional year for the nation, as Nixon's presidency would be. During the

campaign that led to Nixon's election, Martin Luther King, Jr. and Robert Kennedy were assassinated, cities erupted in riots, and the Democrats' New Deal coalition fell apart at the national convention over the candidates' views on Vietnam. His campaign employed what historian Kotlowski (2001) describes as a "cautious courtship of Southern conservatives" (p. 18), and he tried to represent a moderate position between Democratic nominee Vice President Hubert Humphrey and segregationist Alabama Governor George Wallace. Nixon discovered Kevin Phillips' 1969 treatise *The Emerging Republican Majority*, whose thesis was that the excesses of 1960s liberalism would disillusion White Southerners and blue-collar workers in the North (a group Nixon appealed to as America's "silent majority"), making possible the realization of a new Republican majority.[12] Phillips advised Nixon that this realignment could be hastened by suggesting the scope and role of the federal government needed to be reduced, and from the tenor and content of Nixon's State of the Union addresses it appears Nixon agreed (Kotlowski, 2001, p. 22).

Nixon entered the presidency at a pivotal point in the civil rights movement – just after Dr. King was assassinated, rulings from federal courts mandated busing for school desegregation, the Fair Housing Act passed, and college student Huey P. Newton founded the Black Panthers. During his 1968 campaign, Nixon confused many by juxtaposing Black power and capitalist principles. He advocated "black ownership … black pride, black jobs, black opportunity, and yes, black power in the best, the constructive sense of that often misapplied term" (Nixon, quoted in Kotlowski, 2001, p. 132). Like Johnson declaring to Congress in 1965 that "[w]e shall overcome," Nixon appropriated and reframed the language of the freedom struggle not to ally himself with Black Power activists, but to hook into prevailing rhetoric for the advancement of his own agenda, which was coined Black capitalism. "In order to be secure in their human rights," he argued in his first State of the Union address in 1970, "people need access to property rights" (p. 3). Alluding to the riots that had engulfed cities the previous year in the wake of King's assassination, "[p]eople who own their own homes don't burn their neighborhood" (Nixon, 1970, p. 3).[13]

Nixon's fundamental dilemma was, as historian John David Skrentny (1996) put it, "how to appeal to Blacks, how to appear liberal without yielding to liberals" (p. 210). Yet following inflammatory speeches on race from Vice President Spiro

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[12] It is important to note that Fogel (2000) sees this new coalition at the heart of the evangelical revival that led to the Moral Majority's formation in the 1979 and efforts to elect Ronald Reagan in 1980.

[13] Unlike affirmative action and civil rights legislation of the 1960s, Black capitalism was not about antidiscrimination. Nixon viewed it as a subsidy, an economic development measure. "The first need is to replace dependence with independence," he explained. Support for minority enterprise was a "race reifying policy" that could be used to meet two ends that were unassociated with civil rights justice: reducing the economy's welfare burden and creating a new class of businessmen (Skrentny, 1996, p. 193).

Agnew in which he explicitly advocated a politics of polarization,[14] Secretary of Labor Daniel Patrick Moynihan advised Nixon: "The issue of race could benefit from a period of 'benign neglect'. The subject has been too much talked about. … We may need a period in which Negro progress continues and racial rhetoric fades" (Moynihan, quoted in Clymer, 2003). Like the speech Moynihan wrote for Johnson to give at Howard University in 1965, this memo was leaked to the press and caused more controversy. This time, the president defended Moynihan, although the furor forced Nixon to make immediate accessions to activists pushing for school busing – a cause for which he had so little sympathy that he fired any staff member who publicly expressed support for it (Kotlowski, 2001; Skrentny, 1996). In race matters generally, he ordered his staff that, "a low profile is key" (quoted in Skrentny, 1996, p. 189). In 1971, Nixon's speechwriter Patrick Buchanan strategized how the Republican Party might use the politics of polarization Agnew advocated to bring about the Republican majority Phillips had foreseen. The plan, which exploited the resentments of some White voters over progress toward racial equity in the1960s, is famously known as the Southern Strategy, and was bluntly described by Phillips to the *New York Times* in 1970:

> From now on, the Republicans are never going to get more than 10 to 20 percent of the Negro vote and they don't need any more than that … but Republicans would be short-sighted if they weakened enforcement of the Voting Rights Act. The more Negroes who register as Democrats in the South, the sooner the Negrophobe whites will quit the Democrats and become Republicans. That's where the votes are. Without that prodding from the Blacks, the whites will backslide into their old comfortable arrangement with the local Democrats. (Phillips, quoted in Boyd, 1970, p. 215)

Taken together, Nixon's development of a racialized strategy for winning votes and expression of need for a "low profile" on and "benign neglect" of race suggest he was fully aware of racial issues' salience, but that he downplayed them publicly to preserve his political standing and hasten the realization of a new Republican majority.

Nevertheless, as the nation entered the 1970s important indicators suggested that higher education access was improving. College enrollment had doubled since 1960 to a total of 7.9 million, and half of all Black college students attended predominantly White universities despite the lack of a federal desegregation order for higher education (Gelber, 2007, p. 2270). Overall, Black enrollments began rising at the same time as the enactment and implementation of civil rights legislation and the HEA. They continued to rise after King was assassinated, a new generation of civil rights activists took center stage, and institutions pledged to substantially

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[14]Agnew played a critical role in the administration, voicing positions viewed as too risky for Nixon to express. One such position was the "politics of polarization," which was intended to appeal to the silent majority and isolate opponents as extreme. Agnew declared in 1969, "I say it is time for a positive polarization. It is time to rip away the rhetoric and to divide on authentic lines." Previous Vice President Hubert Humphrey interpreted Agnew's comments as "the most calculated appeal to our nastiest interests" since Joe McCarthy. For an outstanding chronicle of 1964–1972, the Nixon administration's politics of polarization, and its powerful contemporary legacy, see Rick Perlstein's (2008) *Nixonland*.

improve the representation of students of color (Gelber, 2007; Gladieux and Wolanin, 1976; St. John, 2003).

Provisions of the 1972 amendments to the HEA promised to further enhance access. It expanded the guaranteed student loan program created by Johnson's version of the HEA, but the bill's greatest innovation was to extend financial access to all-income eligible students through Basic Educational Opportunity Grants (BEOG). Later renamed in honor of Rhode Island Senator Claiborne Pell, BEOG were the first truly student-based form of aid in that monies were awarded directly to students who could take their grant to any institution of their choice.[15] The amendments also widened the scope of students and institutions eligible for federal aid by targeting all "postsecondary" educational institutions instead of just "higher" (i.e., 4-year) education (Hearn, 1993). Title IX of the bill also sought gender equity in higher education through a focus on athletic participation and funding.

Although his higher education policies extended Johnson's, Nixon makes a clear effort to distinguish his presidency and the 1970s from Johnson's leadership and the 1960s, which he once called, "our country's most tortured decade" (Nixon, 1972, p. 1). In that same speech, Nixon (1970) reflects on the previous decade:

> Never has a nation seemed to have had more and enjoyed it less. At heart, the issue is the effectiveness of the government. Ours has become—as it continues to be, and should remain—a society of large expectation. Government helped to generate these expectations. It undertook to meet them. Yet, increasingly, it proved unable to do so. As a people, we had too many visions—and too little vision. Now, as we enter the seventies, we should enter also into a great age of reform of the institutions of American government. Our purpose in this period should not simply be better management of the programs of the past. The time has come for a new quest—a quest not for a greater quantity of what we have, but for a new quality of life in America.

This "new quest" became a hallmark of Nixon's rhetoric. More importantly, it became his public rationale for following Phillips' advice to frame a limited role for government that would attract the silent majority. Best expressed in the 1973 State of the Union Address, the first speech after his 1972 reelection, Nixon argued, "the time has come to draw the line," to make a break with the Great Society in a "fresh approach" to government that would meet the needs of a new decade (Nixon, 1973b, p. 2). "The time has come to make clear choices" between Johnson's programs and his, between competing programs, if necessary. Yet he insists in this same speech that his proposals "represent an affirmation, not an abdication of federal responsibility" and a "pragmatic rededication to social compassion and national excellence" (Nixon, 1973b, p. 2).

We must remember that comments like these cannot be read apart from their State of the Union context, which is an annual opportunity for a president to

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[15] In making BEOG "portable," Hearn (1993) suggests that Nixon introduced the logic of market-based competition into financial aid policy. With funding in the hands of students rather than institutions, the policy assumed institutional efficiency and quality would be improved by students' freedom to choose among institutions (versus a student choosing an institution on the basis of the funding it promised to them).

persuade the nation and Congress of his agenda's merits. Essentially, then, the State of the Union addresses represent the public face of a president's agenda. With Patrick Buchanan serving as his speechwriter, President Nixon demonstrated incredible consistency across the five State of the Union addresses he gave, citing an overarching priority on establishing a "structure of peace" at home and abroad (Kotlowski, 2001, p. 12). Six goals guided his domestic vision, among which education is *not* included (Nixon, 1971). While saying little about equal educational opportunity in the State of the Union addresses, we know that he both spoke vociferously against metropolitan busing for desegregation, but also that he continued the effort Johnson had begun to pass an Equal Educational Opportunity Act (Nixon, 1972).

Like Johnson's rationale for Great Society spending, the economic context becomes one of Nixon's primary justifications for reordering political priorities. Johnson had rationalized the massive investments demanded by his Great Society programs in terms of economic surplus opportunities, egalitarian moral demands, and human capital assumptions. Nixon justified his reduced role for the federal government and the need to choose between competing policy aims on the basis of a tenuous economic context (Nixon, 1973b).[16] He conspicuously redefined what it would mean for America to be a great society, juxtaposing greatness with goodness and inferring a new national morality – that "America is great *because* it is good" (Nixon, 1974b, p. 1). Under the revised economic and moral frames, public investment in education was more palatably justified in terms of human capital formation than erasing inequality. In his 1970 State of the Union address, Nixon challenged the popular perception of a contradiction between economic growth and quality of life, and suggested that a growth agenda need not be abandoned but rather refocused (p. 5).

Another feature of Nixon's domestic agenda, mentioned in each of his State of the Union addresses, was a charge to abolish the welfare system, which he described as a "monstrous, consuming outrage" (Nixon, 1971, p. 2). While some observers of the 1960s consider support for education to be a critical dimension of the modern welfare state, Nixon repudiates the idea, framing education as a means of helping people help themselves and thereby rationalizing it as an investment alongside his passionate recommendations to restructure welfare. These discursive themes of self-help and human capital formation are taken up by each of the subsequent presidents in this era. In what turned out to be his last State of the Union address in 1974, Nixon commended Congress to support education at all levels – including new loans and grants for college students – as a "needed investment in America's most precious resource, our next generation" (Nixon, 1974b, p. 4).

Whether it was a function of his "benign neglect" of racial discourse, an effort to code racial speech in alternate terms, or something else, Nixon almost never spoke directly about race in his speeches. Nevertheless, Title III of his 1972 amendments to the HEA included substantial support to tribal and historically Black colleges. According to his "black capitalist" thinking, HBCU were collectively important as

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[16] Accounts from Nixon's aides reveal that he sought out acceptable justifications for reducing the federal role as part of his Southern Strategy (Kotlowski, 2001, p. 22).

the largest Black-run institutions in the country and thus represented an important means of supporting the development of a Black middle class (Skrentny, 1996). Between 1969 and 1973, federal subsidies to Black colleges tripled from US$30 million to a full $100 million. Although Nixon is known for politically calculating behavior and Kotlowski (2001) posits that HBCU support was also a way for him to "rein in integrationists" (p. 154), it seems that Nixon sincerely supported HBCU. He made large personal donations to select institutions and held ongoing meetings with HBCU presidents, even into the year he was impeached and resigned.

In addition to supporting historically Black institutions, Nixon also assented to affirmative action efforts aimed at diversifying predominantly White institutions. Reviewing Nixon's overall record on civil rights, Jacoby (2002) expresses: "He and his aides created affirmative action as we know it, turning [Johnson's] vague idea about a leg up at the starting gate into a vast national web of goals and timetables" (¶ 1). Although the affirmative action policies most actively discussed during this period were not for college admissions but contracting and hiring, Nixon did not rescind Johnson's executive order for higher education institutions to develop affirmative action plans, but rather strengthened institutional requirements with Executive Order 11478 (Nixon, 1969).

In sum, it is difficult to dispute the claim that Nixon's policies improved college opportunities for women, low-income students, and students of color. Upon leaving the White House, however, Daniel Patrick Moynihan admonished those who would study Nixon's legacy to discern the substance of Nixon's policy from his "symbolic politics" aimed at the silent majority who elected him. Alluding to the 1968 Kerner Commission report, Moynihan explains: "Early on, an almost schizophrenic style took hold of his administration. Symbolic rewards were devised for 'middle America' while legislative proposals were drafted for the 'other America'" (Moynihan, quoted in Gladieux and Wolanin, 1976, p. 69). One interpretation of his education policy is that access policies served as cover for an essentially regressive political ideology, one betrayed by the Southern Strategy and comments on welfare, crime, and urban poverty. The three presidents who succeeded him would in various ways build on Nixon's ideological foundation in their arguments for higher education spending.[17]

In higher education policy, specifically, Nixon carried forward Johnson's equal opportunity and human capital rationales for student aid investment as consistent with the dominant political ideology, but Nixon was not motivated by Johnson's faith in the government's capacity to solve social problems and actively sought a narrower scope of federal responsibility. Moreover, he played a critical role in

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[17]The balance of power during Nixon's administration also helps explain the inconsistency between his ideology and his actual policy. Nixon could not have easily succeeded in bringing about his domestic platform of welfare reform, reduced federal spending, increased employment, and an end to the war because he won the election on a mere 43% plurality of the vote (Converse et al., 1969). Hardly a national mandate for change, Nixon's capacity to bring about a new direction for domestic policy in the 1970s was also eroded when the Republican Party lost seats in both houses in 1970 (Mayhew, 1991).

introducing new forms of market-minded logic to social policy (e.g., "black capitalism" and portable student grants), one of the few pieces of Nixon's shattered legacy that President Ford actively adopted and built upon.

Gerald Ford's "New Realism"

Nixon's resignation over the Watergate scandal did not help the nation to believe in the effectiveness of its government, which ironically reinforced public support for the more limited federal government Nixon had advocated during his presidency. Appointed by President Nixon in 1973 to replace Vice President Spiro Agnew, Gerald Ford assumed the presidency in the summer of 1974, vowing a "policy of communication, conciliation, compromise, and cooperation" and encouragement that "the long national nightmare is finally over" (Ford, 1974, p. 1). During his short tenure, college access and opportunity issues – indeed higher education issues, writ large – did not feature prominently in policy debates. When Ford took office in 1974, Great Society programs and agencies were still expanding and seemed to be institutionalized. By the mid 1970s, consensus seemed to have emerged about the federal government's role in higher education, that is, in promoting equal educational opportunity (Gladieux and Wolanin, 1976). In 1975, for the first time in history, the college enrollment gap among high school graduates reduced to zero among Whites, African-Americans, and Latinos. Pell Grants, introduced in Nixon's 1972 amendments to the HEA, were almost fully implemented (St. John, 2003, p. 23). After this year of equal enrollments, though, disparities began reopening and have persisted to this day. What happened during Ford's term? Without reducing his leadership or policy to be the cause of resurgent inequality, the political discourse of these years does set an important context that must be understood as part of the story.

Ford's major policy objective was to bring inflation under control, a goal he used as a pretense for making significant cuts in domestic spending. Among these, he proposed flattening or reducing federal student aid allocations each year (Brainerd, 2007). Introducing the platform on which he would do so, he warned his audience in the chambers of Congress: "Now, I want to speak very bluntly. I've got bad news, and I don't expect much, if any, applause" (Ford, 1975a, p. 1). To curb the 11% inflation rate, Ford argued that America needed to "move in a new direction … by fashioning a new partnership between the Congress on the one hand, the White House on the other, and the people we both represent" (Ford, 1975a, p. 1). However, given the tenor of the new policies, one does not sense his political compact included the least advantaged people he and Congress represented. Indeed, his "new direction" better reflects policies typically associated with privatization – tax reductions for the wealthy, cuts to so-called entitlement programs, and welfare reform.

As the country commemorated the bicentennial in 1976, Ford sought a "funda-mentally different approach – a new realism" (p. 1). The politics he outlined gave shape to the ideology Nixon had privately advocated and enhanced the break with

Johnson that Nixon had tried to establish. Ford's new realism was sharply differentiated from the idealist policy of the 1960s. Unlike standard presidential rhetoric, Ford did not even try to euphemize his political ideology (e.g., as a "new idealism"). Especially coupled with the "bad news" he promised to share earlier in the speech, the new ideology represents a sobering turn for the spirit of 1970s political discourse. Perhaps because it reflected the national mood in the wake of Watergate and Vietnam, Ford was better able to enact the agenda that Nixon sought.

Justifying the need for a "new realism," Ford claimed in his 1977 State of the Union address that efforts to "transform the country through massive national programs … did not work. Too often, they only made things worse. In our rush to accomplish great deeds quickly," he explained, "we trampled on sound principles of restraint and endangered the rights of individuals." The nation's "overconfidence" in government facilitated its role as "an indulgent parent" (Ford, 1977). While the parent metaphor was new for Ford in 1977, he had also spoken in 1975 of self-indulgence vis-à-vis domestic programs. By the repeated votes of Congress for these programs, particularly programs like BEOG whose expenditures could not be perfectly anticipated in advance, he argued the federal budget had "taken on a life of its own" (Ford, 1975a, p. 2). A new balance needed to be struck between the government and the people, "a balance that favors greater individual freedom and self-reliance" (Ford, 1975a, p. 1). Self-reliance, in this case, referred to trimming the government's safety net and, to his credit, Ford was quite transparent about the range of social programs that stood to be trimmed.

One set of programs Ford attempted to scale back was student financial aid programs. Despite granting budgetary increases for academic research in excess of the inflation rate (which was high at the time), Ford proposed caps on and reductions to aid programs across the board. Congressional responses to Ford's budgets nonetheless increased student aid allocations and Congress twice overrode his vetoes of bills reflecting the Congressional provisions (Brainerd, 2007). Ford's administration is part of what Hearn (1993) named the "policy refinement and expansion" phase in federal financial aid history, although the primary force in refining and expanding aid during this time was not the president but the "student-aid coalition" (p. 111). Comprised of a loose association of postsecondary institutions, state and federal government officials, and aid organizations, the student aid coalition worked together to reach relative consensus about the proper structure of aid, its delivery mechanisms, and the underlying motives of equal opportunity (Hearn, 1993). They played a secondary lobbying role, which may have helped to protect student aid's security despite Ford's proposed reductions.

One layer of Ford's rationale for the politics of new realism was restoring a less expansive role for the federal government. However, he also introduced foreign policy rationales for reducing federal responsibilities to provide for citizen needs. On January 15, 1975, he attributed the economic disruptions to the oil crisis, which had quadrupled the price of petroleum in just 1 year. The only new spending to be initiated that year, therefore, was a set of programs aimed at reducing US vulnerability to cutoffs in foreign oil (Ford, 1975a). Within days of that speech, Saigon fell to the North Vietnamese Army, officially ending the longest war in

American history. Stopping short of blaming previous presidents and Congresses for what amounted to an American loss in Vietnam, Ford nonetheless argued in the 1976 State of the Union Address that "shifting our emphasis from defense to domestic problems" in recent years had compromised America's national security. By trying "to be a policeman abroad and the indulgent parent at home," America seemed to have forgotten "sound principles that guided us through most of our history"; therefore, a return to policy guided by "restraint, individual rights, and careful spending" was urgently needed (Ford, 1976, p. 1). Furthermore, while America had misjudged its capacity to "accomplish great things and solve age-old problems" (i.e., ameliorate poverty and racism), "our adversaries continued a massive buildup of arms," and any discretionary spending should thus be directed toward restoring America's military might (Ford, 1976, p. 1). This first attempt of a 1970s president to incite fear over national security in a State of the Union address was consistent with the generally dour mood of his speeches, and it effectively rallied support for defense spending; unsurprisingly, each subsequent president seems to have eagerly embraced the strategy.

In his 2006 obituary of President Ford in the *Chronicle of Higher Education*, Brainerd summarized Ford's legacy for higher education and society as "more symbolic than substantive" (¶ 4). Perhaps because of the crisis of faith in the Presidency that Nixon stimulated, Ford repeatedly articulated the need for a new partnership between Congress, the White House, and the American people. Accepting the Republican nomination for president, for example, Ford (1976) concluded,

> You know, the President of the United States is not a magician who can wave a wand or sign a paper that will instantly end a war, cure a recession, or make bureaucracy disappear. A President has immense powers under the Constitution, but all of them ultimately come from the American people and their mandate to him. (¶ 24)

Such rhetoric could have empowered and unified the nation to collectively turn a page in its history – to wake up from the nightmare that Ford, himself, claimed was over. It seems, though, that Ford, already a reluctant leader, was personally caught up in the national malaise.

Ford led the country during the only year in its history without a college opportunity gap, but this statistic hardly seems to be a legacy of his leadership. Rather, it could be argued that his grim "new realism" political ideology fueled skepticism that Nixon had introduced about the responsibility and capacity of government to create opportunity. Ford's expressed rationales for limiting the federal role in education, health, and welfare were rooted in a commitment to individual self-reliance, while his efforts to scale back funding for Title IV programs present the first example of a president rationalizing higher education spending in terms of military and economic competitiveness. On this level, Ford's rationales mark an important transition in presidential discourse from equity to excellence as sociopolitical ends of education. Inspired by Nixon's limited role for government, Ford's principles of new realism also bear a clear discursive relationship to those of neoconservatism, a movement typically associated with Reagan. If Nixon and Ford laid the ideological foundation for what is remembered as Reagan's revolution, Carter laid important elements of policy foundation for Reagan's approach to federal student aid, which largely persists today.

Jimmy Carter Redefines Equal Opportunity

Under President Carter the critical intersection of race and class in shaping college opportunities manifested itself, and middle-class families took up the concept of equal opportunity to rationalize an expansion of federal financial aid programs. Ineligible for student aid programs targeting the poor yet challenged to meet rising tuition costs, middle-class families began expressing to both the legislative and executive branches, shortly after Carter's inauguration, their perception of being left behind in college access (Hansen and Gladieux, 1978). The federal response, the 1978 Middle Income Student Assistance Act (MISAA), offered college loans to students outside the high-need category that the 1965 and 1972 HEA had established as a priority. Carter's initial proposal suggested funding grants to middle-class students much like Pell programs had.[18] St. John (2003) argues this proposal failed because human capital rationales had ushered in Pell Grants (and student subsidies more generally) in 1972, and the theory could not be adapted to accommodate both the interests of the middle-class and those of low-income students. However, MISAA did succeed in removing the income cap on Pell eligibility, which had previously structured Pell distribution as a system of larger grants a fewer number of the neediest students. It is difficult to gauge how Carter personally rationalized MISAA since he did not discuss it in his speeches until his last State of the Union Address in 1981. There, he framed the legislation as an educational access accomplishment that expanded BEOG eligibility to one third of all college students and created new forms of aid. He did not mention that while awarding smaller amounts to many more people, the value of individual awards relative to total college costs began to decline, rendering grants a less powerful mechanism for financial access among those who depended upon aid the most.

History has shown that MISAA's passage was not associated with more equitable college access, but rather with reopening of historic enrollment disparities that persist today. Hearn (1993) frames MISAA's enrollment antecedents and outcomes using Wilensky's (1975) theory of welfare program support, which posits that higher college enrollment rates among low-income students would be associated with a greater likelihood of resistance from middle-income and highly educated parents. Gains toward equal opportunity would thus be eroded, although Hearn admits it is not clear whether this erosion was because funds for low-income families were redistributed to middle-income families or because prospective students from low-income families felt abandoned by the system (p. 114).

While Johnson and Nixon had both advocated education as a means of breaking the cycle of poverty (albeit from different political perspectives), job creation and "training" gradually began replacing education as the preferred means of addressing

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[18] Hearn (1993) helpfully shows that middle-class support had been part of financial aid policy deliberations since 1964. That year, the Senate passed a tuition tax credit in its version of the Higher Education Act and in 1972 Senator Pell argued middle-class grants would ensure the viability of aid policy over the long term (p. 113).

poverty in Ford's and Carter's rhetoric. Presidents associated education with the increasingly unpopular social welfare agenda, but training as a force facilitating self-reliance and one's ability to contribute economically. Carter's discourse exemplified this. In his 1979 State of the Union address, he spoke passionately of the need to prevent the entrenchment of a group of Americans "with no hope and no stake in building our society" (p. 2). He spoke specifically about the needs of unemployed youth (whom he specified as "especially minority youth" (p. 4) in three speeches), and in his last speech he assessed unemployment as "one of the most severe social problems in our nation" and "a top priority for action" (Carter, 1981, p. 11). Carter's solution, however, was not more or improved education for this group but provision of basic skills and jobs, including new affirmative action hiring programs. Two pieces of legislation, the Vocational Education Act (VEA) and the Humphrey–Hawkins Full Employment Act, reveal Carter's modest aspirations for those young people whom the education system had failed. By explicitly seeing alternatives to higher education for young men and women of color and developing legislation that prioritized middle-class interests in accessing college, Democratic President Carter was the first president of this period whose interests seemed less attuned to social mobility than social reproduction.

The US Supreme Court, however, took an active role during Carter's tenure in shaping policy around opportunities for college enrollment on the basis of race. The *Regents of the University of California vs. Bakke* (1978) upheld the general principle of affirmative action in college/university admissions while setting parameters on its implementation, and a set of *Adams* cases[19] called for desegregation of six southern state higher education systems. These decisions affirmed efforts to expand HBCU (as under the HEA of 1965) while seeking for systems as a whole to desegregate, especially through increasing Black enrollments in predominantly White institutions (St. John, 1998, pp. 107–108).

Carter's leadership, in many ways, carried forward the ideological momentum that had been building since the Nixon administration. His politics reflected the general shift of both parties to the right during the 1970s and a weakening of the ideological differences between the two parties. In addition to MISAA and VEA, Carter's rationale for establishing a U.S. Department of Education reveals his failure to fit the typical Democratic mold (Anderson, 2007). Carter and other proponents did not argue that a federal Department of Education would strengthen its capacity (the view one might associate with a Democratic president), but rather that it offered fiscal advantages by concentrating all federal education functions in one setting (a claim consonant with Republican values of this period). Indeed, the argument for consolidation *avoided* claims to improved capacity, because greater federal control over education was precisely what concerned consolidation opponents – both from the perspective of maintaining the historic tradition of local and state control over education and as part of more visceral fears during this period

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[19] *Adams vs. Califano, Adams vs. Richardson,* and *Adams vs. Weinberger.*

of a strong centralized government. Daniel Patrick Moynihan, now a New York senator, spoke out against consolidation, quoting sociologist David Riesman: "Education is only safe in Washington as long as it is hidden, distributed, inaccessible, and nobody controls more than 5% of it" (quoted in Anderson, 2007, p. 113).

Jimmy Carter relied on popular distrust of the federal government for his election. He originally ran for president in 1976 as a Washington outsider on a character argument that he had no part in the scandals of recent years and thus could be trusted. He explicitly declared: "I will never lie to you" (quoted in Jenkins, 2006, p. 70) and spent considerable portions of his inaugural and first State of the Union address affirming the country in its basic goodness. "We've come through a long period of turmoil and doubt, but we've once again found our moral course, and with a new spirit are striving to express our best instincts to the rest of the world" (Carter, 1978, p. 1). The rise of a new moral vision for politics during the 1970s has been well documented in previous historical research, and an intriguing, repeated element of Carter's discourse is an articulation of various relationships between confidence and morality. Unfortunately, despite Carter's repeated efforts to convince America that it had reason to be confident, America experienced crisis after crisis under his leadership that suggested otherwise – e.g., the 444-day hostage crisis in Iran, the Soviet Union's invasion of Afghanistan, and an oil shortage that led a car-crazed culture to long gas lines.[20] In 1979, Carter outlined his new energy policy in a speech that is remembered for its title and main theme, America's "crisis of confidence:"

> It is a crisis that strikes at the very heart and soul and spirit of our national will. We can see this crisis in the growing doubt about the meaning of our own lives and in the loss of a unity of purpose for our Nation.
> The erosion of our confidence in the future is threatening to destroy the social and the political fabric of America. The confidence that we have always had as a people is not simply some romantic dream or a proverb in a dusty book that we read just on the Fourth of July.
> It is the idea which founded our Nation and has guided our development as a people. Confidence in the future has supported everything else – public institutions and private enterprise, our own families, and the very Constitution of the United States. Confidence has defined our course and has served as a link between generations. We've always believed in something called progress. We've always had a faith that the days of our children would be better than our own.
> Our people are losing that faith, not only in government itself but in the ability as citizens to serve as the ultimate rulers and shapers of our democracy. (p. 3)

Carter attributed the crisis in large part to Americans' self-indulgent consumption patterns, which in turn fueled national retrenchment and the energy crisis. However well intentioned, the speech raised concerns from the left and the right about Carter's leadership and *his* culpability in creating the conditions of national weakness (Jenkins, 2006). The result was to push the political center right, to disillusion millions more

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[20] In 1977s State of the Union address, Ford had spoken proudly of his work in rebuilding America's confidence in the Presidency and in its future and freedoms. That 2 years later Carter continued to devote precious rhetorical energy to the theme of doubt/confidence implies it was a significant, lasting psychological dimension in the relationship of the American people and their government.

northern working-class Democrats, and ultimately, to stimulate a political realignment resulting in Ronald Reagan's election (Germond and Witcover, 1981).

Under Carter, the government pursued a retooled version of equal opportunity, focusing on the ability of middle- and upper-income families to meet rising college costs. Both Hearn (1993) and St. John and Elliott (1994) point to 1978 and MISAA as a critical turning point in federal aid history. Previous to its passage, they argue federal aid policy was driven by a consensus among legislators and student aid advocates that equal college opportunity was the policy's aim, and thus it should also be the criterion by which the policy and program's success should be measured. The proportion of high school graduates enrolling in college did not change during the 1970s, but the overall size of the college going population increased and, until 1978, so did the proportion of low-income and students of color enrolling in college. St. John (2003) argues that the transition to loan-based aid beginning with MISAA appears related to this trend in "balancing the justice claims of conservative taxpayers and the demand for access by the majority of students" (p. 23). While placating middle- and upper-income families, the policy was also accompanied by a widening of the enrollment gap between low-income and middle-class students and between students of color and their White counterparts.[21] When MISAA proved to be fiscally unsustainable, the demands of the new equal opportunity turned low- and middle-income families' needs into competing priorities. Absent political pressure from low-income families equal to that of the middle-class (Karen, 1991) and given the rise of neoconservative ideology that deemed federal "handouts" misguided (St. John and Elliott, 1994), the context was set for federal grants to continue their decline under Reagan.

Ronald Reagan's Nation at Risk

With Carter running a 77% disapproval rating in June 1980 – the highest in presidential history at that time – Reagan's ten-to-one landslide victory in the electoral college vote surprised few (Jenkins, 2006, p. 171, 173). What was more striking to contemporary observers was Reagan's ability to pull off popular vote victories in 49 of the 50 states, including blue state strongholds like Illinois, Massachusetts, and California. So-called Reagan Democrats held the very demographic profile Nixon had appealed to in 1968 (Germond and Witcover, 1981), and therefore Reagan's definitive victory may better be remembered as the culmination of a political revolution already in progress than a revolution in itself. Likewise, with the exception of his never-enacted plans to eliminate the newly created Departments of Education and Energy, the content of Reagan's domestic policy and political ideology bear striking resemblance to Carter's.

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[21] Although a causal relationship has not been established, there seems to be a "direct linkage" between college participation among students of color and federal grant spending (St. John and Parsons, 2004, p. 87).

Voters elected Reagan on a promise to curb the runaway growth of federal spending and cut taxes, all while launching a huge expansion of the military. The Economic Tax Recovery Act of 1981 cut taxes across the board and severe, repeated, cuts in domestic programs made possible the military buildup (Jenkins, 2006). In his first 2 years as president, Reagan never mentioned education in his State of the Union addresses, except to announce his proposed cuts in education spending and to cite entitlement programs as the first targets of those cuts. Indeed, grants as a proportion of total federal aid for education spending decreased from 47% to 34% between 1980 and 1985, while loans grew from 48% to 62% of total aid for education expenditures (St. John and Elliott, 1994, p. 138). To fund the expanded loan programs, Reagan was successful in accomplishing what Carter's had been unable to do: eliminate specially directed forms of financial aid such as Social Security Education Benefits (St. John, 2003). Contrary to the popular view that Reagan bears primary responsibility for the decline of need-based aid, Hearn (1993) sees that decline as not a "controversial assault on federal largesse under the banner of the 'Reagan revolution' but rather [occurring] in the later years of the Carter administration" (p. 116). The impact of grant aid availability on low-income families' college access during the Reagan years seems to have varied by race; working-class Whites' enrollment rate remained constant from 1979 to 1984, while working-class Black enrollment dropped 29% (Gelber, 2007, p. 2275).

Reagan's primary discursive legacy in education relates not to rationales for college financial aid, but to his advocacy of "excellence" in education as a means of protecting America's economic and technological preeminence.[22] To "keep [America's] edge," he argued in the 1983 State of the Union Address, "we need to begin renewing the basics – starting with our educational system." Reagan outlined four major goals for education: (a) improvements in math and science training, (b) individual college savings accounts, (c) vouchers to subsidize enrollment in private schools (which he called "tuition tax credits"), and (d) a constitutional amendment to permit school prayer. This seemingly incongruous collection of goals he equated with "setting a standard of excellence" (Reagan, 1983).

Three months later, the Department of Education released *A Nation at Risk* (National Commission on Excellence in Education, 1983), officially setting the excellence movement in motion. The report's discourse is laden with dysphemism, the intentional use of overly negative rhetoric (i.e., the opposite of euphemism). According to the report, "a rising tide of mediocrity" in educational standards explained the nation's global economic decline relative to other countries and "threaten[ed] our very future as a Nation and a people" (National Commission on Excellence in Education, 1983, ¶ 2). Framing an imperative for reform rooted in the

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[22] Johnson, Ford, and Nixon had each commended American "greatness" in their speeches, with Johnson citing alignment of ideals and reality as the marker of national greatness, Nixon claiming "goodness" as a source of greatness, and Ford linking goodness specifically to public affirmations of, "In God we trust." In speeches at least, Reagan is the first president of this era to replace a moral basis for greatness with preeminence in international competition.

demands of modern international competition, its introduction declared: "If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war" (National Commission, 1983, ¶ 3). That the country had allowed its own standards to slip amounted to "an act of unthinking, unilateral educational disarmament" (National Commission, 1983, ¶ 3). In a context where rhetoric inciting fear had not yet become the standard fare it would be by the century's end, the report's alarmist tone attracted considerable attention.

Perhaps anticipating backlash from educators more concerned with the achievement gap in America's elementary and secondary schools than the possibility of an achievement gap between America's and other countries' students, the authors expressed a belief that a focus on excellence and reform need not supplant commitments to "the equitable treatment of our diverse populations" (National Commission, 1983, ¶ 25). Nevertheless, the report strengthened the case that had been building for years that education policy should be refocused from (disadvantaged students) to America's (best and brightest) (Berube, 1991, p. 115).

While *A Nation at Risk* led to more reform in K–12 schooling than higher education, it did implicate colleges in students' diminished performance. Moreover, it affected higher education through Reagan's appropriation of excellence rhetoric to rationalize a retreat from the strong federal role in education that Johnson had initiated with ESEA and HEA in 1965. Reagan (1984a) argued:

> Excellence does not begin in Washington. A six hundred percent increase in federal spending on education between 1960 and 1980 was accompanied by a steady decline in Scholastic Aptitude Test scores. Excellence must begin in our homes and neighborhood schools, where it's the responsibility of every parent and teacher and the right of every child.

This statement exemplifies Reagan's commitment to placing reform expectations on families and state and local schools rather than the federal government. He rationalized this limited federal role by connecting his beliefs about individual responsibility to education policy and practice. Reagan's strong focus on self-help found a footing in his view of the relationship between students, schools, government, and families. Unlike Johnson's view in which schools held primary responsibility to educate and government funding provided a support structure, or Ford's view which called for a new partnership among government, schools, and families, Reagan put the onus on students to learn and regarded parents as the critical party in the support structure for learning (Berube, 1991). At face value, it is hard to argue with the logic of either view, but that these positions were treated as mutually exclusive by the presidents reflects fundamental ideological differences between them about the proper role of government and the nature of the social compact between schools and families.

This ideological difference also played out in Reagan's approach to student aid, which kept the responsibility for college financing firmly in families' hands, regardless of their ability to pay. Policymakers did not diverge from the loan-focused direction for aid Carter initiated, and during Reagan's tenure their focus was on determining the best apparatus for aid programs' control and direction (Hearn, 1993). Reagan consistently sought to reduce the education budget, passed no new educational

programs, and worked to protect state and local autonomy in education. Although he never dismantled the Department of Education as promised, Reagan used his bully pulpit to exert strong rhetorical leadership (Berube, 1991). By adopting the alarmism of *A Nation at Risk* to bolster his case for a focus on standards, his leadership set America on a course for education policy from which we have yet to divert. Discourses of standards, accountability, and testing now firmly embedded in our educational culture have their origins in Ronald Reagan's presidency.

Conclusions

Rationales for Higher Education in Presidential Discourse

Economic rationales for investing in student financial aid similar to those Fogel (2000) and Friedman (2005) have recently promoted were clearly present in presidential discourse about higher education from 1964 to 1984. However, presidents also deployed two other types of rationales for higher education investment to drive policy during this time. They believed in education as a mechanism for realizing sociopolitical goals of equity and/or excellence, and they sought education policy that would reflect their ideological commitment to an active or limited federal government. What is more, presidents linked these rationales to one another and to the broader political and historical context in ways that previous analysis has not explicated.

Human capital justifications are related to both the sociopolitical and ideological rationales. When education was seen as an investment in the social mobility of historically oppressed groups, it was directly associated with equity-based justifications. As discussed above, equity rationales were expressed most directly by Lyndon Johnson, the only president of this period who can clearly be classified as "liberal" on the basis of both his policy and beliefs about the capacity of government. Nixon also engaged social mobility rationales for higher education but, unlike Johnson, paired them with the market-oriented ideology of Black capitalism. Beliefs about human capital formation as key to strengthening the national economy were not as explicitly expressed by presidents. Yet, by repeatedly speaking of higher education "investments" in the same breath as strengthening national economic preeminence, Ford, Carter, and Reagan each betrayed belief in human capital rationales.

Equity and excellence aims for educational investments, while prominent in Johnson and Reagan's discourses respectively, are not mutually exclusive. Johnson explicitly linked achievement of equality with national greatness, for example, and in his first inaugural speech Nixon presented "excellence in education" as one of his goals. Aside from rhetoric about excellence early in this period, any substantive shift from equity to excellence rationales that occurred seems to reflect a deeper transformation in political ideology. Yet policy researchers should beware that casting political ideology as a simple liberal–conservative dichotomy veils

meaningful differences among the presidents in core beliefs about the government's responsibilities and how they situated education in the larger policy context. While the trend over the period is from Johnson's liberalism to Reagan's neoconservatism, no president during the 1970s proved to be singularly liberal or conservative when both their higher education policies and political ideologies are considered (see Table 5 for a comparison). Indeed, reviewing educational histories and presidential rhetoric shows that the political revolution typically attributed to Reagan was a much longer process that began with Richard Nixon's 1968 election and unfolded throughout the 1970s.

Foucauldian Perspectives on 1970s Educational Politics

Notions of who and what was liberal and conservative about 1970s educational politics are much more complicated than political party's and history's conventional wisdom suggest. This conclusion is consistent with Foucault's claim that categorization of all sorts is an essentially modernist, presentist project that strips complicated realities of the discontinuities in which deeper meanings reside (McNicol Jardine, 2005). However, discourse analysis privileges ideological interpretations and postmodernism eschews clean-cut meta-narratives; therefore, the extent to which inquiry is framed by these assumptions necessarily circumscribes what one is likely to find. While Johnson and Reagan conform to conventional images of liberal and conservative political leadership, respectively, Nixon, Ford, and Carter defy such clear categorization. As actors involved in changing what counts as liberal and conservative, their discourse, ideology, and policies may appear as a fragmented, internally inconsistent, self-contradictory pastiche – yet this is perhaps what is most meaningful about their administrations. The ideological and policy inconsistencies of each administration in the 1970s may themselves provide a framework for understanding the origins of what we remember as Reagan's revolution. In the sense that "[r]evolutions are never more than moments of consciousness" (Foucault, 1972, p. 12), the revolution was not the political change unfolding across the 1970s, but the realization in the early 1980s that a change had occurred. This perspective may help explain the predominant interpretations of this period's educational policy to date, offered by scholars actively involved in framing, making, and evaluating that policy.

Critical and postmodern views of power offer another interpretation of the decade long neoconservative consolidation. Political revolutions do not happen overnight or even over a single presidency because power in a democratic republic does not operate hierarchically – as a possession solely of elected officials – but in a network, an ever-shifting web of influences and as a force in its own right (Foucault, 1980; Giroux, 1983). Power springs simultaneously and alternately not just from the ground-up and top-down, but also from the outside-in and inside-out. For example, activists of the Black freedom struggle influenced the substance and discourse of Great Society legislation, even as Johnson's task force approach to policymaking

Table 5 Comparison of presidents' political ideologies and higher education policies, 1964–1984

President	Ideology	Policy	Other notes
Lyndon Johnson	– "Freedom is not enough" – Policies & programs for social progress – "Education is the answer for all our problems, for all the problems of the world"	– ESEA & Head Start – Higher Education Act – Executive Order 11246	– Great Society policies developed by task forces, in secret
Richard Nixon	– "Black capitalism" – "Benign neglect" – "Silent majority" – "Structure of peace"	– Education Amendments – Pell Grants – Expansion of GSL – HBCU/Tribal college support – Executive Order 11478	– Consistently called for welfare reform; deemed it "a monstrous, consuming outrage" – Democratic majorities in Congress
Gerald Ford	– "New realism" – Govt. has been "indulgent parent" – Federal budget "has taken on a life of its own" – Self-reliance, not on government – Foreign policy rationales for decreased domestic spending	– Proposed caps and decreases each year on student aid (Congress thwarted these efforts each time) – Increased spending on academic research (more than inflation rate)	– College enrollment gap across race and SES closes among high school graduates in 1975
Jimmy Carter	– Confidence and morality linked – "Jobs and training" offered as means of social mobility "especially for minority youth"	– Middle Income Student Assistance Act – Vocational Education Act – US Department of Education created	– Notable Supreme Court Cases – *Adams* (1977) desegregates six Southern college/university systems – *Bakke* (1978) affirms, but places limits on, affirmative action
Ronald Reagan	– International competition rationalizes education reform for "excellence" – Focus on "best and brightest" instead of "disadvantaged" – Reagan Democrats = Nixon's silent majority	– Pell grant purchasing power declines – Total loan expenditures increase – Pushed welfare reform and wars on drugs and crime	– Wanted to dismantle Department of Education – No new education programs or policies advanced

appears antidemocratic. A silent majority exerted their political influence to elect Nixon, but because of a Democrat-controlled Congress, Nixon was unable to pass many of the policies on which he campaigned and actually enacted financial aid and affirmative action policies that appeared more generous than Johnson's. There appears likewise to have been real power in the visceral public distrust of government and so-called national malaise following the Nixon administration – power that worked from the inside-out to create a psychological context for rationalizing policies of "new realism" that ushered in Carter and Reagan's diminished role for the federal government. Carter's policy was clearly a function of middle-class pressure for inclusion in the federal equal opportunity largesse. Reagan may have deployed global economic competition (power that influenced from the outside-in) as a deceptive rationale for cutting the education budget, but paired with very real threats from Iran and Afghanistan, it appeared not only acceptable but wise and natural. Thus, while presidents clearly wield disproportionate discursive and political power, the constantly shifting loci of political power means we should expect, not be surprised by, discontinuity between politicians' espoused positions and the actual policies that history attributes to them.

Directions for Policy Discourse

A New Consensus and Coalition for Higher Education

Another strain of discontinuity throughout this period – the changing way that the language of equal opportunity was appropriated – may help illuminate directions for contemporary education policy discourse. Treating discontinuity as "an instrument and an object of research" (Foucault, 1972, p. 37) motivates analysis of the discontinuities in equal opportunity's definitions across this 20-year span. This analysis also reveals equal opportunity's historical contingency. The crumbling of consensus around equal educational opportunity in the mid-1970s left behind a fragmented field of parties who all shared an interest in the state of, and access to, higher education, albeit without a common ground (Gladieux and Wolanin, 1976; Hearn and Holdsworth, 2004; Parsons, 2005). Rather than bemoan the loss of consensus that occurred a full generation ago, Parsons suggests a major project for higher education advocates of all political affiliations and motivations should be to develop rationales for higher education that apply across constituencies. Given the vested interest all Americans now have in making college opportunities accessible, these rationales "might build small islands of common ground from which to advocate for broader support of higher education" (Parsons, 2005, p. 141). In this task, a purely postmodern approach would present advantages and disadvantages: It would minimize the overly simplistic and sometimes divisive effects of traditional political labels, but it would also remove the moral basis for claims to access and equity. Retention of critical theory's moral claims would serve education policy framers well as they evaluate the needs of our current context.

Human Capital Rationales' Adequacy

One clear implication of this review for future discourse about federal investment relates to the adequacy of human capital rationales. Noted economic historians Friedman (2005) and Fogel (2000) propose that the future of social equality and economic development depend on substantial reinvestments in student aid. In proposing a twenty-first-century economic policy for America, Friedman (2005) concludes that human capital formation through providing college financial aid will be key to national economic growth, and that a fortuitous byproduct of that investment would be upward mobility among lower-income families. Reinvesting in Pell Grants is critical to Friedman's proposal. Fogel (2000), while optimistic about the future of education and broader social prospects for all groups of Americans, sees equitable opportunity for gaining human capital as a major element of the newer "postmodern egalitarian" movement that has taken shape since the mid-1970s. However, this movement, affiliated with the fourth Great Awakening in evangelicalism, has not established state support for education and antipoverty measures as part of its agenda – at least not yet.

In a funding context where Title IV programs must compete with other discretionary programs as domestic earmarks control an increasing proportion of the federal budget, human capital rationales for higher education provide a critical dimension of the case for reinvigorated federal investment in aid. Indeed, federal financial aid programs have become "firmly entrenched in the human capital paradigm" (St. John and Elliott, 1994, p. 162). Yet, the challenge of equality in the twenty-first century is much more complicated than crafting a new economic rationale for investing more. In part because of its underlying assumptions, human capital theory provides only one component of a balanced argument for protecting middle-income families' access to college while also ensuring financial access for low-income families.

As tends to happen within research paradigms, scholars have rarely questioned the assumptions and consequences of human capital's tenets, and this inattention adds to its entrenchment in our thinking. Slaughter (1991) thus offered an important contribution to the literature through her textured deconstruction of human capital theory as explicated by college and university presidents in testimony before Congress. She finds the presidents deployed human capital thinking in the 1980s not only as an economic theory, but also as a metaphor for the relationship of people to physical capital and the relationship of education to economic systems.[23] Consequently, the presidents focused on competition in the global marketplace and individualism to the detriment of assessing social rates of return from education other than those derived through economic benefits. Slaughter also notes how the narrow, utilitarian vision promulgated by human capital discourse ironically blinds us from education's

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[23] According to Slaughter (1991), human capital is a metaphor that "likens the education system to the economic system, resting on the premise that education heightens men's and women's abilities to contribute to the production of wealth in the same way that capitalist entrepreneurs transform raw materials into profit" (p. 72).

"human" value. In addition to serving as theory and metaphor, human capital rationales perpetuate the myth that America successfully operates as a meritocracy. While not explicitly denying merit's social construction, the assumptions of human capital downplay the need to consider whether and/or how gender, race, class, and resource monopolies may influence opportunity. By assuming that an equal playing field exists, Slaughter (1991) found that university presidents concentrated on developing the same population of students as President Reagan, the "bright young minds" and the "thin stream of the extremely talented" (p. 74). Slaughter's (1991) critique must be juxtaposed with decades of evidence validating human capital formation's claims of producing economic benefits to individuals and larger economies, however. While human capital clearly has a role in justifying aid reinvestment today, an assessment of its assumptions and consequences reveals that it cannot be the sole basis for a new rationale. Ideological and sociopolitical rationales must also be considered.

Indeed, all policy, including today's financial aid system, has ideological roots in the beliefs of those who developed, advocated, and implemented it. HEA reflected Johnson's seemingly unwavering faith in education as a mechanism for social change and government as an arbiter of education's funding and administration. We also see ideological influence from a backlash to the civil rights era in which politicians like Nixon won votes among Northern whites by suggesting civil rights policies would ultimately harm their chance at equal opportunities. This logic laid the groundwork for policies like MISAA that redefined equal opportunity (Orfield and Eaton, 1996; Giroux and Giroux, 2004). Economic rationales cannot cut through either ideology, which Fogel (2000) regards as separate egalitarian agendas with competing priorities. Fogel nonetheless holds out hope that erasing inequality does not have to come at the cost of ensuring opportunity for the majority. However, for this to happen it seems we will need a new vision of equal opportunity for this generation. Such a vision would neither privilege the privileged nor dismiss persistent disparities as passé. However, equal opportunity in the twenty-first century must also acknowledge the realities that nearly *all* Americans now benefit from some postsecondary education and college costs are rising for all.

Issues for Reconstructing a Case for Federal Investment

In reconstructing a case for federal investment in higher education, the need to account for individuals' and groups' beliefs and values is inevitable. "Moral framing precedes policy" (Lakoff, 2008, p. 68), and not simply as a matter of selling that policy. Absent the possibility of perfect objectivity, it becomes even more critical that those who participate in policy research articulate and examine the assumptions embedded in various rationales, as well as their own assumptions. Furthermore, based on this review, several issues are raised for future policy researchers to consider in reconstructing an argument relevant to the early twenty-first-century context:

1. *What is the structure of opportunity and privilege that higher education access policies are intended to address? What are the important intersections of race*

and class in America today? Race and class still intersect in powerful ways to shape life experiences and opportunities; thus, an important task is to understand the deeper structures of privilege in society that construct the effect we have attributed to the socially constructed category of race. While institutions may be constrained from accounting for the power of racial stereotypes to influence individual achievement, they may reconstruct access arguments (including financial aid awards and admissions policies) for the twenty-first century through a constellation of variables that may include family income, high school/district resources, and urban/rural/suburban geography. This type of effort is clearly different than that of the Democratic and Republican parties in the mid- and late-1960s, respectively, who sought to downplay racial rhetoric instead of seeking to address underlying structures.

2. *Can policy address the perception that equal opportunity has been replaced by a zero-sum game of competing priorities and diminishing resources? If so, how?* The perception that working-class Whites, recent immigrants, and people of color from urban areas compete for precious resources has become a major stumbling block to both material equity and deeper social equality. Apart from the confounding influence of race in the equation, this review also shows the origins of struggle between middle- and working-class interests in accessing federal aid. In building a new coalition for college affordability, two major challenges are cultivating appreciation of (a) common needs and a collective future across diverse constituencies and (b) the possibility that educational opportunity need not be the zero-sum game that the 1970s politics of aid and admissions made it out to be.

3. *What social and political ends from education are sought today? How does financial aid policy serve these ends?* Given the inherent instability of ideological rationales and the consequences of solely economic rationales, a multidimensional argument for federal investment in higher education is needed. Previous generations sought a combination of social equity and national excellence. In addition to grappling with the place of these aims in today's context, policy researchers should actively debate organizing principles uniquely relevant to the challenges we face as a society. For, as this review showed, we are as much responsible for initiating and supporting change in this democracy as the president is capable of facilitating it.

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A Review of Attributional Retraining Treatments: Fostering Engagement and Persistence in Vulnerable College Students

Tara L. Haynes, Raymond P. Perry, Robert H. Stupnisky, and Lia M. Daniels

Cultural metaphors abound embracing the virtues of persistence in overcoming life's hurdles. From an early age, North American children are schooled on a popular reader about the "little engine that could" – the laughingstock of the local rail yard until he conveyed an enormous cargo over a mountain that stymied his bigger-engined brothers. His secret to success was repeating over and over in the rhythm of steel wheel on steel track "I think I can; I think I can; I think I can; .…" In Aesop's fable of the "tortoise and the hare," the slow-footed tortoise bettered his fleet-footed running mate to finish first through inexorable persistence, while the hare dallied along the way. And in his "grasshopper and the ant" fable, Aesop's ant survives winter by doggedly storing food during the summer, while the grasshopper fiddles his time away in the pursuit of pleasure.

In metaphor, fable, and folk wisdom alike, the dominant theme reverberates that effort and persistence are instrumental to attaining life's goals. But also subtlety conveyed in these messages are the merits of self-regulation strategies focusing on volition and tenacity. Similar to the situation encountered by the "little engine," first-year college students face an uphill struggle that requires intellectual ability, content knowledge, emotional stamina, unflagging motivation, and unrelenting goal striving. The challenge for students is to maintain their persitence and singleness of purpose in the face of unanticipated impediments that undermine commitment and persistence, and for higher education institutions to enable students to excel despite such impediments.

The present chapter addresses these issues in the context of a theory-based treatment designed to assist failure-prone students in higher education settings. Attributional retraining (AR) refers to a motivational treatment that helps students reframe the way they think about success and failure by encouraging them to take responsibility for academic outcomes and adopt the "can-do" attitude of the little-engine-that-could. Our chapter describes the theoretical underpinnings of AR as a motivational treatment to enhance academic engagement and performance and reviews three decades of empirical research on the effectiveness of AR treatments (Forsterling, 1985; Perry et al., 1993; Wilson et al., 2002). In so doing, we focus on the capacity of AR to foster adaptive attributional thinking, perceptions of control, and motivation in college students, and outline a five-step protocol for implementing AR in college classrooms.

Prior to discussing these issues, we consider the nature of the higher education learning environment in which AR treatments are typically administered, specifically the first year of college that embodies the transition from high school to college. Perry (2003) argues that unfamiliar learning conditions encountered in the first year of college, and new achievement settings more generally, can adversely affect achievement motivation, goal striving, and persistence. These novel and unpredictable conditions include increased pressure to excel, more frequent failure, unfamiliar learning tasks, ineffective instruction, stringent grading practices, critical career choices, and new social networks. Supporting this contention is an extensive literature showing that unpredictable or noncontingent failure events erode motivation and goal striving, eventually leading to "learned helplessness" and failure (Garber and Seligman, 1980; Glass and Singer, 1971; Skinner, 1996; Thompson, 1993).

Lost in Transition: The Paradox of Failure

Pursuing a college degree requires tenacity, perseverance, and singleness of purpose in the face of novel and unanticipated challenges. Despite increasingly stringent admissions criteria, however, US college students are taking longer to graduate or simply withdrawing altogether (Astin, 1997; Choy, 2002; Elkins et al., 2000; Horn, 1998). Likewise, European studies show that only 8% of 18–21-year-old German students enroll in university and that 30% leave before obtaining a degree, most during their first year of studies (HIS, 2005; OECD, 1998, 2002; US Library of Congress, Federal Research Division, 1995). Austrian, French, and Dutch studies reveal comparable patterns of academic failure and withdrawal (Brandstatter and Farthofer, 2003; Van den Berg and Hofman, 2005). Accounting for such failure rates requires consideration of factors other than Scholastic Aptitude Tests (SATs), American College Tests (ACTs), and high school grades, yet their use continues despite determining only 16–20% of college grades (Anaya, 1999; Britton and Tresser, 1991; Chemers et al., 2001; Szafran, 2001).

Perry et al. (2001) describe this deficiency in selection criteria as a *paradox of failure* in which disproportionate numbers of bright students fail their first year of university, after having met stringent admissions criteria. Perry (2003) suggests that stringent admissions criteria reduce aptitude and performance differences between students, and hence the psychosocial attributes of students and the nature of learning experiences take on greater prominence in accounting for academic success. For our purposes, psychosocial variables are generally considered to include a range of noncognitive variables related to personality, belief systems, motivation, and emotion, among others. Excluded from this category are typical academic and demographic variables involving intellectual aptitude, disciplinary knowledge, academic skill preparation, socioeconomic status, gender, and English-language fluency. In attempting to account for the paradox of failure in relation to

psychosocial variables, the nature of classroom environments and learning experiences must also be taken into account. However, as students become more familiar with the contextual factors inherent in these academic settings, they should have less influence on motivation and performance in contrast to psychosocial differences between students.

In a longitudinal study of first-year students, Perry et al. (2001) examined one key psychosocial student difference in university classrooms, *perceived control*, defined as a student's subjective belief about his/her ability to influence or predict important academic outcomes (Perry, 1991). Students who felt "in control" upon entering university reported that they tried harder and were more motivated during the year, experienced less boredom and anxiety, used self-monitoring strategies more often, felt more in control of their course assignments, and obtained higher final grades. In a 3-year follow-up study, Perry et al. (2005a) showed that students with high perceived control had better grade point averages (GPAs) and withdrew from fewer courses over a 3-year period.

Studies such as these indicate that unsatisfactory performance requires consideration of variables other than intellectual ability, discipline knowledge, and academic preparation used for college admissions. In a comprehensive meta-analysis of studies on college GPA and retention, several psychosocial factors, notably perceived control and motivation, were better predictors of college outcomes in comparison to socioeconomic status, standardized achievement, and high school GPA (Robbins et al., 2004). Another longitudinal study of over 10,000 college students showed that two of the "Big Five" personality traits, conscientiousness and openness, predicted SAT and GPA scores even after high school grades were controlled (Noftle and Robins, 2007).

The Eternal Panacea: "Teach Better!"

In response to the paradox of failure, and attrition rates more generally, stakeholders in postsecondary institutions insist that the panacea for failing students is "professors should teach better!" This one-size-fits-all remedy is supported by research showing that students do benefit from effective teaching in higher education classrooms (Feldman, 1998; Marsh and Dunkin, 1992; McKeachie, 1997; Murray, 1991). Meta-analytic reviews of field studies dating back 80 years show that certain teaching behaviors significantly relate to end-of-term course grades (e.g., Cohen, 1981, 1983; Feldman, 1989). Instructor organization and instructor clarity, for example, correlate positively with final grades ($r=.50+$), meaning that roughly 25% of course performance is explained by these teaching behaviors. Instructor interaction, feedback, stimulation, and elocution generate equally strong positive correlations with final grades, endorsing the contention that teaching makes a difference to the scholastic attainment of college students (Perry and Smart, 1997, 2007).

When Good Teaching Fails

Although this evidence is persuasive, it ignores the fact that effective instruction does not benefit all students. It has long been recognized that teaching methods differ in promoting learning and performance depending on student attributes, course content, class size, and so on. Race, gender, age, social class, ethnicity, and religion are but a few manifested student differences, augmented by less apparent, but equally important differences in intelligence, motivation, and knowledge. Alongside enthusiastic, determined, and responsible students sit apathetic, bored, and failure-prone students, mixed with still others possessing different attributes. Not surprisingly, this diversity in students represents a fundamental challenge for higher education institutions, making it difficult to ensure that teaching effectiveness and learning opportunities are optimized for all students.

One group of students who do not benefit from effective instruction is those who develop low perceived control resulting from their classroom learning experiences (Perry, 2003). As noted, perceived control is a student's subjective belief concerning his or her capacity to influence and predict academic outcomes. Students with low perceived control believe that academic outcomes are beyond their control, attributing performance to uncontrollable factors such as course difficulty, unfair professors, bad luck, etc. For these low-perceived-control students, a psychological profile emerges involving low expectations, negative affect, de-motivation, and poor performance, despite the presence of highly effective instruction. Simply put, vulnerable, failure-prone students are most "at risk" and in need of enriched educational opportunities such as effective instruction, but are unlikely to derive the academic benefits that normally accrue in such learning conditions.

In addressing this issue directly, Perry and colleagues conducted a series of laboratory experiments involving simulations of effective college teaching behaviors (Perry and Dickens, 1984, 1987; Perry et al., 1986; Schonwetter et al., 1993). Videotaped lectures were developed wherein the content of the lecture remained constant, but the effectiveness of specific teaching behaviors varied (e.g., enthusiastic versus non-enthusiastic). The general pattern of results from these studies is depicted in Fig. 1. In keeping with the research literature on college teaching, effective instruction produced better post-lecture performance than ineffective instruction, but only for high-control students. For low-control students, however, effective instruction produced no better performance than ineffective instruction.

In these laboratory studies, effective instruction increased performance overall when student differences in perceived academic control were not considered, but this main effect belies the reality that effective instruction (enriched treatment) did not benefit some students. Only when student differences in academic control were directly included in the analytical model, along with instructional quality, was it apparent that "effective instruction" did not produce the expected performance increments for all students. This student aptitude × instructional quality interaction pattern was replicated for several other student attributes including students' explanations (attributions) of prior test results (Perry and Magnusson, 1989),
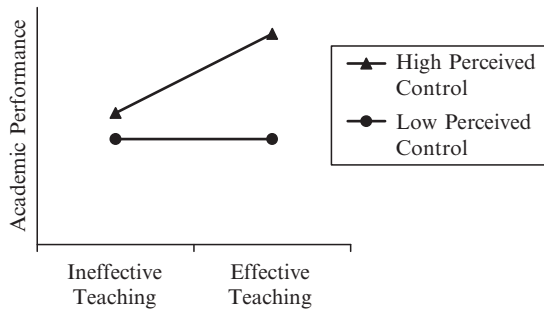
Fig. 1 Hypothetical illustration of the teaching effectiveness × perceived control pattern of inter-action reflected in several studies, e.g., Perry and Dickens (1984, 1987); Perry et al. (1986); Schonwetter et al. (1993)

students who differed in Type A/B behavior patterns (Perry and Tunna, 1988), and locus of control (Magnusson and Perry, 1989). Paradoxically then, and contrary to common wisdom, "at risk", failure-prone students most in need of assistance do not necessarily benefit from effective teaching.

Aptitude × Treatment Interaction (ATI)

These findings highlight the contextual challenges of delivering enriched educational programs such as effective instruction, when classrooms are heterogeneous in terms of student differences like perceived control. In these circumstances, an aptitude × treatment interaction (ATI) is inferred when an educational treatment varying in quality (e.g., ineffective versus effective instruction) is more or less effective for students who differ in critical attributes such as perceived academic control (Cronbach and Snow, 1977). An ATI can take several forms, one being that a given treatment has positive educational benefits for some students, but not others (see Fig. 1). Broadly defined, aptitude simply reflects some characteristic that varies across individuals, such as ability, personality, perceptions, and motivation, among others. Specifically, Snow defined aptitude as "any measurable person characteristic hypothesized to be propaedeutic to successful goal achievement," where "*propaedeutic* means needed as preparation for response to the treatment" (1991, p. 205). As long as there are at least two levels of an aptitude, treatments may function differently at each level of that aptitude. Thus, classroom heterogeneity resulting from student differences can increase the likelihood of an ATI in which a given treatment does not benefit all students.

Given that vulnerable, failure-prone students do not benefit from enriched learning experiences in the form of effective instruction, as in the case of low perceived control (Perry, 1991, 2003), other treatments must be considered to meet the learning needs of these students. Specifically, treatments designed to remediate deficiencies in perceived control, and by extension, achievement motivation, can be particularly relevant (Perry and Hall, in press). One such treatment is
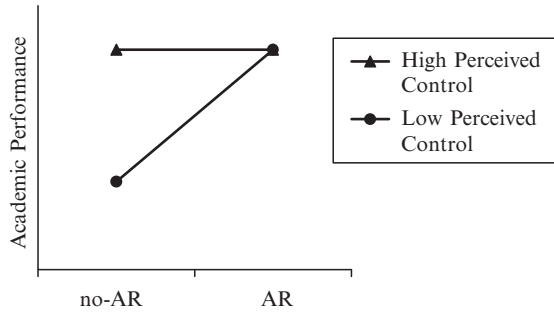
Fig. 2 Hypothetical illustration of AR × perceived control pattern of interaction reflected in several studies, e.g., Perry and Penner (1990); Menec et al. (1994); Perry et al. (2008); Ruthig et al. (2004)

Attributional Retraining (AR), discussed in this chapter as a classroom-based intervention; AR is designed to enhance both perceived control and motivation, thereby assisting vulnerable, low-control students. As was the case with effective teaching, the effects of AR often reflect an ATI. However, whereas teaching effectiveness treatments are most beneficial for high-control students and least beneficial for low-control students, the opposite pattern occurs with AR: AR is most beneficial for low-control students, and least effective for high-control students (AR × perceived control interaction; see Fig. 2).

The remainder of this chapter focuses on the application of AR treatments in higher education settings. First, we present the theoretical underpinnings of AR from the perspective of attribution theory (Weiner, 1985), then we outline the empirical research on AR in higher education settings, highlighting several key issues involving ATIs, study design (laboratory versus field), and AR delivery and content. Finally, we discuss the administration of AR in college classrooms with an emphasis on best practices for AR implementation.

Attribution Theory

According to attribution theory, humans are strongly motivated to seek explanations for important outcomes in their daily lives (Abramson et al., 1978; Forsterling, 2001; Jones et al., 1972; Kelley, 1967, 1973; Weiner, 1985, 1995). This need to understand the causal "rules" that govern one's environment is part of a basic human motive to maintain a "sense of control" in one's environment (Bulman and Wortman, 1977). There is also an obvious evolutionary value of identifying cause-and-effect relationships in one's environment (Schulz and Heckhausen, 1999). Given this, it is unsurprising that attribution theorists describe all humans as "naïve scientists" striving towards prediction of the environment through the identification of causal relationships (Kelley, 1967; Forsterling, 2001; Weiner, 1995).

The conceptual framework for current psychological theories of causality was constructed by Fritz Heider (1958) who is credited as the founder of attribution theory. Heider's (1958) attribution theory rests on the assumption that an individual's subjective perceptions about causality are often a better predictor of how an individual will behave than is the objective causal reality. Thus, reasoned Heider, it is not so much a particular event that determines an individual's subsequent reaction, as much as the causal attributions ascribed to that event. Heider's (1958) initial theorizing was advanced by Kelley (1967, 1973), Jones et al. (1972), and Weiner (1972, 1985; Weiner et al., 1971). Attribution theory has since become a dominant theoretical framework in social psychology in the 1970s and 1980s, and continues to grow, with applications to many areas of psychology including clinical, developmental, educational, health, organizational, and social psychology (Forsterling, 2001).

While several distinct attribution theories exist, we focus on Weiner's (1972, 1974, 1979, 1985, 1995, 2006) attribution theory of motivation. Weiner's theory provides a perspective on how students react to unexpected, negative, and important academic outcomes that are common in the first year of college. This theory has several advantages for studying psychosocial variables in achievement settings due to its emphasis on performance, its range of cognitive, affective, and motivational variables, and its path analytic framework. Indeed, a seminal review of social cognition theory (Fiske and Taylor, 1991; pp. 53–54) notes that Weiner's theory is "admirably specific in hypotheses; … easily subject to empirical validation; … has exerted considerable influence on researchers in many countries, and has received substantial cross-cultural support." Further, Graham (1991; p. 6) states that "this theory is more complete than other attributional conceptions, and it remains the framework of choice for most educational psychology researchers." Given its comprehensive nature, and widespread application in achievement settings, this chapter will focus on Weiner's theory.

From Weiner's (1985) perspective, students try to make sense of their learning experiences by searching for the causes of success and failure within themselves and also within the learning environment. Causal attributions that reside within the student typically include intelligence, skill level, effort, and strategy; in the learning environment, course difficulty, quality of instruction, grading criteria, class size, and social support are commonly cited (Van Overwalle, 1989). According to Weiner (1985), all attributions can be classified on the basis of three causal dimensions: *locus of causality* differentiates between causes that are within a person (internal) versus outside a person (external); *stability* establishes the cause as either subject to change over time (unstable) or not (stable); and *controllability* distinguishes between causes that can be controlled (controllable) and those that cannot (uncontrollable). Thus, Weiner proposes a $2 \times 2 \times 2$ taxonomy involving locus (internal, external); stability (stable, unstable); and controllability (controllable, uncontrollable). This taxonomy results in eight possible "cells" within which any given attribution can be classified (see Fig. 3). It is important to note, however, that this taxonomy is a heuristic and that in reality the dimensions of locus, stability, and controllability are continuous, not dichotomous (Weiner, 1983, 1985).

	Internal		External	
	Stable	**Unstable**	**Stable**	**Unstable**
Controllable	Never studies	Insuffcient effort	Instructor is biased	No help
Uncontrollable	Low ability	Sick the day of test	Test difficulty	Fate

Fig. 3 Weiner's (1985) three causal dimensions: Hypothetical attributions for poor academic performance

The dimensional properties of any given attribution are theorized to exert powerful effects on subsequent cognition, emotion, motivation, and behavior (Weiner, 1985, 1995). Figure 4 is adapted from Weiner's original theory (1985) and illustrates several germane consequences associated with each causal dimension. For example, the stability of an attribution for poor academic performance is a critical predictor of subsequent expectations about future performance and feelings of hope: A stable attribution for failure, such as low ability, produces lowered expectations for future success (cognition) and a resigned feeling of hopelessness (emotion), whereas an unstable attribution, such as low effort, is likely to produce a greater expectation of future success and feelings of hope. Similarly, differences in attributions along the locus and controllability dimensions also result in diverse patterns of cognition, emotion, motivation, and behavior.

Although the above example may seem simplistic, consider the implications of habitual attribution of failure to internal/stable/uncontrollable causes such as low ability. The continual use of such pejorative attributions to explain poor academic performance can result in a downward spiral wherein negative emotional states contribute to continued poor academic performance, which then further undermines emotional functioning, and so on (Hayes and Hesketh, 1989; Wilson et al., 2002). Often referred to as the *exacerbation cycle*, this maladaptive attributional mind-set is credited as a major contributor to emotional disturbances such as depression and anxiety (Abramson et al., 1978; Abramson et al., 1980; Beck, 1972; Ellis, 2001; Wilson et al., 2002).

Attributional Retraining (AR)

One solution to ameliorating the severe deficits in motivation and performance caused by maladaptive failure attributions is Attributional Retraining (AR). AR treatments are designed to restructure individuals' explanations about the causes of negative events or outcomes in their lives. Based on attribution theory (Heider, 1958; Jones et al., 1972; Kelley, 1967, 1973; Weiner, 1974, 1985, 1995), the primary
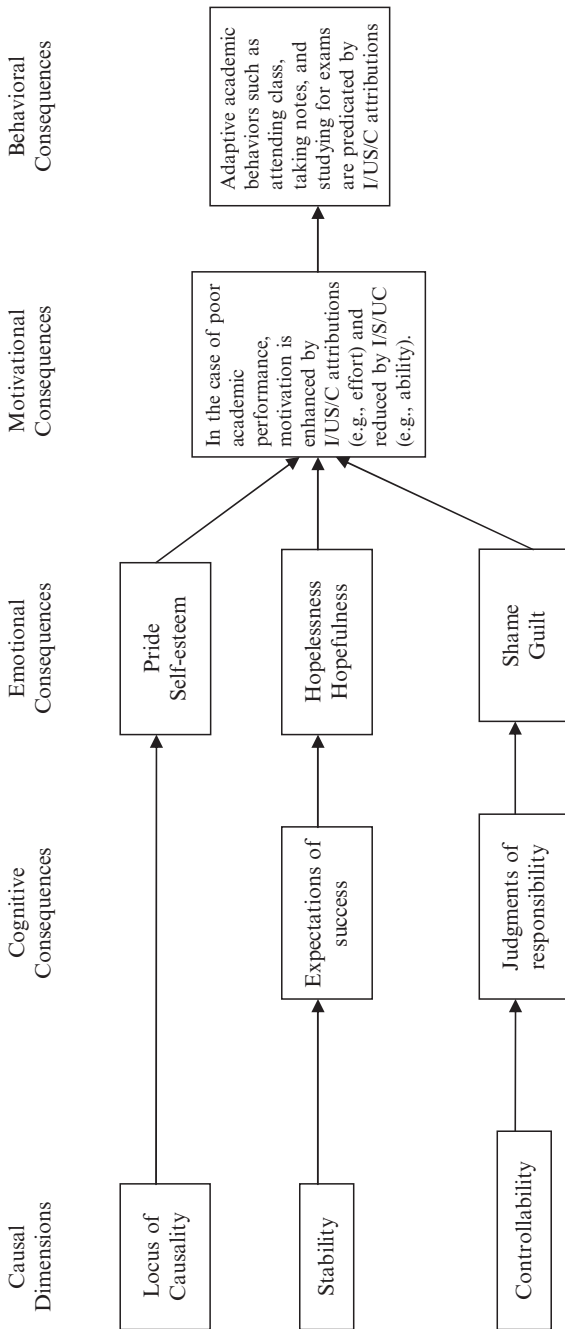
Fig. 4 Selected process variables from Weiner's (1985) attribution theory

Note. *I/US/C* = Internal/Unstable/Controllable

I/S/UV = Internal/Stable/Uncontrollable

objective of AR is to replace maladaptive, self-defeating attributions with more adaptive, self-helping attributions. Through these changes to attributional thinking, AR is intended to promote more adaptive patterns of subsequent cognition, emotion, motivation, and behavior. Various terms have been used in the AR literature to describe such treatment interventions including attribution(al) training, reattribution(al) training, attribution retraining, reattribution therapy, etc. For our purposes, we use AR to refer to such treatment interventions throughout the chapter.

The principles inherent to AR treatments were first applied in the early 1960s (e.g., Schachter and Singer, 1962; Schachter and Wheeler, 1962) when social psychologists began focusing on the potential of attribution-based treatments to attenuate undesirable behavioral symptoms (e.g., Nisbett and Schachter, 1966; Ross et al., 1969). Storms and Nisbett (1970), for example, developed an attribution-based treatment to assist insomniacs in terms of falling asleep faster at night. The treatment was designed to encourage participants to attribute their night time anxiety/arousal to an external source (i.e., a placebo pill) instead of internal factors such as neurosis, mental disorder, etc. As hypothesized, participants taught to attribute their arousal to an external source reported falling asleep faster than participants in a control group who were not given the attribution treatment.

Clinical psychologists have also employed psychotherapy methods that have parallels to AR treatments, including cognitive behavioral therapy (CBT; Beck, 1972) and Rational Emotive Behavioral Therapy (REBT; Ellis, 2001). These treatments are designed to help clients identify irrational and self-defeating beliefs and to purposefully replace them with more rational and self-helping beliefs. By attaining a more rational belief system regarding the causes of failure/success, individuals are likely to behave in more adaptive ways. Thus, similar to AR, these approaches embody a cognitive model of behavior that is characterized by the assumption that environmental stimuli alone do not determine an individual's reaction, but rather it is the cognitive processing of that stimuli that matters. There are, however, important differences between AR and these clinical treatments including the target audience (low-control college students versus clinically diagnosed individuals) and the delivery method (informal group sessions versus one-on-one therapy).

Since these early applications, AR treatments have been used in a wide range of settings including athletic achievement (Miserandino, 1998; Orbach et al., 1999; Sinnott and Biddle, 1998; Rascle et al., 2008); career and employment decisions (Jackson et al., in press; Luzzo et al., 1996a, b; Szabo, 2006); health settings (den Boer et al., 1991; Sarkisian et al., 2007; Weinberg, 2001); clinical treatment settings (Green-Emrich and Altmaier, 1991); parenting (Sanders et al., 2004); and social skills training (Carlyon, 1997). Despite this widespread application, the majority of AR studies have been conducted in the academic achievement domain. The earliest applications of AR in academic settings were among elementary school children (e.g., Andrews and Debus, 1978; Chapin and Dyck, 1976; Dweck, 1975; Reiher and Dembo, 1984), and subsequently expanded into secondary school settings (e.g., Ziegler and Stoeger, 2004; Ziegler and Heller, 2000), special education settings

(Borkowski et al., 1988; Schunk and Cox, 1986), and higher education settings (for a review see Perry et al., 1993). Although AR research is conducted within a range of academic achievement settings, this review will focus exclusively on AR research in higher education settings.

Higher education settings are particularly appropriate for studying AR because they involve a transition from a familiar to a novel learning environment (i.e., high school to college). The shift from high school to college is a developmental transition faced by many individuals as they move through the life span: other common transitions include beginning a new job, moving to a new city or country, getting married, and bringing home a new baby, among others. These developmental transitions often involve diminished opportunities to exert control (Schulz and Heckhausen, 1999). For example, in the transition from high school to college, perceived control can be threatened by such factors as unexpected academic failure, higher academic standards, and a new physical and social setting (Perry et al., 2001). These factors can result in a perception of the college environment as a "low control setting" wherein academic outcomes are determined by factors beyond the student's control, thereby making AR treatments particularly applicable (Perry et al., 2005b).

Theoretical Considerations

Education-based treatments can vary in terms of the express purpose or goal of the intervention. Three common purposes of such treatments are: knowledge transmission, skill development, and motivation enhancement. Knowledge transmission can involve, for example, remedial tutorial workshops in freshman statistics or math classes in which the focus is on teaching an understanding of mathematical concepts, statistical applications, etc. Other treatments designed to inculcate specific skills include study skills seminars that assist students in taking notes in class, setting up a study routine, etc. Finally, a third type of education-based treatment is specifically aimed at increasing student motivation. AR is classified in this final category as a motivation-enhancing treatment that is intended to modify students' attributional thinking, and thereby improve motivation and performance.

AR has several strengths as a motivation-enhancing treatment: it is supported by a solid body of research (Perry et al., 1993), readily adapted to achievement settings (Menec and Perry, 1995), and is derived from a well-established theory (Weiner, 1986, 1995). Indeed, because AR is based on Weiner's attribution theory, it is possible to identify several theoretically based processes by which AR is theorized to assist students. First and foremost, AR treatments are theorized to produce changes to students' causal attributions – specifically to encourage students to reconsider maladaptive attributions for failure outcomes, and to adopt more adaptive attributions instead. For example, students are encouraged to attribute unsatisfactory academic outcomes to internal/unstable/controllable factors such as effort and strategy in place of external attributions such as luck, or uncontrollable factors such as ability. In so doing, students are more likely to begin taking responsibility for their academic outcomes. In this way, causal attributions are the pivotal process variable of AR treatments.

As previously outlined, causal attributions are linked to a variety of outcomes described in Weiner's (1985) theory. The changes in attributional thinking resulting from AR are, in turn, presumed to affect students' overall perceived control. Recall that perceived control involves a student's subjective beliefs concerning his/her capacity to influence important academic outcomes, and that perceived control is heavily informed by causal attributions about academic success and/or failure (Perry et al., 2005b). A student who explains academic outcomes with controllable attributions, such as effort or strategy, is likely to have a high level of perceived control, whereas a student who explains academic outcomes with uncontrollable attributions, such as test difficulty or luck, is likely to have a lower level of perceived control. In this way, AR-induced changes to attributional thinking can have a direct impact on students' overall level of perceived control.

Finally, causal attributions and perceived control are key determinants of a student's motivation to achieve. Students are motivated to strive for success when they perceive academic outcomes as within their own influence. Conversely, when outcomes are seen as uncontrollable, there is less motivation to strive for success. The bottom line is, the more control a student feels, the more motivated he/she will be. Thus, AR treatments encapsulate several theoretically based processes involving causal attributions, perceived control, and motivation. Although these three processes can be considered overlapping and highly related, they can each be assessed independently, and the direct effect of AR on each process can be estimated.

We now begin our review of the empirical AR research in higher education settings. In reviewing this literature, we consider several critical issues including study design (laboratory versus field), ATIs, AR delivery method and content, and the testing of AR processes. We begin with a discussion of early laboratory work that established the internal validity of AR and the applicability of the ATI concept to AR treatments. Next, we review the early field work that established external and ecological validity in terms of the utility of AR to influence outcomes in actual achievement settings. Finally, we examine the more recent AR research that has addressed two oversights of the early laboratory and field studies involving the applicability of the ATI framework in the field, and the assessment of AR process variables (attributions, perceived control, and motivation).

Early Attributional Retraining Research

Attributional Retraining in Laboratory Settings

Research on assisting vulnerable, failure-prone students with enriched learning conditions in a laboratory setting reveals an ATI in which low-control students do not benefit from effective teaching, whereas high-control students do benefit (see Perry, 1991 for a review). With this research as a backdrop, Perry and Penner (1990) proposed that AR treatments, as motivation-enhancing interventions, can provide enriched learning opportunities for failure-prone students, separately or in

combination with effective instruction. External locus of control was identified as an individual difference (aptitude) that may predispose some students to be failure-prone and consequently to be more in need of AR. Students have an external locus of control when they attribute academic outcomes to external causes such as luck, and an internal locus of control when they attribute the outcomes to internal causes such as effort (Rotter, 1966).

Perry and colleagues conducted a series of laboratory experiments using a Locus of Control (external, internal) by AR (AR versus no-AR) by Teaching Effectiveness (effective versus ineffective) $2 \times 2 \times 2$ design. Within an ATI framework, the broad aim was to examine: whether AR treatments were beneficial for external- and internal-locus students; if so, whether AR effects maintain despite impoverished learning conditions (ineffective teaching); and finally, whether AR effects are augmented by other enriched learning conditions (effective teaching). In an initial study, Perry and Penner (1990) assigned students (internals and externals) to one of four groups: AR followed by effective instruction (high-expressive lecture), AR followed by ineffective instruction (low-expressive lecture), no-AR followed by effective instruction, and no-AR followed by ineffective instruction.

Students in the AR conditions viewed an AR videotape that consisted of a male psychology professor who described his freshman year at university and recounted his early failure. He then discussed how he persisted and went on to succeed in graduate school. The professor encouraged students to attribute poor performance to lack of effort and emphasized that the amount of effort that a person expends is not a stable trait, but is actually controllable. All groups were then shown a half-hour videotaped lecture that varied in terms of effective or ineffective instruction. Finally, students in all groups were given a test immediately after the lecture, and a second test 1 week later that was based on a homework assignment unrelated to the lecture.

In support of an ATI, the vulnerable, external-control students who received AR outperformed their no-AR counterparts on both the post-lecture achievement test and on the homework test that followed the treatment. This pattern was not replicated for internal-control students who were not considered at risk and arguably did not need AR. These findings suggest that AR may inoculate *at-risk* students from the potential hazards of an impoverished learning environment (i.e., ineffective teaching), and may enable these vulnerable students to derive maximal benefits of an enriched learning environment (i.e., effective teaching). Furthermore, they also imply that AR may have motivational benefits beyond the classroom setting in which formal learning occurs, as revealed in the finding that AR students outperformed no-AR students on homework test a week later.

In a follow-up to Perry and Penner (1990), Menec et al. (1994) selected students who scored at or below the median on a Graduate Record Examination (GRE)-like test (failure-prone) and who differed in locus of control (internal versus external). All students were allocated to either an AR or no-AR condition, and then randomly assigned to receive a half-hour lecture from either an effective or ineffective instructor in a locus of control by AR by instruction $2 \times 2 \times 2$ design. Thus, internal- and external-locus-of-control students were assigned to one of four conditions: AR followed by effective instruction (high-expressive lecture), AR followed by

ineffective instruction (low-expressive lecture), no-AR followed by effective instruction, and no-AR followed by ineffective instruction. Students in the AR conditions viewed an AR videotape treatment of a male graduate student who discussed how his early academic failure was due largely to a lack of effort and lack of appropriate strategies. All groups were then shown a half-hour videotaped lecture by either a high-expressive or a low-expressive instructor. Finally, students in all groups were then given a test based on the content of the lecture.

An AR × instruction interaction emerged in that external-control (at-risk) students who received AR before the high-expressive lecture outperformed external-control students who did not receive AR before the high-expressive lecture. This finding indicates that AR may help vulnerable students benefit from effective teaching, perhaps by helping them prepare to learn. Moreover, for students in the high-expressive lecture condition, a significant AR × locus interaction replicated Perry and Penner's (1990) findings such that AR resulted in greater performance gains for externals than internals. This is another instance in which students with external locus of control benefited more from AR than students with internal locus of control in an ATI framework.

Perry and colleagues' laboratory research suggested the importance of AR as a method of orienting students to take advantage of the benefits of an enriched learning environment. While these laboratory studies offer a high level of precision in terms of inferring causal connections, they also compromise the ecological validity of the findings. Indeed, some researchers argue that the control inherent to laboratory experimentation distorts participant's reactions, resulting in an imitation of reality (Black, 1955). Affect, intergroup relations, motivation, and learning are listed as processes that are difficult to study in the laboratory because the contrived testing is highly artificial (Black, 1955). AR field studies respond to these ecological validity concerns.

Attributional Retraining in Field Settings

In the landmark field study of AR in higher education settings, Wilson and Linville (1982) developed an AR treatment to assess whether AR could improve academic performance among vulnerable freshman students. They recruited 40 undergraduate students who, at the end of first semester, had GPAs less than 3.50, were worried about their past performance, and indicated that they could have performed better. Students were randomly assigned to either an AR-treatment or a no-AR control group. The AR treatment consisted of a pamphlet and videotaped message that students viewed in individual sessions. The AR pamphlet comprised a survey of senior students indicating that many students struggle in their freshman year and get lower GPAs than expected, but that performance improves as students move on in their undergraduate career resulting in higher GPAs. The pamphlet was followed with the AR videotape containing "interviews" (actually scripted performances) of senior students. The content in the pamphlet was repeated in a videotape as the

senior students described early academic experiences, and emphasized their own improvement as they progressed in their college careers.

Thus, Wilson and Linville's AR treatment was designed to emphasize the temporary nature of poor academic performance, thereby targeting the stability dimension of causal attributions (Weiner, 1985). No specific attributions were prescribed in the AR treatment, and students were free to select any unstable causes to explain their academic performance such as a new environment, homesickness, etc. Relative to students in the control condition, those who received AR had higher performance on a subsequent test involving GRE-like items. Moreover, at the end of the second year of university, AR students were significantly less likely to have dropped out of college than no-AR students (AR = 5%, no-AR = 25%), and had attained greater increases in their GPAs than the control group. Overall, Wilson and Linville (1982) concluded that a brief, one-time exposure to the AR videotape treatment could result in dramatic differences to students' actual academic profile up to 2 years later.

In response to criticism (see Block and Lanning, 1984), Wilson and Linville (1985) conducted two replication studies. Study 1 was a direct replication of their initial findings, whereas Study 2 involved giving the AR intervention earlier in the academic year. Based on their original study and these two replications, Wilson and Linville concluded that the weight of the evidence supported the effectiveness of a single-exposure videotape-based AR treatment. However, an independent replication by Jesse and Gregory (1986/87) failed to demonstrate the same performance gains in GPA among students who received the AR treatment. Nonetheless, Wilson and Linville's (1982, 1985) original studies set the stage for subsequent AR field studies in higher education settings.

Conceptual Developments in AR Treatment Methods

Researchers adopted Wilson and Linville's (1982, 1985) AR treatment method (i.e., videotape interviews of senior students) in subsequent studies; however, the content of AR treatments changed to include both the locus and the controllability dimensions of causal attributions. For example, Noel et al. (1987) developed a mock-interview AR videotape that emphasized a switch from external to internal attributions for poor performance. Noel et al.'s (1987) simulated interviews with senior-undergraduate students highlighted how attributing academic failure to external (versus internal) causes is often used as a self-protective strategy. The AR treatment implied that although the use of external attributions such as test difficulty or bad luck may protect a student's self-esteem, these attributions do not improve motivation or future achievement striving.

In so doing, Noel et al.'s (1987) AR treatment encouraged students to switch from self-protective external attributions (i.e., luck) to more internal attributions (lack of effort). Failure-prone introductory psychology students were assigned to either the AR or the no-AR condition, and results indicated that the AR group had higher subsequent test performance and received better grades in introductory psychology as compared to the no-AR group. Thus, in addition to Wilson and

Linville's (1982, 1985) stability-focused AR, Noel et al.'s (1987) study demonstrated that treatments designed to target the locus dimension of causal attributions (see Weiner, 1985) could also be effective.

Unlike previous AR treatments that addressed the stability and the locus of attributions, Van Overwalle and colleagues targeted the controllability of attributions (Van Overwalle and De Metsenaere, 1990; Van Overwalle et al., 1989). To achieve this emphasis, they included a brief presentation by a psychology professor in addition to the usual senior-student interviews in the content of the AR videotape treatment. The professor discussed the results of a strategy training program for Physics students and described how the treatment had only been effective for students who implemented the study strategies taught in the program. The professor concluded the presentation by underscoring the importance of two controllable causes of performance: effort and study strategy. As such, Van Overwalle's AR treatment was the first to specifically target the controllability dimension of causal attributions by emphasizing both effort and strategy attributions.

Van Overwalle et al. (1989) selected college freshmen who had failed their economics mid-term and assigned these students to either an AR or no-AR group. Results indicated that AR students attained higher grades on the next economics test, and had higher average marks across all subsequent economics tests. A second study demonstrated that first-year economics students who received a similar AR treatment had a reduced failure-rate of the two-semester economics course (Van Overwalle and De Metsenaere, 1990). These two studies demonstrated that AR treatments targeting the controllability dimension of causal attributions through an emphasis on effort and strategy attributions can be effective in assisting college students.

In summary, early AR research (1982–1994) included both laboratory and field studies. The early laboratory studies involved highly controlled experiments that established the internal validity of AR treatments and suggested the importance of an ATI perspective for examining AR treatments. Early AR field studies demonstrated the ecological validity of AR to affect educational outcomes in real-world college classrooms. However, early AR research had two main limitations: First, it did not systematically test the applicability of the ATI framework to AR treatments in the *field*. Second, it did not assess underlying process variables of AR treatments as outlined in Weiner's theory, i.e., whether AR actually produced attributional changes (e.g., Wilson and Linville, 1982, 1985; Van Overwalle and De Metsenaere, 1990; Van Overwalle et al., 1989; for an exception see Noel et al., 1987). The next section reviews more recent (i.e., 1996–2008) AR research in higher education that has focused on addressing these two oversights of early AR research.

Recent Attributional Retraining Research

Recent research on AR in higher education settings consists primarily of field studies, a number of which have focused on addressing two pitfalls of early AR laboratory and field studies: First, researchers have attempted to demonstrate the utility of an

ATI perspective for examining AR treatments in field settings, as was done previously in laboratory settings, in terms of showing that AR treatments are particularly beneficial for vulnerable, low-control students. Second, several studies have attempted to document the process variables that underpin AR treatments from an attribution theory perspective. We begin this section discussing field-related evidence of AR treatments consistent with an ATI perspective, and then review the empirical documentation of several process variables of AR.

Much of this research has been conducted by Perry and colleagues, and has involved two main AR treatment methods: an AR videotape treatment (Hall et al., 2004, 2006; Haynes et al., 2008; Perry and Struthers, 1994; Perry et al., 2009; Ruthig et al., 2004; Struthers and Perry, 1996) and an AR handout treatment (Hall et al., 2007; Haynes et al., 2006). Although videotape and handout AR treatments differ in delivery method, the content of each is relatively consistent. The treatment emphasizes that attributional thinking can affect the way students perform in college, and outlines how thinking that academic performance is *controllable* can have positive consequences for subsequent achievement. Finally, the AR treatment details how lack of effort and poor strategy are valid reasons why many first-year college students perform poorly on tests and assignments. Readers are referred to a later section of this chapter for a detailed discussion of each of these AR delivery methods (see *A Protocol for Administering Attributional Retraining*).

AR × Perceived Control

The utility of the ATI framework for examining AR treatment effectiveness in higher education settings has been demonstrated in relation to students differing in perceived control. In new achievement settings, such as high school-to-university transitions, students' perceived control can be threatened by unpredictable and unfamiliar experiences that include novel academic tasks, poor performance, and increased competition. On entering university, low-control students are particularly vulnerable in such circumstances and can suffer from low motivation, negative affect, and frequent failure as a consequence (Perry, 1991, 2003). From the perspective of Weiner's (1985) attribution theory, the tendency to make maladaptive attributions for failure accounts for the vulnerability associated with having low perceived control. Thus, to the extent that AR is a control- and motivation-enhancing intervention, it is well suited to assist low-control students in modifying their attributional thinking.

The interaction of AR with perceived control is somewhat distinctive because of the characteristics of perceived control as both the "aptitude" (independent variable) in the ATI with which AR interacts and the objective outcome (dependent variable) because AR is a control-enhancing treatment. Although this may seem unorthodox, researchers have indeed been encouraged to examine state-like aptitudes, and, in turn, aptitude changes in response to treatments (Snow, 1991). The results presented next meet this requirement because AR (treatment) is expressly intended to increase perceived control (outcome) in students with low perceived control (aptitude).

An empirical study by Hall et al. (2006), for example, examined the effectiveness of an AR treatment for students with different types of perceived control. They hypothesized that poor-performing students with a maladaptive profile of perceived control who received AR would outperform their no-AR counterparts by the end of the academic year. These results were largely supported: Following AR, unsuccessful students with a maladaptive profile of perceived control scored approximately 10% higher in final course grades than students who did not receive AR. Further, only the vulnerable, low-control students benefited from AR: Students displaying an adaptive profile of perceived control did not benefit from AR. Thus, Hall et al.'s (2006) study demonstrates the applicability of the ATI framework for AR treatments among college students with varying levels of perceived control.

Perceived control is related to numerous student aptitudes (individual differences) such as attributional mind-set, academic performance, perceived success, and optimism. More specifically, students are at risk of experiencing low perceived control to the extent that they: have a maladaptive attributional mind-set, experience objective academic failure, perceive themselves as unsuccessful, and have unrealistically optimistic expectations. Thus, students possessing these characteristics are likely to be good candidates for AR. We adopted an AR × perceived control ATI framework for reviewing studies in which these student aptitudes were considered in relation to an AR treatment.

Struthers and Perry (1996) reasoned that students who explain failure using unstable and uncontrollable attributions, such as professor quality, are likely to have lower perceived control than students who explain failure with controllable attributions, and hence should benefit from a control-enhancing AR treatment. Struthers and Perry identified four attributional mind-sets: stable-uncontrollable, stable-controllable, unstable-uncontrollable, and unstable-controllable. Students who were classified as having an unstable-uncontrollable attributional mind-set benefited most from AR, and showed a significant improvement in overall course performance compared to their control-group counterparts (B compared to C+, respectively). Students with more adaptive attributional mind-sets who were not considered at risk did not show the same patterns of improvement following AR, suggesting once again the specialized benefit of AR for low-control students.

Poor performance may be especially deleterious for students in new achievement settings to the extent that it is a highly negative and unexpected event that erodes perceived control. Perry et al. (2009) administered an AR treatment to three groups of students shortly after they wrote a test in a two-semester psychology course at the start of the academic year. The three groups were differentiated according to their performance on the test as follows: low performance ($M = 50\%$), average performance ($M = 70\%$), and high performance ($M = 86\%$). Results indicated that low and average performance students who received AR did significantly better than their no-AR counterparts in terms of subsequent class tests, final course grades, and overall GPA in all first-year courses. No effects were found for high-success students, who arguably did not need AR. In this study, student aptitude was defined in terms of three levels of initial course performance such that the resulting ATI was manifest as the AR treatment having an effect for poor and average performance students but not high-performance students.

Of course not all students interpret objective measures of achievement in the same way. For some students, 75% represents success; for others, this is a complete failure. Accordingly, rather than looking at objective achievement rates, some researchers have focused on students' subjective feelings of success. Just as AR is beneficial for objectively low-performing students, it should also benefit students with subjective perceptions of low success. Perry and Struthers (1994) gave AR to students with low levels of perceived success following their first class test. High school grade was used as a covariate in the analyses to ensure that student differences in perceived success were based on subjective perceptions and not on objective performance differences. Low-perceived-success students who received AR had higher subsequent test scores and final grades relative to high-perceived-success students in the AR group and students in the control group.

Over-optimism is another individual difference variable related to academic vulnerability and low perceived control that can undermine students' academic engagement, motivation, and performance. Over-optimism is defined as unrealistically high expectations that do not necessarily correspond to the realities of an objective situation (Radcliffe and Klein, 2002). Haynes et al. (2006) argue that overly optimistic students are those who base their optimistic academic expectations on uncontrollable attributions. For example, overly optimistic students may expect to get high grades because "this course is easy" or "the teacher is an easy grader." Consequently, these students are at risk for unmet expectations and low perceived control: characteristics that make them good candidates for AR. Haynes et al.'s (2006) study revealed a significant AR × optimism interaction in which overly optimistic students who received AR outperformed their no-AR counterparts in terms of final course grades and overall GPAs.

In practical terms, this meant that overly optimistic AR students scored approximately 10% higher in their final course grade in an introductory psychology course and at least one half GPA point better than over-optimists who did not receive AR. Ruthig et al. (2004) found a similar pattern of results showing that highly optimistic students who received AR performed significantly better than did the no-AR group. These associations imply that over-optimism may be associated with low perceived control, making it a useful academic marker in higher education settings for identifying students in need of AR.

In summary, recent research in higher education settings demonstrates that AR benefits students who are vulnerable in terms of low perceived control. Furthermore, low perceived control can arise from a variety of individual difference variables (student aptitudes) such as a maladaptive attributional mind-set, unsatisfactory performance (objective or subjective), and over-optimism. Given that AR is a control- and motivation-enhancing intervention, research suggests that it is particularly well suited to meet the needs of students with these characteristics. In addition to demonstrating the utility of an ATI framework for studying AR in field settings, recent research has also begun to address a critical oversight of early research by systematically considering several theoretically-based process variables that underpin AR treatments. The next section highlights studies that have examined three theoretically-based AR process variables: causal attributions, perceived control, and motivation.

Underlying AR Processes

Early AR field studies focused on the external validity of AR treatments to improve academic outcomes such as course grades, GPA, and attrition, but neglected to assess the processes by which AR treatments produce such effects. Specifically, researchers did not assess whether AR treatments successfully modify causal attributions or other process variables. Weiner's (1985) attribution theory points to several critical process variables underlying the effectiveness of AR treatments, and recent studies have begun to document the effects of AR on three particular processes: causal attributions, perceived control, and motivation. A review of this research follows, organized according to the process variable tested. Issues associated with study design and measurement of the process variables are highlighted in the context of distinguishing between provisional and more reliable empirical evidence. Further, Table 1 presents a summary of each study in terms of the AR process variable assessed and the related findings.

Causal Attributions

Several recent field studies have assessed whether AR treatments produce changes to causal attributions among college students. Hall et al. (2006) examined students' attributions categorized into controllable (effort and strategy) and uncontrollable (ability, luck, teacher, and test difficulty) groupings in keeping with Weiner's controllability dimension. A significant AR main effect emerged for uncontrollable attributions, indicating that AR students were less likely than no-AR students to attribute their performance to uncontrollable causes 5 months after receiving an AR treatment. No main effect emerged for controllable attributions, suggesting that the AR treatment was more likely to reduce uncontrollable attributions than to enhance controllable attributions. Hall et al. (2007) replicated this pattern in showing that AR participants were less likely to attribute academic outcomes to uncontrollable causes than no-AR participants (see Table 1).

Perry et al. (2009) used a multivariate analysis of variance (MANOVA) procedure to examine the effects of AR on four attributions: effort, strategy, quality of teaching, and test difficulty. An AR multivariate main effect on the four attributions was followed with discriminant function analysis which revealed a composite attributional structure emphasizing the controllable attributions (effort and strategy) and de-emphasizing the uncontrollable attributions (quality of teaching and test difficulty). Students in the AR group were more likely to endorse this controllable attribution profile than students in the no-AR group. Nevertheless, the findings from Perry et al. (2009) and Hall et al. (2007) are limited because the experimental designs lack a baseline assessment of attributions. A pre-post control design is important for assessing the process variables of any treatment intervention wherein both the treatment and the control group are assessed on the dependent variables *prior to* and *following* the experimental manipulation (Campbell and Stanley, 1963). This pre-post measurement allows for a

baseline assessment of potential process variables of the treatment, and is essential for determining causal connections between a treatment and a process variable.

Haynes et al. (2006) used a repeated-measures longitudinal design to examine pre- to post-AR changes in attributions among college students. Five attributions were assessed both before and after the AR treatment: effort, ability, luck, test difficulty, and quality of teaching. Results demonstrated a pre- to post-AR increase in effort attributions for AR students, and no corresponding increases among the no-AR students. The use of a pre-post study design provides more confidence regarding the capacity of AR to cause increases to at least one controllable attribution (i.e., effort). In summary then, recent studies have begun to document the efficacy of AR treatments to successfully modify students' attributions; however, more research is needed with particular attention paid to pre-post study design.

Perceived Control

To the extent that AR treatments modify causal attributions, they are also likely to impact subsequent perceptions of control. Controllable attributions give students a greater sense of personal control over their academic performance, whereas uncontrollable attributions engender less personal control over academic outcomes. Thus, if AR encourages an adaptive pattern of causal attributions for poor academic performance (i.e., internal/unstable/controllable), it should also result in increases to perceived control. Hall et al. (2004), for example, measured perceived control pre- and post-AR with a 24-item measure that assessed students' *academic-specific* perceived control, *general* perceived control, and *desire* for control. An AR main effect emerged for perceived control, while covarying for pre-AR perceived control, such that AR students had higher perceived control than no-AR students 5 months following the AR treatment.

In a follow-up study, Haynes et al. (2006) assessed students' general perceived control pre- and post-AR 4 months apart. Paired t-tests indicated that AR students experienced an increase in their perceived control from pre- to post-AR, while no such changes were observed for no-AR students. Haynes and Perry (2008, unpublished data) replicated this pattern with a domain-specific measure of perceived *academic* control. The AR students experienced an increase in perceived academic control over the year, whereas no such increase was evident among the no-AR group. As such, it appears that AR may serve to increase both general and domain-specific forms of perceived control among college students.

In sum, a number of field studies have verified that AR treatments modify attributional schemas and also increase students' perceived control over academic outcomes (see Table 1). According to Weiner's (1985) attribution theory, the modification of attributional schemas and perceived control are directly associated with changes in motivation. Based on this reasoning, researchers have begun to investigate the direct impact of AR on student motivation as a third process variable.

Table 1 Process variables in recent AR field studies (1996–2008)

Study	AR format	Process variable(s) assessed	Results
Hall et al. (2004)	AR videotape emphasized controllable attributions (effort and strategy)	Pre- and post-AR assessment of perceived control	AR group had higher levels of perceived control than no-AR group at a 5-month post-AR assessment
Hall et al. (2006)	AR handout or videotape emphasized controllable attributions	Post-AR measures of controllable (effort, strategy) and uncontrollable attributions (ability, luck, teacher, test difficulty)	AR group had lower levels of uncontrollable attributions than no-AR group at a 5-month follow-up
Hall et al. (2007)	AR handout emphasized controllable attributions (effort and strategy)	Post-AR assessment of controllable versus uncontrollable attributions; Post-AR assessment of intrinsic motivation and expectations	AR group had lower levels of uncontrollable attributions and higher levels of intrinsic motivation and expectations, at a 5-month follow-up. Expectations mediated the relationship between AR and grades
Haynes et al. (2006)	AR handout emphasized controllable attributions (effort and strategy)	Pre- and post-AR assessments of attributions (effort, ability, luck, test difficulty, and quality of teaching); Pre- and post-AR assessment of general perceived control	The AR group showed increases in a controllable attribution (effort) and perceived control pre- to post-AR (spanning 4 months). This pattern was not replicated for the no-AR group
Haynes et al. (2008)	AR videotape and handout emphasized unstable and controllable attributions	Pre- and post-AR assessments of mastery and performance motivation	Mastery motivation increased pre- to post-AR (spanning 5 months) for AR group, but not for the no-AR group. Mastery mediated the relationship between AR and grades
Haynes and Perry (2008)	AR videotape and handout emphasized unstable and controllable attributions	Pre- and post-AR assessments of domain-specific perceived academic control	The AR group showed increases to perceived academic control at a 5-month follow-up, whereas the no-AR group did not
Perry et al. (2009)	AR videotape, handout, and aptitude test emphasized unstable and controllable attributions	Post-AR assessment of four attributions (effort, strategy, quality of teaching, and test difficulty)	Compared to the no-AR group, students who received AR had a more adaptive attributional profile involving high levels of strategy and effort attributions at a 5-month follow-up
Struthers and Perry (1996)	AR videotape emphasized unstable and controllable attributions	Pre- and post-AR assessment of motivation (operationalized as expectations)	Motivation improved among all students pre- to post-AR (spanning 5 months), but to a greater degree among those who received AR

Motivation

Several field studies indicate that AR treatments can have a direct impact on students' achievement motivation (see Table 1). Hall et al. (2007) assigned students to AR or no-AR conditions and measured their post-AR intrinsic motivation (i.e., interest in learning) and expectations (i.e., expected success). An AR main effect was found for both intrinsic motivation and expectations in which AR students reported higher intrinsic motivation and success expectations than did their no-AR counterparts at a 5-month follow-up assessment. These findings are limited to the extent that a pre-AR baseline assessment was omitted. Using a pre–post design, Struthers and Perry (1996) examined the effect of an AR treatment on achievement motivation measured in terms of academic *expectations* (expected grade) and *value* (importance of receiving a good grade). Motivation improved among both AR and no-AR students; however, the increase was somewhat larger among those who received the AR treatment. Struthers and Perry (1996) concluded that, although motivation can improve over time without AR, it appears that AR serves to further strengthen motivation levels.

Most recently, Haynes et al. (2008) examined pre- to post-AR changes in mastery motivation (motivation to learn, understand, and master content) and performance motivation (motivation to get good grades relative to others) among first-year college students. Differential effects of AR on the two types of motivation were observed in which AR students exhibited increased mastery motivation, but no changes in performance motivation. Hence, AR encouraged students' motivation to learn, understand, and master the content of their college courses, rather than simply to achieve good grades (performance motivation). No corresponding changes in motivation were observed among the no-AR students.

A final methodological development in recent research involves the assessment of mediational models that test the extent to which AR treatment effects on performance outcomes (i.e., final course grades, GPAs, etc.) are mediated by motivation (see Table 1). In testing several mediation models, Hall et al. (2007) demonstrated that expectations significantly mediated the direct relationship between AR and performance, pointing to motivation (academic expectations) as an important process variable underpinning AR treatments. In addition, Haynes et al.'s (2008) mediational analyses also demonstrated that mastery motivation mediated the relationship between AR and GPA, again indicating that motivation is a key process variable of AR.

This section has summarized recent AR research in higher education that has addressed two critical oversights of early AR research by: demonstrating the utility of an ATI perspective for examining AR treatments in field settings, and by documenting several theoretically based process variables that underpin AR treatments. Overall, the preceding reviews of both early and recent AR research provide 3 decades of support for the effectiveness of AR treatments in higher education settings. A logical question extending from this body of empirical evidence involves the estimation of the magnitude of AR treatment effects. The next section will briefly comment on this issue, before we begin our discussion of AR applications in classroom settings.

Magnitude of AR Effects

To put the effects of AR treatments into perspective, consider the efficacy of treatment interventions undertaken in other research domains. Meyer et al. (2001) conducted a comprehensive review of over 125 meta-analytic studies of several well-established treatment–outcome relationships in the health domain. The meta-analytic studies present effect-size correlations which reflect the point-biserial relationship between a treatment and an outcome variable. A selection of effect–size correlations from Meyer et al.'s (2001) for comparison purposes are as follows: aspirin and reduced risk of death by heart attack, $r(22,071) = .02$; hypertension medication and reduced risk of stroke, $r(59,086) = .03$; calcium intake and bone mass in premenopausal women, $r(2,493) = .08$; ultrasound examinations and successful pregnancy, $r(16,227) = .01$; mammogram results and breast cancer detection after 2 years, $r(192,009) = .27$; and height and weight for US adults, $r(16,948) = .44$.

The typical effect size of AR on academic outcomes in higher education settings, such as course grades, GPAs, etc., ranges from $r = .14$ to $.42$ (see Hall et al., 2004, 2006, 2007; Haynes et al., 2006, in press; Perry et al., 2008; Perry and Struthers, 1994; Ruthig et al., 2004). In relative terms, these AR effect sizes compare favorably to several of medical treatments noted above. Indeed, effect sizes of AR are greater than the widely recognized associations between aspirin intake/reduced heart attacks (.02), blood pressure medication/reduced risk of stroke (.03), calcium intake/bone mass (.08), and ultrasound exams/successful pregnancy (.01). Furthermore, the typical AR effect size is within the same range as the relationship between mammogram use and breast cancer detection (.27), and approaches the effect size of the relationship between height and weight (.42). The effect sizes of AR are statistically meaningful according to Cohen (1988) who suggests correlations between .10 and .20 are small, .20 and .40 are moderate, and above .40 are large. The squared value of an effect–size correlation represents the percentage of variance in a dependent variable that is attributable to the treatment; thus, in practical terms, this means that AR can explain up to 17% variance in academic outcomes such as final course grades or cumulative first-year GPAs.

In sum, 3 decades of research support the efficacy of AR treatments to modify attributions, perceived control, motivation, and improve academic outcomes among college students. Further, the magnitude of AR effects relative to other treatments suggests that AR is a promising option for widespread use in college classrooms. We now turn to a detailed discussion of the best practices for implementing AR treatments in college classrooms.

Attributional Retraining in Classroom Settings

We begin with a detailed description of an AR treatment protocol comprised of five components that has been successfully implemented in a number of previous studies (e.g., Hall et al., 2004, 2006; Haynes et al., 2006; Ruthig et al., 2004).

The depiction of this procedure should be useful for several groups interested in applying AR to various learning situations, including classroom instructors, faculty developers in teaching centers, and university administrators. For each of these groups, the prevailing question is, "How can I implement AR in a specific learning environment for the benefit of failure-prone students?" In outlining the fundamental components of AR treatments, we describe successful protocols developed by researchers for the effective administration of AR in higher education settings.

We also discuss several practical issues surrounding the use of AR in higher education classrooms. For instance, large-scale administrations by educators would involve training individuals to administer AR; however, no recommendations or guidelines for such training have been put forth. The popularity of the internet allows for widespread electronic administration of AR; however, the best way to administer such an intervention has not been explored. Finally, potential dangers associated with improper administration of AR are noted to facilitate the successful administration of AR treatments.

A Protocol for Administering Attributional Retraining

The protocols for administering AR described here are based on a number of theoretical and conceptual developments, as well as findings from the research literature. Foremost, AR treatment procedures are predicated by *causal search* which is a cognitive process involving the search for, and selection of, explanations (causal attributions) for outcomes and events (Weiner, 1985). Recent research, for example, demonstrates that first-year college students' engage in most causal search following negative and unexpected grades on initial class tests (Stupnisky et al., 2006, 2008). AR treatment procedures build on Weiner's theoretical framework by using other theoretically based procedures to reinforce and consolidate the AR content that include elaborative processing (Entwistle, 2000) and emotional expression (Pennebaker, 1997). Further, the procedures are designed specifically with the learning experiences of college students in mind to maximize their receptiveness to the treatment (Pascarella and Terenzini, 2005).

The AR treatment protocol described here consists of five components that are administered sequentially over an entire academic year (see Fig. 5) and based on procedures used extensively in laboratory and field studies. The procedures have been largely developed and tested on college students enrolled in two-semester courses beginning in September and ending in April, the majority of them being in their first year of college, which is a critical time for optimizing the effectiveness of AR. These procedures have been shown to positively influence the attributional schemas (Hall et al., 2006; Haynes et al., 2006; Perry et al., 2009), perceived control (Hall et al., 2004), motivation (Haynes et al., in press), and academic achievement of college students (Perry et al., 2009). Other methods of administering AR exist, and can be incorporated with those described here depending on the conditions under which AR is given (e.g., Andrews and Debus, 1978; Borkowski et al., 1988; Schunk and Cox, 1986).

Pre-AR Diagnostic Assessment

Approximately 1 month after the start of the academic year (October), the pre-AR diagnostic assessment component is implemented in which students complete a questionnaire to assess a range of psychosocial variables and learning conditions students have experienced to that point in the academic year (see Fig. 5, Stage 1). The assessment of psychosocial variables (individual differences) is intended to identify students that are academically vulnerable and failure-prone as candidates for AR. By this time, most students have received feedback on their first tests in their courses so that they have some initial academic experiences on which to base an assessment of their new learning environments. Typical measures include demographics (e.g., gender, age, ethnicity), educational factors (e.g., year in university, faculty), and "student aptitudes" (e.g., perceived control, optimism, attributional style), that identify vulnerable students for whom the AR treatment is targeted.

Causal Search Activation

The causal search component takes place prior to, or concurrently with, the pre-AR diagnostic assessment component. The causal search process is initiated by instructing students to rate their *perceived success* to date by reflecting on their performance on their first class test in a specified course and in their undergraduate program generally. Students are then asked to report attributions for their academic performance on the class test. These initial ratings of causal attributions can also be used as a pre-AR baseline to determine whether AR was effective in altering causal attributions.

The pre-AR diagnostic assessment and causal search activation components are designed to encourage students to think in depth about their academic performance up to that point in the year, with a specific emphasis on encouraging contemplation of causal attributions for academic performance (see Fig. 5, Stage 2). The timing of the causal search activation component is important as it "primes" students to be active recipients of the information provided in the next two stages (Bargh, 2006; Bargh et al., 2001). Thus, causal search activation should occur shortly *after* students receive performance feedback early in the academic year, and directly *before* administration of the treatment component of AR. This sequence is designed to maximize the induction of the attributional content in the AR treatment.

AR Induction

The AR induction component takes place immediately following causal search activation and is considered to be the critical element of the treatment (see Fig. 5, Stage 3). In empirical studies, a sample of students are randomly assigned to the AR treatment condition, referred to as the experimental or AR group, and another

1	Pre-AR Diagnostic Assessment	Self-report Questionnaire
2	Causal Search Activation	First Introductory Psychology Course Exam
3	AR Induction	AR Videotape / Handout
4	AR Consolidation	Discussion / Writing Exercise / Aptitude Test
5	Post-AR Assessment	Self-report Questionnaire Actual Grades / GPA / VW
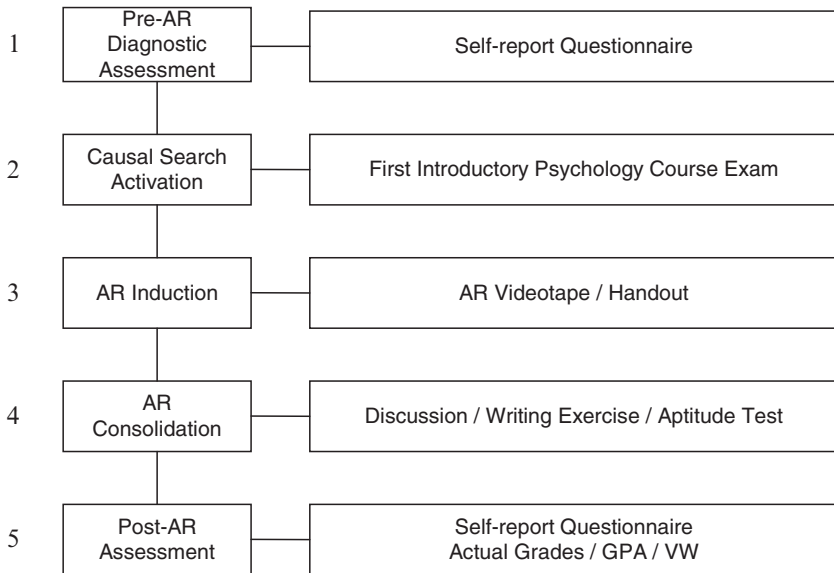
Fig. 5 Components of Attributional Retraining (AR)

sample is designated as a no-treatment/control condition, referred to as the control or no-AR group. Students who are not selected for the AR treatment are dismissed following the pre-AR diagnostic questionnaire, and as such, constitute the no-AR/control condition; students in the AR condition remain after the diagnostic questionnaire in order to receive the AR treatment.

The content of the AR induction component is intended to encourage students to make adaptive rather than maladaptive attributions for academic performance based on Weiner's (1985) taxonomy of causal dimensions (see Fig. 3). The content of many AR treatments focus on highlighting the controllable factors and downplaying uncontrollable factors following failure. Following failure, for example, specific adaptive attributions include lack of effort or bad strategy (i.e., internal, unstable, controllable), whereas maladaptive attributions include poor teaching or difficult test (i.e., external, stable, uncontrollable). The goal is to have students embrace controllable factors as legitimate causes of their future academic performance so that they adjust their academic strategies, efforts, and planning to maximize their achievement potential.

Two methods of AR induction are described here and, together with the AR consolidation components (see below), take 30–90 min to administer, depending on the other procedures being used. The first AR induction method involves presenting the attributional content using an *AR videotape*. As described in Menec and Perry (1995), this method involves a videotape presentation to students in a classroom setting. Three versions of the AR videotape have been developed by Perry and colleagues (see Menec et al., 1994; Perry and Penner, 1990; Struthers and Perry,

1996). The Menec et al. (1994) and Perry and Penner (1990) AR videotapes are described above (see *Early Attributional Retraining Research*), and a brief description of Struthers and Perry's (1996) AR videotape is presented below.

The attributional content of the AR videotape method developed by Struthers and Perry (1996) involves two undergraduate students having a discussion about their first-year university experiences. The male student explains that he performed poorly on several tests and started to doubt his academic abilities. He reveals that, after doubting his abilities, he realized that he had not studied enough and thus, began to put more effort into his courses and his performance improved. The female student shares a similar recollection of academic failure and discusses how she focused on changing her study strategies, which improved her academic performance. In conversation, the students describe several ways in which academic performance can be affected by causal attributions, and emphasize how a change in thinking led to better subsequent academic performance. After the students' discussion, a commentator (psychology professor) concludes by summarizing the main points and reemphasizing the importance of using internal/unstable/controllable attributions for poor academic performance (see Hall et al., 2004, 2006; Haynes et al., 2008; Menec et al., 1994; Perry and Struthers, 1994; Perry et al., 2009; Ruthig et al., 2004; Struthers and Perry, 1996).

The other AR induction method involves presenting the attributional content using an *AR handout*. The handout lists commonly used maladaptive attributions for poor academic performance on the left side of the page and adaptive attributions on the right side of the page (see Appendix A). This AR handout has been administered several ways, the most common method being to distribute it to students in a classroom setting. Students are asked to read the handout carefully, and to think about their own academic experiences and attributions for academic performance. The handout is then displayed on an overhead projector and explained in detail by reviewing several examples and encouraging discussion (see Hall et al., 2006, 2007; Haynes et al., 2006). Alternatively, the AR handout can be presented online by requiring the students to read the AR handout from a computer screen (Hall et al., 2005a, b).

AR Consolidation

The AR consolidation component immediately follows the AR induction component (see Fig. 5, Stage 4) and is designed to reinforce the AR attributional content through several techniques such as paraphrasing the main points of the AR treatment and applying the AR information to one's own personal academic experiences, among others (Weingartner and Parker, 1984). Four distinct AR consolidation procedures have been developed to reinforce the attributional content presented in the treatment: group discussion, aptitude test, writing assignment, and handout.

The first consolidation procedure involves *group discussion* wherein students are organized into small groups and encouraged to discuss their attributions concerning recent academic experiences. The groups are instructed to think about a time when

they performed worse than expected, then generate three important reasons (causal attributions) for their unsatisfactory performance. The students are given 5 min to discuss these reasons with their group, after which a spokesperson reports them to the AR coordinator and to the other discussion groups. The coordinator lists the reasons on an overhead, reviews them with the students, and identifies which are adaptive (controllable) and which are maladaptive (uncontrollable). For each uncontrollable attribution, the coordinator and students discuss alternate controllable attributions to replace the uncontrollable ones. This AR discussion procedure for consolidating attributional content has been shown to improve the academic performance of college students who regard themselves as unsuccessful academically (Perry and Struthers, 1994).

The second AR consolidation procedure involves an *aptitude test* wherein students experience failure immediately following the AR induction. This failure experience allows the students to practice what they have learned from the AR induction by endorsing controllable attributions to explain their failure. In previous studies, students completed the Abstract Reasoning and Performance Test (ARPT, Perry and Dickens, 1984, 1987) which is an aptitude test that is intentionally designed to be difficult to ensure that students experience failure. The ARPT is comprised of three sections: verbal analogy, quantitative, and sentence completion, which contain 10, 5, and 10 questions, respectively. Students have 5 min to complete each section, after which the treatment coordinator summarizes the information presented during the AR induction component to reinforce the AR content. The aptitude test procedure has been used in several studies to consolidate adaptive attributions in order to improve academic performance (see Hall et al., 2004; Perry and Penner, 1990; Perry et al., 2009; Menec et al., 1994).

A third AR consolidation procedure involves a *writing assignment* intended to encourage deeper processing of the attributional content through elaboration. Specifically, students respond in writing to several questions concerning the AR content, taking as much time as they like (see Appendix B). Two different writing assignments have been developed; one requires students to elaborate on their attributions in detail, the other to describe the emotions aroused by an important failure experience. The *attribution-elaboration* assignment is intended to achieve three goals related to elaborative processing: depth, by fostering interconnections of the content through summarization; breadth, by associating the content with a variety of related information; and personal meaning, by creating personally relevant examples (Entwistle, 2000). Thus, students summarize the main points of the videotape in their own words, then list important reasons for why students may not perform as well as they could in their courses, and finally describe how the main points of the videotape apply personally to their own lives (see items 1–3 Appendix B). This procedure has been shown to increase students' end-of-year perceptions of control and academic perform-ance (Hall et al., 2004, 2006).

The *emotion-elaboration* writing assignment is an alternative consolidation procedure based on research by Pennebaker and colleagues involving written emotional expression (Pennebaker, 1997; Pennebaker and Seagal, 1999; Smyth,

1998). Students are asked to recall an exam or another academic experience in which their performance was unsatisfactory, then describe their feelings about the event and how they learned from it, or reinterpreted it in a positive way (see Appendix B). Students are reassured that their responses are confidential to encourage emotional embellishment in keeping with the Pennebaker paradigm. This emotion-writing assignment has been shown to elicit affective responses from students (Haynes et al., 2008), and to increase adaptive attributions, perceived control, and academic performance (Hall et al., 2007; Haynes et al., 2006).

Finally, the fourth AR consolidation procedure consists of the AR handout described earlier as an AR induction method (see above). As a consolidation procedure, the AR handout has been combined with the AR videotape induction technique. At the end of an AR videotape administration, for example, students would receive the AR handout and be encouraged to keep it readily accessible for studying, such as in a course notebook or in close proximity to their study area. As such, the handout is a salient reminder for students to make adaptive attributions for their academic performance.

Post-AR Assessment

The post-AR assessment component occurs several months after the administration of the AR treatment (see Fig. 5, Stage 5) and consists of a questionnaire designed to reassess students' attributions, perceived control, motivation, etc., allowing for pre- to post-AR comparisons on a range of psychosocial variables. In addition, objective performance measures (e.g., test scores, final grades, and GPA) and indicators of persistence and attrition (e.g., number of courses completed, number of courses dropped) are obtained from course instructors and institutional records as part of the post-AR assessment.

In sum, the AR treatment described here involves a multicomponent protocol based on a strong theoretical framework, powerful reinforcement of attributional information, strategic administration of the intervention, and systematic collection of pretreatment and posttreatment measures. Administrations of AR treatments that have followed this multistep sequence have successfully improved the attributions and academic performance of college students (Perry and Hall, in press). Having described the specific details of an AR treatment, the next section considers the issues involved in implementing an AR treatment in higher education settings.

Implementing Attributional Retraining

To date, AR treatments have typically been available to college students only as part of their participation in research studies – AR has yet to be systematically applied in college classrooms. The prospect of administering AR to large groups of students in college classrooms, or to make it available over the Internet, is certainly enticing.

Educators could assist students in a timely, inexpensive fashion with the reassurance of administering a treatment intervention that is both theoretically grounded and empirically supported. However, prior to the implementation of AR in college classrooms, several issues must be considered to increase the likelihood that AR treatments will be effective.

Large-Scale Administration

A key factor to consider when implementing an AR treatment en masse involves the expertise of the individuals administering the intervention. In the studies discussed above, AR sessions were led by experimenters who were well trained in attribution theory and research methodology. However, if university instructors administer an AR treatment, a question arises concerning their background knowledge. A basic understanding of attribution theory would be beneficial for understanding causal search and when it is likely to occur (i.e., following negative, unexpected, important events) and would ensure that AR would be administered strategically. Knowledge of Weiner's (1985) typology of causal dimensions (locus of causality, stability, and controllability) would aid AR users in identifying maladaptive attributions and explaining how adaptive attributions are beneficial.

Additionally, characteristics of the students who receive AR can be a critical determinant of the effectiveness of AR. As outlined in an earlier section (see *Recent Attributional Retraining Research*), AR is particularly effective for students with low perceived control. These vulnerable students are susceptible to maladaptive attributional thinking, and benefit from AR because it replaces maladaptive attributions with more adaptive ones. Alternatively, students with high perceived control are likely to already be making adaptive attributions, and hence do not gain significant benefits from AR. This pattern highlights the importance of considering student individual differences when administering an AR treatment.

Another factor to consider when administering AR to large groups is the type of induction and consolidation methods implemented. For example, very large classrooms would make it difficult for instructors to monitor the content of an AR consolidation group discussion. Specifically, when groups are too numerous, noise levels create difficulty for meaningful conversations to take place; when groups are too large, student participation is not likely to be evenly distributed. In contrast, AR consolidation activities in large classrooms that are independently completed, such as writing assignments, allow students to elaborate on the AR content in an efficient, yet highly personal manner. The administration of individually oriented consolidation treatments also makes it unnecessary to externally regulate an unstructured classroom discussion, thereby requiring much less direct instructor supervision.

The learning environment in which AR treatments are administered can also play a role in their effectiveness. As outlined in detail earlier, teaching effectiveness can be an important factor affecting AR effectiveness (Menec et al., 1994; Perry

and Penner, 1990). Additionally, the subject material of the course in which AR is administered may also influence the efficacy of AR. For example, students enter courses such as introductory psychology with attentiveness to cognitive processes and are primed to receive information about human behavior. Alternatively, students in courses such as mathematics or engineering are focused on learning more abstract information and may be less receptive to the AR content.

Online AR

An increasingly important consideration is the medium through which AR is administered. The majority of today's college students are familiar with using computers and the Internet, and may be receptive to an intervention administered online. There may be several advantages to online-AR delivery as opposed to more traditional means. For instance, online methods may allow for the delivery of AR to nontraditional college students, such as those who are physically disabled, hearing impaired, and students living in remote communities. Furthermore, online-AR may eliminate the need for an AR administrator, as the procedure will play out automatically for the students, thereby reducing the number of AR administrators that need to be trained.

Despite these advantages, there may also be several potential disadvantages to administering online-AR. First, online-AR may reduce the probability of proper delivery of the AR content. For example, students could inadvertently skip important information, or they could disregard information that they find less interesting. Second, when delivering online-AR, there is the possibility of computer malfunctions. For example, delivering an AR video may not be possible based on the constraints of the computer or its Internet connection that include risks associated with computer crashes and freezes. Ironically, research shows that computer crashes can be a major contributor to students feeling out of control, which is particularly problematic given the central role of computers in students' academic development (Hall et al., 2005b).

An exploratory study of online-AR found that students in the AR group had higher test scores and final course grades as compared to students who did not receive the online-AR (Hall et al., 2005a). The authors note, however, that the effects of online-AR were smaller than traditional in-person-AR. Nonetheless, online-AR techniques involving independently completed consolidation exercises hold considerable promise by allowing large numbers of students to reflect on the attributional process in a structured yet meaningful way, while at the same time reducing costs associated with instructor supervision.

Precautions and Limitations

Although AR treatments have been repeatedly shown to foster adaptive attributions and academic performance in college students, there are times when AR may be ineffective or potentially harmful. Formal AR treatments may be ineffective among students who have already been exposed to informal AR messages by teachers,

parents, or peers. These people may unknowingly be providing AR by encouraging students to work hard and attribute academic outcomes to effort. In these cases, formal AR interventions may be less effective as students may have already received the information. Further, not all AR techniques will be effective for all populations. For example, the AR discussion consolidation procedure may be ineffective for students who have difficulty disclosing personal information in the presence of their peers (Hladkyj et al., 1998). As previously mentioned, careful consideration should be given to the specific AR methods employed.

In terms of potential harmful effects of AR, some empirical research has indicated that increases to perceived control are not always adaptive. For example, a review of the control literature by Burger (1989) suggests that perceived control can be maladaptive to the extent that encouraging individuals to accept more responsibility for their actions might result in increased anxiety and poorer adjustment. Along the same lines, AR may also be detrimental to the extent that it produces fluctuations in perceived control, a situation that has been associated with detrimental outcomes. For instance, Musher-Eizenman et al. (2002) found that among poor-performing school children, greater instability of perceived control resulted in a breakdown in the positive linkage between perceived control level (i.e., high/low) and academic performance. However, these findings are qualified by the fact that no research on the effects of the instability of college students' perceived control stability has been conducted.

In the same way that increases and changes to perceived control can sometimes be detrimental, Schmitz and Skinner (1993) found several detrimental effects of encouraging effort attributions among school children when they were examined intra-individually. Most relevant to AR, students who were anxious and attributed errors to effort felt less in control. Indeed, when examined intra-individually, the relation between effort and performance can vary – increased effort can even be negative, specifically for highly anxious children. Although this study was conducted among school children, it suggests that a closer look at AR effects from an intra-individual perspective may be warranted.

Thus, it is important to keep these potential limitations in mind when implementing AR in college classrooms. Despite these shortcomings, three decades of empirical research reviewed in this chapter suggests a place for AR treatments in higher education settings as a remedial educational intervention for vulnerable students. The remainder of this chapter outlines the implications of future AR use in college classrooms.

Implications of AR Treatments

The implications of AR treatments in higher education settings are manifest at several levels of the higher education system. Most apparent are the implications for students who stand to gain several academic-related benefits from exposure to AR. Less apparent, however, are the implications for both college instructors and college administrators. This final section of this chapter outlines the benefits of AR for individuals at each of these levels of the higher education system.

The Benefits of AR for College Students

Students can gain personal benefit from participating in an AR treatment in terms of significant performance increases. For a small investment of time, students who participate in AR outperform their no-AR counterparts on in-class tests (Perry and Struthers, 1994; Perry et al., 2009) and at year's end on final course grades (Hall et al., 2004, 2006, 2007; Haynes et al., 2006; Struthers and Perry, 1996). One study, for example, found that final course grades were 10% higher for students in the AR condition ($M = 77.56\%$) as compared to those in the no-AR condition ($M = 67.01\%$; Haynes et al., 2006). Translating these percentages into letter grades means that AR students attained an average letter grade of B, while their no-AR counterparts earned an average grade of C+ (Struthers and Perry, 1996).

In addition to performance in individual courses, AR affects broader indicators of academic performance and persistence such as cumulative GPAs and attrition. GPA represents an aggregate of students' academic achievement across all courses in one or more years of university. Students who receive AR typically obtain GPAs corresponding to a letter grade of B, while their no-AR counterparts average C to C+ (Haynes et al., 2006, in press; Ruthig et al., 2004; Perry et al., 2009). In addition to GPA, AR treatments are effective in reducing withdrawals from courses: students who receive AR successfully complete more courses in the first year of university than those who do not receive AR, and are less likely to drop out of college entirely (Ruthig et al., 2004; Wilson and Linville, 1982). Thus, students gain many academic benefits from exposure to AR, resulting in a significantly improved academic record.

The Role of College Instructors

In addition to benefiting students, AR also has positive implications for college instructors. As previously outlined, the impact of effective teaching behaviors on students' performance depends on student attributes. In any given classroom, an instructor is faced with a diverse mix of enthusiastic, determined, and motivated students sitting next to apathetic, bored, and de-motivated students. This diversity in student motivation represents a fundamental challenge for higher education instructors who strive to provide an enriched learning environment for all students through effective teaching strategies. Unfortunately, research demonstrates that those students who are most in need of an enriched learning environment actually are the least likely to benefit from effective instruction (Perry and Dickens, 1984, 1987; Perry and Magnusson, 1989).

AR treatments serve to maximize the benefits of effective teaching by first improving students' perceived control and motivation to learn. In this way, AR may help to reduce the number of students with motivational deficits in any given college classroom. College instructors may experience an increase in the effectiveness of their teaching as they encounter students with higher levels of motivation (Feldman, 1998; Perry et al., 1979; Perry and Smart, 2007). More highly motivated students may be more responsive to the instructor, thereby making the instructor feel more efficacious.

AR from an Institutional Perspective

Given the direct benefits of AR for students and instructors, college administrators may wish to consider the possibility of taking steps to implement AR in campus classrooms. Several important issues arise in an administrator's decision to implement AR in campus classrooms. First, college administrators are likely to question: "How can a one-time, 30–40 min intervention possibly have such a large effect on students' cognitions and achievement?" This reaction to AR stems, in part, from deficiencies of past empirical work in describing AR treatment procedures. When detailed information about AR procedures is omitted, it is easy to mistake AR as a brief superficial encounter, instead of a theoretically driven, carefully designed, and procedurally standardized treatment. Given this, it is important that AR researchers adequately outline the components that are required to make AR effective, in order to avoid underselling the power of this intervention.

A second question likely to be asked by college administrators is: "What are the costs associated with the administration of AR in college classrooms?" First, implementing an AR treatment would involve costs associated with the development of AR materials. The production of an AR videotape may involve financial costs such as renting equipment, hiring actors, consulting with professional video editing services, and so on. Alternatively, administrators may opt for an AR handout that would cost less to produce and has been shown to be an effective method of AR induction (see *A Protocol for Administering Attributional Retraining*). A second cost associated with implementing AR involves the training of individuals to administer the treatment. As outlined earlier, individuals who administer AR need a working knowledge of attribution theory, and an understanding of the expected effects of AR, the aptitude × treatment framework, and the potential limitations of AR.

Notwithstanding these costs, it still may be cheaper to implement AR than to do nothing. Indeed, it is in the best interests of higher education institutions that college students succeed. When academic failure leads to withdrawal from the institution, lost tuition revenues for as few as 50 students can add up to hundreds of thousands of dollars per year in tuition, government- sponsored tuition matching grants, and tarnished institutional reputation. AR treatments are brief, relatively inexpensive, and easily administered in college classrooms. College administrators who endorse the use of AR in the classroom could potentially see reductions in course attrition rates and lost tuition revenues as a result of more highly motivated students.

Some Unresolved Theoretical and Practical Issues

As discussed previously, recent AR research has focused on two issues: demonstrating the applicability of the ATI framework to AR in field settings, and documenting the process variables by which AR works. Within this focus, there remain

several unresolved issues. First, what other variables may be used to identify students who stand to gain from AR? Second, what other process variables underlie the effectiveness of AR treatments, and how do they mediate the well-established impact of AR on academic outcomes?

Other Student Risk Factors

Empirical studies have demonstrated that a range of aptitudes can make students vulnerable to low perceived control, thereby identifying these students as good candidates for AR. For example, academic-related emotions have been shown to either enhance or suppress perceptions of control. Specifically, students' reports of boredom and anxiety have been negatively associated with perceived control, whereas enjoyment has been positively associated (Ruthig et al., 2008). This suggests that in as much as emotions affect perceived control they may represent another category of individual differences that could be used to identify students who would be good candidates for AR. Akin to emotion, broader indicators of well-being such as stress and depression are also likely associated with compromised perceptions of control. As such, students suffering from high levels of stress or depression may benefit from AR in terms of regaining a sense of control (Evans, 1981) and improving academic functioning.

Some research has begun to consider how the Big Five personality factors may influence perceptions of control (Tong et al., 2006). Of the five, it seems that neuroticism has been associated with reduced perceptions of control, whereas conscientiousness has been positively associated with perceived control. These associations may be related to the tendency for people high in neuroticism to report difficulties coping with daily stressors (Gunthert et al., 1999), whereas individuals who report greater levels of conscientiousness appear to adjust to stressors without too much difficulty (Judge and Ilies, 2002). Based on these findings, it seems that students who score high on indicators of neuroticism may be excellent candidates for AR, whereas AR may not be as useful for conscientious students who are less likely to have low perceptions of control.

One student aptitude that has received little attention in relation to the effectiveness of AR treatments is the causal search process proposed by Weiner (1979, 1985). Recall that causal search refers to the process by which students select an attribution to explain an event. Causal search tends to occur after unexpected, negative, and/or important events (e.g., failing a test; Gendolla and Koller, 2001; Kanazawa, 1992; Wong and Weiner, 1981). Students can be either high or low in causal search and because causal search is an integral component of the attributional process, the effectiveness of AR may be contingent on the amount of causal search a student is engaged in at the time of the treatment. Students engaged in high levels of causal search may be performing poorly, and may be good candidates for AR (Stupnisky et al., 2006, 2008).

Other Potential Process Variables

Unresolved issues also remain regarding the examination of AR process variables. In particular, whereas empirical work has documented several cognitive and motivational process variables, few AR studies have investigated the impact of AR on actual *behaviors*. Academic performance and persistence outcomes such as GPA and number of courses completed have served as indicators of behavior change in most AR studies in higher education settings. However, use of these broad indicators does not provide details regarding the specific behaviors by which academic improvements occur. For example, does AR lead to such behaviors as improved class attendance, better note taking, or more time spent studying? Further, which of these academic behaviors, if any, mediate the relationship between AR and academic outcomes such as GPA and course completion? Future research may wish to examine the direct impact of AR on a range of specific academic behaviors in order to determine exactly how AR produces improvements to GPA and attrition outcomes.

Conclusion

The transition experience to a new achievement setting can contribute to dysfunctional explanatory thinking that ultimately undermines motivation and performance as seen in the high failure rates in the first year of university. This chapter reviewed the effectiveness of AR treatments to foster adaptive explanatory thinking and improve performance outcomes in higher education settings. In practical terms, AR represents an ecologically meaningful treatment that results in performance gains for vulnerable students. The benefits of AR are manifest at several levels of the higher education system: First, college students stand to gain from even a brief exposure to AR in terms of improvements in perceived control, motivation, and achievement. Further, college professors may observe an increase in the effectiveness of their teaching as they encounter students with higher levels of perceived control and motivation (Feldman, 1998; Perry et al., 1979; Perry and Smart, 2007). Finally, administrators at colleges who endorse the use of AR in the classroom may expect reductions in costly course attrition rates and lost tuition revenues as a result of more highly motivated students. In conclusion, to the extent that AR treatments are easy to administer, inexpensive, and effective, they appear to be a feasible option for widespread use in the college classroom.

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Appendix A

Attributional Retraining Handout

Did not do as well on a test as you wanted?
Feeling frustrated, depressed, angry?

Here are some suggestions as to how you can change the way you think about negative experiences in your life.

Rather than thinking ...   **Instead ...**

• I am stupid.

• Everybody can succeed – you just have to work at it. Here are some examples as to how you can study more effectively:
  – Read chapters several times.
  – Review notes several times.
  – Use your study guide.
  – Study with someone.
  Note: Counseling Services offers various study skills courses

• The test was too difficult.

• Tests can appear difficult when you are not well enough prepared. Study more for the next text.

• My professor is lousy.

• If you are having problems with a professor, talk to him or her about your difficulties. If that does not help, you may have to work extra hard to do well in the course.

• I had a bad day.

• We all have bad days once in a while, but make sure that you study enough for the next text to improve your grade.

• I panicked.

• If you have a problem with text anxiety, try to relax under stress (see your psychology text for relaxation methods or check the Counseling Services for courses on stress management).

The next time do not do as well on a text or assignment as you wanted, remember that most reasons for doing poorly are under your control and can be changed.

AAHE, Jan.96 H.O.   © *copyright* 1994

Appendix B

AR Writing Assignment Items

Attribution Elaboration Writing Assignment

1. Discuss and summarize the main points of the video in your own words.
2. Discuss and describe several *important and controllable* reasons for why university students may not perform as well as they could in their courses, and provide an example of each.
3. Discuss and describe several examples of how *you* could apply the main points of the video to the way you currently approach your university courses.

Emotion Elaboration Writing Assignment

1. Try to recall a recent instance when you performed poorly, or did not perform as well as expected, on an important course exam or assignment. Discuss as openly and honestly as you can *how the event made you feel* (e.g., anxious, regretful, angry, ashamed, helpless, guilty, etc.). If possible, also explain how you were able to *learn* from this event, or how you were able to *reinterpret* the event in a positive way. All your writing is completely confidential.

Globalization, Social Movements, and the American University: Implications for Research and Practice*

Robert A. Rhoads and Amy Liu

Introduction: The Global Landscape

One clear challenge confronting the contemporary university is the fact that the scope and direction of higher education are increasingly shaped by forces and interests that, for lack of a better word, may be described as "global" in nature. For example, numerous writers concerned about the fate of higher education and typically operating within the international comparative arena have examined a variety of transnational and multinational influences on today's universities. Some stress the considerable influence of governmental and intergovernmental organizations (IGOs) concerned with the role of universities in national and international development, including such organizations as the Organization for Economic Cooperation and Development (OECD), United States Agency for International Development (USAID), World Trade Organization (WTO), International Monetary Fund (IMF), and World Bank (Altbach, 2000, 2001a, b; Calderone and Rhoads, 2005; Labi, 2007; Rhoads and Mina, 2001; Santos, 2006; Stromquist, 2002). Although it may be quite fashionable to point to various efforts to restructure the modern university at the hands of powerful transnational organizations, including transnational corporations (TNCs) (Stromquist, 2002), pressure to reform today's universities is just as likely to result from any or all of the following: local and regional initiatives to increase successful participation in a global knowledge-based economy; perceived university entrepreneurial opportunities associated with an expanding global economy; regional and international movements to address human rights, including efforts to increase educational opportunities for ethnic minorities; the growing importance of global health and environmental matters such as the HIV/AIDs pandemic and global warming; and legislative and policy decisions related to the war on global terrorism (the U.S.A. Patriot Act may be an example here). In a very real sense, concerns about town-and-gown relationships are now matched, or more likely exceeded, by transnational and multinational forces acting through complex and interconnected networks and associations. Thus, understanding today's universities and their relationship to the broader society must necessarily take into account that we are living in what Castells (1997) described as a global network society.

The most powerful force acting on today's network societies is the global economy (Castells, 1997). Indeed, the global economy deeply implicates the modern American university and challenges the basic structure of the nation-state and its foundational institutions. This point was driven home quite nicely by Touraine (1988), when he argued that the power of the nation-state to support public-good enterprises is seriously limited by the self-interests of global capitalism. The argument here is not so much that the nation-state has "disappeared," but that it has become increasingly tied to private interests and the pursuit of profit (Bakan, 2004; Calderone and Rhoads, 2005; Chomsky, 1999; Morrow and Torres, 2000; Reich, 2007; Stiglitz, 2002). The emergence of a new form of society, one Touraine described as "postindustrial," poses profound challenges to organizations largely founded on an industrial model of the world. What we see in part is the limited capacity of organizations to advance social reform and the public good, given the complex maze and networks through which reform initiatives must now wind. Further complicating efforts is the challenge of overcoming the often competing interests of global capitalism. This is especially true in an era of neoliberalism, wherein markets and privatization assume hegemony in the tradition of Reaganism and Thatcherism (Apple, 2000; Giroux, 2002; Hall and Jacques, 1990; Torres and Schugurensky, 2002). Indeed, traditional institutions such as the American university are more likely to face assault as *targets of reform* to be brought more tightly into the functioning of private capital (Clark, 2001; Slaughter and Leslie, 1997; Slaughter and Rhoades, 2004). Because of the rapidly changing idea of society and the limited power of traditional organizations to effect progressive social change, the logical outcome for Touraine is to shift social change analyses from institutional channels to the growing power and capacity of social movements.

The implications of Touraine's work, as well as that of social theorists such as Castells (1997), Chomsky (1999, 2006), Santos (2006), and Torres (1998, 2002), among others, are that social reform initiatives are just as likely to be successfully stewarded by social actors working within the context of social movements as they are to be championed by those we typically define as "policymakers" operating within and through traditional organizational and political structures. This is true of university reform as well. For example, the struggle between supporters and opponents over the use of affirmative action in college and university admissions in the United States often is portrayed as a research-based legal battle concerning who has the best evidence to support a pro- or anti-affirmative action position, when in fact the struggle operates at an ideological and political level, spearheaded by a jazz-like cacophony of diverse interest groups (Pusser, 2004; Rhoads et al., 2005). Similarly, educational reforms resulting from the social movements of the 1960s, including the civil rights movement, have in recent years come under attack by perhaps an equally powerful movement defined by Apple (2000) as the "conservative restoration." This conservative-led movement arguably has contributed to what Orfield and others described as the deepening crisis of racial resegregation in US public schools (Orfield et al., 1997; Orfield et al., 2002/2003). Clearly, initiatives to refashion US schools and universities are not always led by those we normally

consider policymakers, but rather often are the result of collective action from the left or the right by highly coordinated individuals and groups acting in the truest sense of a social movement.

With the preceding in mind, our goal is to examine the changing terrain of the American university. We focus particularly on the growing impact of globalization and the global knowledge economy, which we see as having both direct and indirect effects on universities. Direct effects are felt through various global processes, including the increasing exchange of students and scholars internationally as well as the growing reliance by scholars on transnational communication systems (i.e., the Internet and e-mail). Indirect effects may result from changes to postindustrial knowledge-based societies and the concomitant implications for university teaching, research, and service. We also see the impact globalization has on the changing nature of society and the subsequent role that social movements play as vehicles for advancing the public good. These latter issues also implicate the university, given its long-standing role in service to the greater good. Hence, our discussion essentially brings three complex ideas together – globalization, changing conceptions of society, and the role of social movements – for the purpose of better understanding the challenges confronting today's universities. Of particular importance to us is the matter of the public good, including most notably the role of the university in advancing social reform. Our assumptions here are relatively consistent with Touraine and other recent critical social thought that views social movements as vital to progressive social change in a postindustrial global environment. The two questions that arise as we consider the modern American university are: (1) How is the university to be reformed in this environment, and (2) How is the university to participate in broader social reforms?

In situating social movements at the heart of our analysis, we are not suggesting that they are in some way new modalities for influencing higher education policy. Clearly, social and political movements have played a key role throughout the history of US higher education. For example, religious movements played a critical role in establishing the early colonial colleges. The Morrill Act of 1862 and the related land-grant movement were a response to groups advocating a broader dispersion of professional expertise and access to higher education for rural students. The G.I. Bill arguably was the outcome of pressure from various groups seeking educational benefits for soldiers in the post-World War II era. And the civil rights movement of the 1960s played a central role in advancing Lyndon B. Johnson's Great Society efforts to expand college access for traditionally under-represented populations. Despite this extended history of social movements shaping higher education policy, scholars have long lacked theoretical frameworks for linking change in higher education to social and political movements (Slaughter, 1990; Pusser, 2003). This chapter seeks to move beyond prevalent frameworks to identify key social movements emerging from globalization and to use theories of globalization and institutions to better understand contemporary transformations in higher education policy and practice. A good starting point for such a discussion is to more thoroughly explore globalization as a phenomenon.

Globalization Conceptualized

A commonly held view depicts globalization as the reduction of time and space (Giddens, 1990). Along these lines, Held (1991) defined globalization as "the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa" (p. 9). Such transformations have the potential to homogenize the world with some scholars arguing that the wealthiest and most dominant nations influence the economic, political, and cultural structures of other societies to such a degree that it might be described as the "Westernization," "Americanization," or "McDonaldization" of the world (Barber, 1995; Ritzer, 1993). Although there is no doubt some validity to such arguments, globalization produces such an intricate system of human flows and social networks that to see one region, country, or corporation assuming so much dominance may be more hyperbole than reality, and in many cases local cultures adapt global influences for their own benefit (Luke and Luke, 2000). The view of globalization advanced in this chapter suggests something far beyond observing Hungarian hip-hop artists performing in the clubs of Budapest, or traveling to Guangzhou, China, and discovering many street signs to be in English, or spotting a McDonald's or Starbucks in Mexico City. Indeed, a key aspect of Held's definition, among others, is the importance placed on complex social relations and how human interactions are increasingly intertwined in contemporary life. Along these lines, Urry (1998) noted that "the development of various global flows transforms the constraints and opportunities which face individual humans, and in particular locates people and objects in novel networks" (p. 4). A similar view is expressed in the work of Castells (1997) and his idea of the "network society," which also highlights the interconnectedness of contemporary societies and cultures.

The idea that globalization has altered the very nature of society is central to Touraine's (1988) work. From his perspective, society no longer exists in the manner and form that helped to define the field of sociology. Consequently, Touraine argued for a new vision of sociology, grounded not so much in the concept of society, but instead in the idea of action. As he explained:

> Today, with the waning of the historical conditions that gave forth the science of societies, we must create a sociology of action. This task is rendered more urgent by the constant threat posed to the field of social life by totalitarian forces, and by the fact that the new social movements, for their part, cannot develop as long as political actors, especially intellectuals, force them into the molds of institutional channels and languages that belong to an unrecoverable past. (p. 28)

Emerging forms of society demand new ways of thinking about social change – namely, Touraine called for a "return of the actor," who, given the limited power of modern organizations to intervene in complex global networks and systems, must now act in the context of a social movement (pp. 8–9). In terms of higher education policy research, a sociology of action translates into intensifying our focus on the ways in which social actors participate in various social and political movements to achieve particular ends. Thus, as networks, fashioned and framed by

the dictates of global capital, increasingly shape the operations and functions of the nation-state and its foundational institutions, including the university, the importance of social movements as vehicles for social change also increases. Touraine's work draws attention to considering the complex ways in which globalization impacts societies as well as the ways in which we might organize a discussion of its effects.

Numerous social theorists have developed typologies for systematically analyzing both the direct and indirect effects of globalization on societies. For example, Torres and Rhoads (2006) delineated five manifestations or "faces" of globalization relating to the world economy, oppositional social movements, culture, human rights, and global war/terrorism. Similarly, Kellner (2000) noted that globalization "involves crucial economic, political, and cultural dimensions" (p. 304). Other authors have further developed these dimensions as part of a broad effort to better understand changes taking place at the societal level. Chomsky (1999) examined the intersection of global economics and politics, pointing to the ways in which neoliberal trade policies actually have failed to improve the lives of the vast majority of the world's population, despite claims often made to the contrary. Chua (2004) also examined globalization's economic and political impact, focusing on how the exportation of "free market democracy" contributes to ethnic resentment and global instability. Luke and Luke (2000) offered a "situated account" of the cultural dimensions of globalization by focusing on social change in Thailand. They presented a counter-narrative to the homogenizing effects of globalization (i.e., Westernization, Americanization, McDonaldization), arguing that "only through situated, local, and self-critical analyses can we begin to see the two-way, mutually constitutive dynamics of local-global flows of knowledge, power, and capital" (p. 276). For our purposes though, we find Kellner's (2000) discussion of "globalization from above" and "globalization from below" as an excellent starting point for better understanding the ways in which global forces are acting on today's societies. Kellner's discussion helps us to bring the key ideas of neoliberalism and social movements front and center and offers a framework for considering the vast ways in which globalization compels universities to pursue knowledge-based revenues in a manner consistent with neoliberal ideals, while at the same time opening spaces for oppositional activity such as student movements to challenge sweatshops, low wages, and world poverty.

Globalization from Above

The idea of globalization from above raises the issue of neoliberalism and the ways in which the world economy is being shaped by a particular view of capitalism and global economics. We approach the idea of neoliberalism as critical social theorists skeptical of many of its claims. Adopting a critical stance of course makes us vulnerable to accusations of acting as "ideologues." For us, this is rather ironic but not surprising, given the fact that the discourse of modernization, as Kellner (2000) pointed out, presents ideas such as globalization "as part of an inexorable trajectory of progress and modernity that is not to be – or that simply cannot be – contested

or challenged … the discourse of globalization is on the surface neutral" (p. 302). We reject claims that neoliberal globalization is the natural outcome of modernity (more or less a social Darwinian view), arguing instead that it is akin to a Potemkin village,[1] where in fact neoliberalism's most dangerous and oppressive effects often are intentionally concealed (Boron and Torres, 1996; Chomsky, 1999; Giroux, 2002; Harvey, 2003; Rhoads, 2003).

Neoliberalism has been described as globalization from above because it is advanced by powerful IGOs and TNCs and is often seen, especially by people in the developing world, as an imposed ideology and economic condition. Torres and Rhoads (2006) highlighted some of the central tenets of neoliberalism:

> Neoliberals call for an opening of national borders for the purpose of increased commodity and capital exchange, the creation of multiple regional markets, the elevation of free markets over state-controlled markets and interventions, the proliferation of fast-paced economic and financial transactions, and the presence of governing systems other than nation-states. (p. 8)

Understood in this light, the market is positioned as the ultimate system of adjudication and fairness in shaping global trade. Given that the orthodoxy of neoliberalism stresses the market as the definitive source of what is good and right, privatization is at the heart of globalization from above.

Mander (2006) pointed out that privatization essentially involves transferring public resources and services to the corporate sector; the central belief being that the private sector will manage the "public commons" in a more just and efficient manner than government and government-sanctioned enterprises. Privatization may involve the transfer of "freshwater, forestlands, energy resources, and even the genetic structures of plants and humans" as well as "public services such as water delivery, education, transportation, health services and sanitation, public broadcasting, welfare services, etc." (p. 7). Critical of the perspective that markets produce the most effective and fair distribution of resources, Apple (2000) pointed out that "markets are as powerfully destructive as they are productive in people's lives" (p. 63).

Free trade and privatization are the foundations of neoliberal ideology and the quest to promote a global economy. The essential argument follows the "trickle down" logic of Reaganomics, stressing, as Mander (2006) noted, that "a rising tide will lift all boats" (p. 8). Many scholars critical of neoliberal globalization, including Mander, have opined that "the twenty years since the model became dominant have not brought prosperity; instead they have greatly increased the separation between wealthy and poor within nations and among them" (p. 8). For Mander, the reality is that "the model does not lift all boats, only yachts" (p. 8).

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[1] The reference to "Potemkin village" derives from the story of the Empress Catherine the Great of Russia and her prime minister, Grigori Potemkin, who allegedly had fake villages (simply façades) constructed along the banks of the Danube "and forcibly staffed these with cheering peasants, in order to impress the Empress with how prosperous and thriving the area was." Consequently, the phrase "Potemkin village" has come to signify some sort of "impressive façade" or disguise aimed at concealing undesirable facts, conditions, and/or consequences (Maxwell, 1996, p. 99).

Much of the scholarly work on neoliberalism raises serious questions about the power and autonomy of the modern nation-state. Scholars following this line of thought generally argue that IGOs, TNCs, and multinational enterprises (MNEs), along with regional economies and their governing bodies, including tribunals sanctioned by the North American Free Trade Agreement (NAFTA) and the European Union (EU), limit the autonomy and power of nation-states (Calderone and Rhoads, 2005). Some even posit the end of the nation-state or the idea of a disappearing or declining nation-state (Held, 1990; Ohmae, 1996), suggesting the possibility of a world largely governed by the wealthiest corporations of our time. Others counter this argument and instead claim that the nation-state increasingly focuses its energies on advancing the interests of capital over all other interests (Carnoy, 1993; Chomsky, 1999). In fact, Holton (1998) argued that nation-states play a critical role in policing global financial transactions through the signatory power they hold over organizations such as the IMF and World Bank. Furthermore, Carnoy (2001) maintained that nation-states that have transitioned to knowledge-based economies must incorporate "efficient state apparatuses with well-developed civil societies that provide growing markets, stable political conditions, and steady public investment in human capital" (p. 70).

The fact that some nations have far greater power and influence than others contributes to the idea of globalization from above, especially from the perspective of nations with limited power in shaping global markets and the flow of capital. This largely explains why so much of the opposition to neoliberalism, as well as to organizations like the IMF and World Bank, is deeply rooted in the Developing World (Boron and Torres, 1996; Burbach, 2001; Chomsky, 2006; Mander and Tauli-Corpuz, 2006; Rhoads and Torres, 2006). If we consider the former Keynesian welfare state as concerned with developing social programs for its citizens first and foremost, then from this standpoint the nation-state indeed has disappeared and in its place has emerged the machinery for advancing the hegemony of capital enterprises (Calderone and Rhoads, 2005). The complicity of the modern nation-state, though, brings about the rise of grassroots oppositional movements seeking to derail the spread of neoliberal orthodoxy. As Kellner (2000) noted:

> While on one level globalization significantly increases the power of big corporations and big government, it can also empower groups and individuals who were previously left out of the democratic dialogue and terrain of political struggle. (p. 301)

Political and civic engagement through social movements, or what Kellner described as "globalization from below," is a key vehicle by which people may resist various aspects of neoliberal globalization.

Globalization from Below

Globalization from below speaks to various forms of opposition and corresponds to a great degree with the increasing relevance of social movements, especially those that might be described as "grassroots" in nature. Arising to some extent from the

"so-called" antiglobalization movements – so-called because they are not really in opposition to globalization in general, but contest neoliberal versions of it – grassroots efforts to counter corporate domination have offered a possible structure for social change. Emerging largely from a shared vision of resistance to corporate and IGO control of the global economy, groups of social actors have worked together toward furthering common ideals rooted in particular versions of social justice, equality, and democracy (Kellner, 2002). Because social life is increasingly tied to globally networked societies, social movements become a primary means of advocating for changes aimed at countering neoliberal domination (Castells, 1997).

At a most basic level, social movements may be understood as coordinated or aligned activity among two or more social actors. The Italian theorist Alberoni (1983) went so far as to suggest that even the act of falling in love may be appreciated in some manner or form from the perspective of social movement theorizing. Although falling in love may constitute a social movement at its most basic level, analyses of more traditional movements such as the development of Islam, the Christian Reformation, the French and Russian revolutions, or the American civil rights movement of the 1960s likely offer greater insight into the nature of collective struggle. Hence for us, paying attention to more large-scale struggles makes sense in exploring globalization from below. However, we hold on to the most basic element of Alberoni's thinking: that at their heart, social movements are two or more actors coordinating lines of action.

Consistent with our line of reasoning, social theorists such as Johnston et al. (1994) argued that the "new social movements" differ from movements of the past in that class structure is less likely, although not altogether unlikely, to serve as the social basis for contemporary forms of collective action. They posited that social statuses such as youth, gender, sexual orientation, or citizenship also are likely to provide the basis for shared struggle. Indeed, identity struggle, or identity politics, has been seen as derailing some of the classic Marxist ambitions of the left, whereby class struggle was to be the defining anchor of collective efforts to reorganize society, often in revolutionary ways (McLaren and Farahmandpur, 1999; McLaren et al., 1999; Rikowski and McLaren, 1999). In this regard, contemporary movements are seen as moving beyond a dialectical Marxist conception of social struggle and instead are shaped by a "pluralism of ideas and values" (Johnston et al., 1994, p. 7). For example, when protesters disrupted the 1999 WTO summit in Seattle, labor activists and Green Movement environmentalists marched alongside right-wing protectionist groups acting in opposition to the role of IGOs in shaping US foreign policy. Similar crosscutting movements are evident on US campuses, and often in reaction to global processes as well. For example, diverse groups of students at colleges and universities around the country have organized protests against NAFTA since its adoption in the early 1990s.

Another key feature of present-day movements is that they are far more likely than in the past to be diffused and decentralized (Johnston et al., 1994). This may in part be explained by the ways in which advanced technology and Internet-based communication systems create the possibility for social movements to be both local and global simultaneously (Kellner, 2002). Although a group of students organizing

as part of the Free Burma Coalition may attend a demonstration at a particular US campus, their actions are orchestrated and aligned to a great degree through e-mail correspondences and shared information available through Web sites, all of which help to keep movement actors somewhat in step at a global level.

In seeking to analyze social movements, Castells described them as "symptoms of our societies" that provide insight into the ways in which groups of actors understand and interpret social processes happening around them (1997, p. 70). Therefore, when various activists, including farmers, peasants, students, and environmentalists, come together to oppose global economic policies being developed at the macro-level by leaders of the G8, interpretations associated with particular strains of globalization are made more visible. Whether social movements are successful or not in transforming the current value systems and institutions of society may be less relevant than the fact that new meaning is created from which new forms of acceptance or continued resistance develop.

There are countless examples of oppositional movements arising to challenge dominant forms of globalization. At their roots, these movements all essentially confront the neoliberal appropriation of the present world economy and the corresponding framing of economic relations. The structures being challenged often are in place as a consequence of the push for privatization and free trade expansionism at the expense of locally situated public welfare and local enterprise.

One excellent example of globalization from below is the 1994 Zapatista rebellion in Chiapas, Mexico. This movement is remarkable for the sophisticated challenge it offered to globalization and the powerful call for promoting local issues. Although concerns of the Zapatistas date back to centuries of abuse that Indians and peasants from the area endured at the hands of colonizers, bureaucrats, and settlers, more recent struggles were tied to conflict with the Mexican government over land rights (Castells, 1997). Additionally, capital interests tied to cattle ranching and the emergence of the petroleum industry led to significant social upheaval throughout the Chiapas region (Burbach, 2001). Ill will toward the Mexican government grew as its pro-modernization strategies increased with the passage of NAFTA. The situation for local communities in Chiapas simply was not socially, politically, and economically sustainable; Mexico was modernizing, but the plundering of the resource-rich state of Chiapas left its peasant and Indian communities destitute in its wake. The Zapatista rebellion emerged as a struggle against the presumed universal inevitability and acceptance of unchecked global capitalism and was marked by the establishment of horizontal networks and the clever use of global technologies to advance an oppositional position. Indeed, Burbach (2001) described the Zapatista rebellion as "the first postmodern revolutionary movement," because of its creative use of media and demands for change that moved beyond the simplified dichotomy of capitalism and socialism (p. 116). The Zapatistas' message spread through global networks, courtesy of the information revolution. Furthermore, their communiqués, praxis, and ongoing dialogue offered an important and experientially grounded critique of neoliberal globalization, while capturing the attention of oppositional groups around the world (Castells, 1997).

Grassroots oppositional movements also emerged in Bolivia, where the failures of neoliberalism to provide for the indigenous population led to mounting aggravation and subsequent demonstrations of power by the country's poorest residents (York, 2006). As in Mexico with the Zapatistas, years of economic suffering fueled Bolivia's approximately 56–70% indigenous population and their reaction to more recent changes tied to the rise of the free trade movement, including significant pressure from the United States, the World Bank, and the IMF to privatize many of Bolivia's state-owned industries. Resentment over efforts to privatize Bolivia's natural resources, as well as opposition to a US push to eliminate coca growing, led to the formation of political coalitions cutting across the nation's indigenous and nonindigenous populations and catapulted Evo Morales to victory in the 2005 elections as Bolivia's first indigenous president (Forero, 2005; York, 2006). Such a turn in Bolivia's political landscape created new hope and optimism for a country whose indigenous population had been subject to the false promise that global free trade policies would improve the economy and their lives (Saavedra, 2006; York, 2006). Bolivia's indigenous revolution is a testament to the potential power of social movements to challenge the dominant values of the global economic terrain.

Europe too has seen movements arise in opposition to global trade initiatives. One particularly epicurean example comes from France, where displeasure in the late 1990s over trade policies led to increased resentment of what the French deemed "Anglo-Saxon globalization" (Meunier, 2000). In this case, the heart of the issue was a view that the WTO was a Trojan horse unleashing the "low-brow uniformity of the American lifestyle," a set of cultural norms such as the proliferation of fast food seen to be antithetical to the French way of fine dining (Meunier, 2000). Led by farmers from the Confederation Paysanne (CP), with roots to the May 1968 leftist liberation movement, opposition to WTO rulings brought to the forefront a fusion of agricultural and cultural issues (Meunier, 2000; Morse, 2000) and led to José Bové emerging as a folk hero, when he used a tractor to publicly wreck a McDonald's under construction (Daley, 2000). Taking down the golden arches of globalization was merely a metaphor for the challenge to the larger cultural and environmental consequences of neoliberal globalization.

Although the preceding examples of anti-neoliberal movements are somewhat removed from the university context, this is not to suggest that university actors are bystanders in broad social movements to challenge neoliberal globalization. Indeed, an analysis of the Argentine grassroots rebellion in the wake of the nation's economic collapse of 2001 revealed that many students and faculty from the University of Buenos Aires (UBA) were actively involved in countless protests in the streets known as *cazerolazos*, and in the Movement of Recuperated Companies (Slocum and Rhoads, 2009) – a broad grassroots effort to reclaim factories and place them in the hands of the workers and whose battle cry was rather pointed: "occupy, resist, produce" (Pimentel, 2004). The takeovers were part of a broader challenge to global capitalism, including the role of the IMF in directing Argentine affairs, and a general movement to situate the means of production within the hands of those who typically produce much of the work – everyday workers (Morduchowicz, 2004). UBA students and faculty engaged with community organizers and unemployed workers by offering

relevant expertise and/or organizational skills. In a study of their engagement in the overall grassroots rebellion, many students and faculty revealed a vision of the university as a transformative agent for democratic social change that at times ought to exist in opposition to neoliberalism (Slocum and Rhoads, 2008).

The social movements in Mexico, Bolivia, France, and Argentina all have strong local and national features to them, but the concerns expressed by such movements also resonate globally. This also is the case with the many protests targeting meetings of global economic decision-makers, who have been described facetiously by de Jonquières (2001), and later by Chomsky (2006), as the "masters of the universe," harkening back to the days of Mills (1956) and his critical discussion of the "power elite." Here, we speak of demonstrations held at major meetings involving IGOs such as the WTO and world leaders of organizations such as the G8. Not surprisingly, movements in opposition to global governance meetings are themselves global in nature. Some prominent examples have been protests at the 1999 WTO summit in Seattle, the 2000 IMF–World Bank summit in Washington DC and Prague, the 2001 World Economic Forum in Davos (the meeting of the "masters of the universe," as described by de Jonquières), and the 2001 G8 summit in Genoa (Rhoads, 2003). In many instances, tens of thousands of demonstrators took to the streets in the vicinity of buildings where key meetings were held, to make their anticorporate and anti-IGO perspectives known to meeting participants and to the world in general. The message was loud and clear – global capitalism was not the "natural outcome of contemporary economic relations," but rather represented a purposeful choice by "powerful economic organizations [to] create the climate and context for globalization" (Rhoads, 2003, p. 239). The movements to challenge the "masters of the universe," have, of course, caught the attention of student activists throughout the United States, many of whom travel to participate in protests at major meetings, or host smaller events at their own campuses (Rhoads, 2003). Here again, the potential for the university and its social actors to offer opposition to neoliberal globalization is clear.

Oppositional groups believe there is an alternative to unfettered global capitalism, though they may not necessarily agree on what that alternative is (Burbach, 2002). Their main argument is that in the contemporary environment, corporate interests are unduly influencing global economic policies and therefore the benefits accrued from globalization are unevenly distributed. They also charge that the structural adjustment demands of the IMF and World Bank perpetuate global inequality. From an oppositional standpoint, wealthier nations (mostly Western) continue to be the beneficiaries of global trade policies, often at the expense of developing countries that sink deeper and deeper into poverty and debt. The challenge is determining what should be the set of rules for governing an increasingly global economy, and whose interests those rules should serve. At present, the critique offered by oppositional movements is that policymakers working for powerful IGOs are serving as the authoritarian enforcers of the global order. The antiglobal trade movement and its collective consciousness may therefore be interpreted as a grassroots regulatory mechanism seeking to temper the dominance of corporate interests by calling for greater justice and democracy in the globalization process.

The essence of globalization from below is a belief that citizens around the world can serve as agents of social change. Through local mobilization that incites global empowerment, social movements may be the David to the neoliberal Goliath. Such a possibility suggests an empowered public, understood from Mills' (1956) perspective, as "the seat of all legitimate power," and "the very balance wheel of democratic power" (p. 298). Of course, as Mills argued, such possibilities are increasingly elusive, given that the classic view of an autonomous community of publics arguably has been transformed into a banal mass society conditioned to accept and perpetuate existing structures and conditions by a small group of power elites. Thus, the idea of globalization from below is in some ways a return to a community of publics engaging in democratic struggle, whose ultimate aim is to reclaim sovereignty from the current hegemony of IGOs, transnational corporations, and political and economic elites. Their motto and clarion call may be "no globalization without representation" (Torres and Rhoads, 2006, p. 8).

In today's global environment, and in light of the growing strength of a knowledge-based economy, universities are increasingly recognized for the key role they play in reproducing as well as challenging the dynamics of neoliberal globalization. In other words, universities exist as key institutions both in terms of their support for globalization from above and their engagement in more oppositional endeavors relating to globalization from below. Thus, in what follows, we turn our attention to universities and the growing impact of globalization.

Globalization and the University

It is often difficult to draw distinct lines among the social, cultural, economic, and political dimensions of globalization, and to parse out how various strands impact universities in this country or anywhere else in the world for that matter. Although globalization is clearly a multidimensional phenomenon, economic forms arguably constitute the most powerful force acting on American universities in the twenty-first century. Nevertheless, there are other global forces that are likewise producing significant changes at universities. In what follows, we turn our attention to some of the more general trends related to globalization before focusing specifically on the impact of neoliberalism.

Globally Engaged Universities

Historically speaking, Western universities have always been globally engaged in that they "incorporated tensions between national realities and international trends" (Altbach, 2004, pp. 4–5). The American university is a good example, given that it developed over the years, especially during the 1800s, as a blend of the English colonial college and the German research university (Veysey, 1965). In the present

millennium, however, internationalized notions of the American university tend to connect to issues of globalization and the view that in recent years, perhaps the latter third of the twentieth century onward, internationalization is driven by the growing power of a global economy, global technologies, and transnational communication vehicles.

The fact that globalization has become so pertinent to higher education institutions is in part evident in the discourse of university presidents. In recent years, it has become quite fashionable for institutional leaders to highlight the need for their universities to internationalize their campuses and increase transnational collaborations (Liu, 2007). Such appeals generally involve myriad dimensions and point to the vagueness of globalization as a concept, as well as the expansive influence of global processes. For example, Ruth Simmons, president of Brown University, stated that the "global paradigm" requires universities to "educate students about the global context of their life and work." The chancellor of the University of California (UC), Berkeley, Robert Birgeneau, spoke about the need for students to acquire the "intercultural competence" necessary to "navigate today's globalized society." Additionally, David Leebron, president of Rice University, declared that "in this globalized world a great university is an international citizen," and therefore faculty and students "must benefit from knowledge and ways of understanding that transcend the tendency to parochialism" (Liu, 2007).

In theorizing issues central to internationalization and globalization (Enders, 2004; Knight, 2004; Kwiek, 2000; Marginson and Rhoades, 2002), whether in terms of students, scholars, the delivery of education, or something more abstract such as knowledge itself, what is apparent is that contemporary American universities have ceased to be simply projects of nation-states and arbiters of national identity. Universities therefore have great freedom to pursue wide-ranging activities. As Enders (2004) noted, "[u]niversities are heavily involved in literally every kind of social and economic activity in our increasingly dynamic societies" (p. 363). Complicating this, of course, is the fact that our societies are firmly embedded in global networks, yet national and local conditions remain prominent. That is, while universities increase their global engagement, they also remain simultaneously bound by national and local ties (Marginson and Rhoades, 2002). Therefore, our discussion of globally engaged universities also reveals the ways in which local, national, and transnational dimensions are interconnected and interdependent.

Given the far-reaching impact of global forces, we cannot attend to every feature of globalization's influence on American universities. In order to maintain a degree of cohesiveness, we intend to limit our scope by highlighting some of the more prominent features, mainly in the form of the growing power of a global marketplace and corresponding influences. Hence, we consider various aspects of the international context of American higher education in light of a global marketplace for students and scholars, the internationalization of curricula and pedagogy, changing conceptions of citizenship and the role of universities, the role and relevance of distance education and virtuality, and the multinationalization of universities.

Global Marketplace for Student and Scholarly Exchange

The transnational flow of students and scholars is a complex phenomenon requiring an understanding of particular national and transnational contexts, including most significantly relations of power (Marginson and Sawir, 2005). In terms of the US context, although international exchange certainly is not a new development, many policymakers recognize that full engagement in the present global economy requires an active flow of students and scholars internationally. For faculty, the increasing number of international academic conferences provides them with greater opportunities to travel abroad and foster worldwide research networks, thereby encouraging the development of broader perspectives even though research may be highly specialized (Delanty, 2001). Federal programs, such as the Fulbright Scholar Program, administered by the U.S. Department of State's Council for the International Exchange of Scholars, likewise facilitate the reciprocal flows of academics and emphasize from a national perspective the importance of international educational exchange.

Many universities in the United States recruit students from other countries in order to internationalize their student bodies, while at the same time encouraging US-born students to study abroad at some point during their undergraduate years, so that they might develop forms of intercultural competence and language proficiency beneficial to occupational and civic participation in a shrinking world. An economic incentive also exists for many universities, as international students typically pay full or higher tuition, thereby serving as an important source of revenue. This type of financial consideration has even influenced community colleges, as they likewise turn their attention to the international market for students (Levin, 2005).

Despite the perception of international students as lucrative sources of revenue, the movement of students and scholars has been an important component of the internationalization of universities in the United States as well as abroad, though it remains primarily a "north-south phenomenon," wherein sending nations are predominantly developing countries and receiving ones are mainly industrialized nations (Altbach and Teichler, 2001, p. 7). This leads to concerns regarding "brain drain" from poor to rich countries. For American universities, however, the exchange of students and scholars has been a fruitful endeavor. According to the Institute of International Education (2007), after a significant decrease in the wake of 9/11, the number of exchanges is again on the rise. During the 2006–07 academic year, there were 582,984 international students enrolled at US colleges and universities and 98,239 international scholars teaching or conducting research at US campuses, a 3.0% and 1.3% increase, respectively, from the previous year. Furthermore, the number of American students studying abroad was up 8.5% to a total of 223,534.

Internationalization of Curricula and Pedagogy

Increasing international exchange and the growing vitality of global networks influence university life through the curricular and pedagogical responsibilities of faculty. These collaborations and exchanges are likely to facilitate greater internationalization

of curricula, as professors infuse into their courses and pedagogies a range of global influences. An example of this comes from our own international work, where we found one university in southern China to be undergoing a pedagogical revolution of sorts, as a consequence of Chinese professors studying abroad and the university playing host to growing numbers of foreign instructors (Liu et al., 2007; Rhoads and Liang, 2006). Domestically speaking, one way that American universities have demonstrated their commitment to internationalization is through course offerings that may be part of the general education and/or foreign language requirements (Siaya and Hayward, 2003). More and more, American universities seek to ensure that their students receive some exposure to international issues, events, and cultures (Fischer, 2008). At the University of Minnesota, for example, a revision of its liberal education requirement resulted in the delineation of four theme areas: the environment, cultural diversity, international perspectives, and citizenship/public ethics. Furthermore, in addition to a foreign language proficiency requirement at its College of Liberal Arts, the university offers a foreign studies minor, in which "students must take area studies, language, and intercultural courses as well as participate in a study-abroad program," an international education minor, and a comparative and international development education program (Paige, 2003, p. 57). Other universities across the country have similar offerings on their campuses as they encourage greater global consciousness among their students.

In some ways, however, such curricular forms may amount to nothing more than "intellectual tourism," wherein educators and learners "view their pedagogical and curricular experiences as brief excursions into 'other' people's lived cultures" (Roman, 2003, p. 272). To mitigate such sentiments, Gacel-Ávila (2005) suggested the following:

> [T]he international curriculum should therefore focus on developing in university graduates respect for humanity's differences and cultural wealth, as well as a sense of political responsibility, turning them into defenders of democratic principles of their society, and true architects of social change. (p. 125)

Campuses may strive for such ideals and incorporate them into the institutional strategic plan, but internationalization can also become entangled with globalization such that the internationalization of program offerings is merely an entrepreneurial response to a global market wherein practical application and job relevance drive curricula to be more task-focused. Stromquist (2007), for example, described such developments in the schools of business, communication, and engineering at one west coast university. She wrote:

> [I]nternationalization is found to signify predominantly a search for student markets domestically and abroad rather than positioning the university's knowledge at the service of others in less advantaged parts of the world. (p. 81)

Global Citizenship and the University

With a more internationalized student body and campus curriculum, even if constructed from the perspective of a market ethos, it is quite natural for questions

about global citizenship to arise. The reality is that it is hard to find a university Web site these days that does not in some way address the issue of increased international integration and the emergence of more globally oriented forms of community and citizenship. An analysis of Web sites of universities around the world provides some insight into the global quality of university education and the growing importance that universities place on producing globally minded citizens. (Italics in the following sentences reflect our emphasis.) For example, the University of Melbourne in Australia seeks to prepare students "to contribute effectively to their communities wherever in the *world* they choose to live and work." The University of Guadalajara in Mexico fosters students' holistic development, including increased tolerance and "the love of country and *humanity*," as well as a social conscience grounded in the values of democracy, justice, and liberty applicable around the world. Similarly, the University of Botswana seeks to "advance the intellectual and human resource capacity of the nation and the *international community*" (Rhoads and Szelényi, forthcoming).

A similar discourse can also be found at American universities, particularly in their mission statements. Central Michigan University, for example, aims to "encourage civic responsibility, public service and understanding among social groups in a *global society*." Wittenberg University in Ohio directly "challenges students to become responsible *global citizens*." Likewise, Georgia Southern University strives to prepare its students for "leadership and service as *world citizens*." If nothing else, university leaders and their public relations staffs are quite aware of the growing prominence of international issues and the role universities are expected to play in advancing global relations (Rhoads and Szelényi, forthcoming).

A discussion about global citizenship, however, necessitates some unpacking of the concept. Traditionally, scholars working in the arena of citizenship studies have confined the intellectual terrain to the boundaries of the nation-state. That is, the idea of a citizen was associated with a particular society, which in modern times is essentially defined by the nation-state. Recently, however, the challenge to traditional borders has led to reconceptions of citizenship as postnational, cosmopolitan, or global. For example, Soysal (1994) defined citizenship from a "postnational" perspective in which one's rights and responsibilities are tied to one's personhood rather than rooted in the nation-state.

Extending the work of Soysal in the higher education realm, Szelényi and Rhoads (2007) explored the experiences of international graduate students studying in the United States and identified three common conceptions of citizenship. They described one as "free marketeering," which focuses more on rights and opportunities than responsibilities. Free marketeers are inclined to stress their own opportunities for professional and economic gain in an increasingly global environment. A second notion of citizenship is captured by what they termed "globally informed nationalism," which emphasizes a sense of responsibility to a home country, but is informed by global understandings, in part advanced through study in a foreign country. The final conception, characterized as "global citizenship," centers on a sense of obligation and belonging to a more globally networked view of community and society.

The idea of global citizenship often is embedded in the educational and curricular discourse of universities, as is evident from the few examples we offered from university Web sites. In this regard, Roman (2003) cautioned that from a university perspective, the concept of global citizen is often entwined within a neoliberal curricular framework. The tendency is for universities to articulate the importance of developing global citizenship, without necessarily considering the extent to which they are promoting "intellectual tourists, voyeurs, and vagabonds" (p. 272) or "consumers of multicultural and inter(national) difference" (p. 275). Even with the idea of "democratic civilizers and nation-builders," there are underlying issues of neocolonialism and global inequalities to consider (p. 277). For American universities, then, lauding the ideal of global citizenship may be as much a rhetorical ploy to tap into the worldwide marketplace of students and scholars as it is a desire to prepare its constituents for broader global engagement. Of course, and from a less critical perspective, student demand also is likely to be an essential factor here, as students increasingly seek possible careers in global finance, law, and policy-making. Considered from this perspective, universities may simply be providing a product that they recognize has high market value.

The Role and Relevance of Distance Education and Virtuality

Web-based technology has contributed to the further development of distance education programs and the use of virtual platforms for expanding teaching and learning. Advances in communications technology offer universities considerable opportunities to expand their educational missions and to transcend geography through online learning. The race to establish e-learning ventures by American universities in the late 1990s and early 2000s, many of which were for-profit, such as NYUonline and Columbia University's Fathom, seemed to be a natural reaction to globalization and the ease of technology for surmounting time and space. Their subsequent demise, however, was perhaps an example of profiteering run amok (Carlson, 2003; Carlson and Carnevale, 2001). Nevertheless, a plethora of both for-profit (e.g., Jones International University, Capella University) and not-for-profit (e.g., Virtual University of Pakistan, Michigan State University's Virtual University) campus-less universities exists today to serve students across borders, and in the case of Michigan State, expand the land-grant model of extension to a global field. The various institutions may focus their efforts on different populations of students and some may solely be for commercial purposes (Foster and Carnevale, 2007), but information technology has allowed for greater exchange between industrialized and developing countries as both consumers and providers of virtual higher education. The international marketization of e-learning through virtual platforms is also a powerful component of for-profit universities, including most notably the University of Phoenix. Indeed, the for-profits have used their economic clout to lobby congress for policy changes that affect all postsecondary institutions in the United States (Breneman et al., 2006).

   Enabled by technological advances, the globalization of knowledge and communications has resulted in greater access to information, but also greater inequality among nations (Altbach, 2004). The Internet has had a democratizing effect in that it has simplified the process of obtaining information and made academic sources more widely available in a readily retrievable electronic form. However, this has been primarily to the benefit of advanced industrial nations that have the means of paying for the different journal databases and archives offered by multinational publishing and information corporations such as Ingenta, Informa, and Reed Elsevier. Developing countries that have less-networked academic communities and that cannot afford such academic luxuries appear to be falling further behind in terms of their participation in an increasingly knowledge-based economy (Collins and Rhoads, 2008).

The Multinationalization of Universities

The trend for institutions to become global universities may seem like twenty-first-century common sense, but as universities in one country develop multinational collaborations and partnerships with universities in other nations, questions regarding their impact also arise. These multinational "twinning" agreements, such as the ones that the International Center for Applied Sciences (ICAS) at Manipal University of India has with various universities in the United States, United Kingdom, and Australia (ICAS, 2008), or the establishment of international branch campuses, such as the one Northwestern University and the Qatar Foundation intend to establish in Education City on the outskirts of Qatar's capital, Doha (Cubbage, 2007), can yield productive transnational exchanges as well as create new higher education opportunities worldwide.

   Facilitated by the General Agreement on Trade in Services (GATS), the transnational higher education enterprise is booming. Australian and UK universities have long been pioneers in this realm, though the United States is steadily becoming a major player as well (Bollag, 2006). However, the implications of such developments are not yet so readily understood. More research is necessary to fully recognize the impact of exporting the educational programs and services of American universities into international markets. For example, some of the issues concern the following: assessing the capacity of foreign markets, recognition and transferability of credits, and accountability and quality assurance (Lane et al., 2004). Further considerations include balancing educational and business priorities, as well as the cultural appropriateness of curricula (Banks and McBurnie, 1999). The abundance of American institutions running programs and campuses in Qatar's Education City, for example, provides fertile ground for more empirically based research. Furthermore, as the region's other competitor, Dubai's International Academic City, continues its quest to attract American universities (Krieger, 2007), how these educational partnerships play out in the Middle East serves as an interesting case, especially given the different models from which the two cities operate (for the most part, Qatar pays institutions up front while Dubai provides loans).

Without a stronger understanding of the benefits and effects of these overseas endeavors, the perception is that "with few exceptions, a central goal for all of the stakeholders … is to earn a profit" (Altbach, 2004, p. 19). Additionally, given that the majority of branch campuses are run by Western nations in developing countries, there is an added concern that these joint ventures may represent a "union of unequals" such that "when institutions or initiatives are exported from one country to another, academic models, curricula, and programs from the more powerful academic system prevail" (Altbach, 2004, p. 17). A possible concern is that certain universities may operate in a manner consistent with new forms of colonialism, or enact a "new imperialism," as Harvey (2003) described it, and unintentionally or intentionally reproduce antidemocratic and exploitative transnational relations, while seeking ideological, political, and/or commercial gain. The potential for American universities to fall prey to new forms of colonialism, perhaps even while seeking to serve the developing world, returns us to the central concerns of this chapter – the ongoing role of neoliberal forms of globalization and their impact on the American university as well as the rise of social movements that shape universities in response.

Neoliberalism, Global Capitalism, and the University

Although many of the preceding examples connect in various ways to American universities seeking to expand revenue and influence in a neoliberal global marketplace (e.g., creating branch or multinational campuses, seeking to expand revenue through distance education, recruiting international students for revenue purposes), we see several features of the contemporary university particularly tied to globalization from above. These include calls for greater accountability, standardization, and privatization, as well as the growing influence of academic capitalism and a more entrepreneurial view of the university.

Accountability

The call for greater accountability and efficiency in part reflects a shift from a professional sphere to one more political (Huisman and Currie, 2004; Rhoades and Sporn, 2002). What was once a self-regulatory activity facilitated by accrediting bodies has given way to demands for greater public accountability as universities find themselves in the line of fire from legislatures, policymakers, business organizations, and the wider public to produce measurable outcomes of productivity, quality, and demonstrated utility. Essentially, what calls for assessment and accountability demand is that universities prove their worth given the hefty public expenditures that support them. Such calls also come with pressure to improve the efficiency of various university operations. A common example of the push for greater efficiency is the trend for institutional and legislative bodies to raise faculty

teaching loads without corresponding increases in compensation (Levin, 2005; Torres and Rhoads, 2006).

In terms of current US national policy, the accountability rhetoric is similarly found in the Department of Education's 2006 report, *A Test of Leadership: Charting the Future of Higher Education*, commonly known as the "Spellings Report" as it was commissioned by the education secretary, Margaret Spellings. Intended to examine the shortcomings of American higher education and outline ways to improve it, the report offered significant recommendations for developing a "robust culture of accountability and transparency" (p. 20). The report also endorsed high school accountability and state assessments (i.e., high-stakes testing). Directives for higher education tended to stress the need for outcomes-oriented measures, which in turn pose the clear possibility of contributing to greater levels of standardization.

Standardization

Obviously, calls for greater accountability have implications for the standardization of American universities. For example, as accrediting bodies are increasingly pressured by the federal government to better assess student learning (Basken, 2007), complex questions related to what constitutes a meaningful undergraduate education must be considered. In addressing such questions, the conversation inevitably turns to the issue of national competencies and the kinds of outcomes one might expect from a university graduate. It is difficult to imagine such a conversation moving forward at the national and federal level without some push to standardize a university education in more precise ways, an issue that surfaced from time to time among members of the aforementioned Spellings Commission.

Internationally, efforts are likewise underway to measure student learning. The OECD, in particular, is leading the push to create global standards for student learning outcomes (Labi, 2007). Driving this effort is the fact that attempts are already being made to develop standards at the national and regional levels. As part of higher education reform efforts linked to the Bologna process, over 40 European countries aim to create the concept of "European higher education" by converging institutional structures and making them more comparable across countries. Though supporters of the process counter criticism that such an attempt is a movement toward institutional homogeneity through increased standardization, the central goal nonetheless is to create a common framework across nations in order to boost the international competitiveness of European universities, while fostering greater student mobility (Neave, 2003).

In the United States, efforts that may contribute to standardization include the use of standardized outcomes assessment tools to quantitatively determine what exactly it is that students are learning. One example of such a tool is the Collegiate Learning Assessment, which purportedly measures things such as critical thinking, analytic reasoning, problem solving, and written communication (De León, 2007). The Spellings Report highlighted this instrument in its list

of recommendations that called for attention to meaningful student learning outcomes. Implicit in much of the discourse supporting increased student assessment is a vision of the university as a training center for the broader economy and its key industries, a vision described by Aronowitz (2000) as "higher training" as opposed to "higher learning," and consistent with the idea of the university as "knowledge factory."

Besides institutional assessment standards, standardization is also advanced through particular academic programs and disciplines. American universities play an important role in reforming other higher education systems at a global level as programs and disciplines within the United States increasingly are looked to as models for other parts of the world. For example, legislation in Japan encouraging its universities to open law schools that reflect American-style graduate-level legal education (Brender, 2003) and efforts in Mexico to modify professional preparation programs to more closely resemble those in the United States (Torres and Rhoads, 2006) are illustrative of reforms that result in greater homogeneity across national boundaries.

Privatization

One of the most obvious outcomes of neoliberal globalization is a strong emphasis on privatization, which, in higher education, is characterized by reduced reliance on public funding and an increase in the share of institutional revenue accounted for by nongovernmental sources such as tuition, charitable gifts, corporate donations, and sales of institutional goods and services. From this perspective, higher education is perceived as a marketable product to be consumed, and therefore the price of attendance is best left to market regulation. The economic rationale is that if a college or university prices itself too high, prospective students will seek other less expensive institutions, or if they cannot afford to attend college they likely will seek other noneducation-related opportunities.

Such a viewpoint has great significance for higher education, given that for years American universities, both public and private, have been understood to be engaged in some version of service to the public good. Thus, the resounding call for privatization, including commercialization and corporatization, may increasingly place the university at odds with various segments of the society, given its public charter (Bok, 2003; Kezar, 2004; Marginson, 1997; Newman et al., 2004; Schugurensky, 2006). The demands of the 1960s and 1970s for socially relevant universities have seemingly been co-opted in recent years by a more economic sentiment defining the university as an engine of development to be linked to the industrial and corporate needs of American society. Relevance is still the issue, but the doctrines of global capitalism define relevance in a far different manner from the democratic movements of the past (Morrow, 2006).

From a campus perspective, privatization is visible in many ways, including considerable corporate presence, particularly of food facilities, in student unions and student activities centers across the nation. Perhaps less noticeable are the

assortment of faculty members who have been bestowed the honor of a corporate-endowed professorship. Within the UC system alone, one will find numerous professors carrying corporate titles: UC Riverside has the Bank of America Professor of Education Leadership, UC Irvine has the Taco Bell Chair in Information Technology Management, UC Los Angeles has the Northrop Grumman Chair in Electrical Engineering, and UC San Diego has the Callaway Golf Chair in Structural Mechanics. Such endowed chairs play a crucial role in the recruitment and retention of faculty. They may also represent an accumulation of immense revenue. For example, the fair market value of the 1,378 endowed chairs across the various UC campuses was US$1,615,717,250 on June 30, 2007 (UCOP, 2007). The increased influence of privatization places great pressure on American universities to continually expand revenues and has major implications for scholarship and knowledge production, particularly at research universities.

Academic Capitalism

Neoliberal ideology has helped to produce a new political economy of higher educa-tion (Rhoads and Torres, 2006). The trend is toward incorporating market ideals into the teaching, research, and service functions of colleges and universities (Clark, 2001, 2004; Geiger, 2004; Good, 2004; Levin, 2007; Marginson and Considine, 2000; Slaughter and Leslie, 1997; Slaughter and Rhoades, 2004; Torres and Rhoads, 2006). Indeed, universities commonly portray themselves as existing in a worldwide higher education market, where the key to survival and legitimacy is to globally compete for a portion of the education demand (Wagner, 2004). Students commonly are viewed as consumers, and research and service are business ventures to be managed for their highest economic value. In this regard, traditional ideals of the university, such as liberal learning and advancing knowledge for knowledge's sake, have in many ways taken a backseat to the fetishization of teaching, research, and service as commodities (Bok, 2003).

   In response to the uncertainties of the late twentieth century, including the wayward expansion of higher education, increases in student demand, greater public expectations for higher education, and shrinking state and federal expenditures, universities forged a path of entrepreneurialism to cope with the new complexities (Clark, 2001, 2004). Shifting from a social institution logic to an industry logic (Gumport, 2002), the "entrepreneurial university" actively sought innovation in its business practices. As a consequence, given their nature as knowledge-based institutions, universities became deeply entrenched in academic capitalism (Slaughter and Leslie, 1997; Slaughter and Rhoades, 2004).

   Amidst a rising knowledge economy, a formal theory of academic capitalism emerged to explain the course of action universities took to integrate into a global economy that increasingly views knowledge as the cornerstone of economic development. Slaughter and Rhoades (2004) situated academic capitalism in the context of the "new economy," which they argued is defined by networks of knowledge, interstitial organizations, intermediation between the public and private sector, and

extended managerialism. From this perspective, various university actors – faculty, administrators, academic professionals, students – work in tandem to support the dynamics of academic capitalism.

The framework of the academic capitalist knowledge regime implicates universities in the endorsement of knowledge privatization and profit making, and as a result it encourages individuals, institutions, and/or corporations to claim new knowledge benefits before the public does (Slaughter and Rhoades, 2004). Knowledge is considered a private good that has global reach and generates revenue, leading to closer ties between universities and industry. In the age of academic capitalism, it is quite common for universities to experience significant increases in industry-sponsored research, wherein "universities are the sellers and commercial firms the buyers" (Geiger, 2004, p. 182). Academy–industry relations, however, are multifaceted and not wholly good or bad (Anderson, 2001; Hall, 2004). The costs and benefits vary institutionally and by discipline. Costs and benefits also depend on the extent to which extramural relationships are pursued absent conflict-of-interest safeguards.

The turn toward an academic capitalist model of the university is, of course, not without its critics (Washburn, 2005). Schugurensky (2006) stated that the increasing "heteronomous" nature (i.e., disposition to market and state impositions) of universities has led to a declining interest in the common good and the autonomous pursuit of knowledge and truth. A difficulty exists, though, in determining just what constitutes the common good. Schugurensky, for example, posed the following thought-provoking questions: "Do universities have a social responsibility? If so, what exactly does this mean?" (p. 315). Furthermore, in whose interests are universities to act? Whose values are they to reflect? These sorts of questions call attention to the important role of the university in society and why the nature of the university often becomes a battle ground among diverse political and ideological groups seeking to reform it. Questions of social responsibility also point to the growing relevance of social movements, as they become some of the most powerful drivers of university contest and change, including significant efforts to limit the scope of academic capitalism, or at least mitigate its effects. Examples are many and include the actions of students to promote a living wage for all university employees, efforts to offer free tuition for the most economically disadvantaged students, and initiatives to promote open source technology.

The University as a Target of Social Reform

Contemporary universities have long ceased to exist apart from society. The idea of the "ivory tower" or "city on a hill" has been thoroughly vanquished within the context of highly networked global societies. The fact that universities are clearly embedded within the societies in which they exist poses a logical concern about how to define mission and purpose and in whose interests they are to act (Tierney, 1999). For the neoliberal/neoconservative alliance that Apple (2000) described, the

university is recognized as a site of potential opposition to be surmounted. However, reform initiatives come from many directions and from diverse ideological and political groups. For progressives seeking a more democratic university, its traditions, policies, and practices are seen as anything but inclusionary, given a history of limited access for women, the poor, and ethnic minority populations. Many social critics also see the university as largely failing communities in need, and too often engaging in disconnected research and service for the sake of individual and institutional self-interest, including the pursuit of prestige. Because the university is perceived to have failed on so many fronts, this has left it vulnerable to a host of reform initiatives. Along these lines, Santos (2006) argued that rather than providing "justification for a vast politico-pedagogical reform program" to address the various shortcomings of the modern university, instead the problems "were declared insurmountable and were used [by critics] to justify the generalized opening of the university-as-public-good to commercial exploitation" (p. 63). Given the hegemony of neoliberal globalization, the most powerful reform initiatives arguably derive from national and transnational movements working to realign university ideals with a global economic order and the free market.

The reality is that universities have long suffered from crises of identity (Delanty, 2001). However, toward the end of the twentieth century the tensions became more palpable owing to rapid economic globalization and additional sources of social control and influence beyond the nation-state, including IGOs and MNEs. Relying on institutional logic for guidance, universities shifted from their social institution character to their industry form to cope with attacks on their legitimacy (Gumport, 2002; Slaughter, 1990; Slaughter and Leslie, 1997). This added to the ascendancy of the market as a driving force in university reform. The market may appear to be a faceless actor knowing no bounds, but it is personified by supranational organizations such as the World Bank and IMF. Santos (2006) and Boron (2006) both pointed to such IGOs as principal architects of contemporary university transformations, especially in the developing world, but elsewhere as well.

Central to Santos' (2006) argument that the university has "transformed into an easy target for social criticism" (p. 73) is what he described as a shift from university knowledge to pluriversity knowledge. Santos noted that university knowledge is homogenous and disciplinary. Scholars set the research agenda apart from society and are unconcerned with how or if knowledge is applied. Pluriversity knowledge is heterogeneous and transdisciplinary. The application of knowledge determines the research to be pursued. In the pluriversity context, both university–industry collaborations and university–civil society partnerships become central to the processes of knowledge production and evaluation. Unilateral ideas of knowledge and society are superseded by interactive and interdependent ones that open up universities to "ultraprivate" pressures to generate knowledge that is economically useful, as well as to "ultrapublic" pressures that demand broader social responsibility. This leads to universities being increasingly subject to destabilizing forces.

Using the general case of Latin American and Caribbean universities, for example, Boron (2006) argued that the privatizing "reforms" introduced by IGOs and their structural adjustment policies have left these institutions incapacitated to respond

progressively to contemporary societal challenges. He re-characterized the adoption of neoliberal educational policies of the late twentieth century as extreme "counterreforms" that regressively transformed universities into beleaguered money-making purveyors of educational commodities bereft of social consciousness. Boron offered a scathing critique of the policies that have affected this region's systems of higher education. Specifically, he noted that the "adoption of neoliberal fundamentalism" (p. 152) resulted in governments abandoning their responsibility to the higher education sector, leaving institutions in a state of financial crisis. Furthermore, as universities became vulnerable to conditionalities imposed by international financial agencies, quality was also jeopardized as a culture of economic reductionism took hold. That is, instead of "heed[ing] the words of Rousseau, Piaget, Vygotsky, and Freire" in assessing educational systems and processes, "the likes of Milton Friedman and the evaluation manuals of the World Bank and the IMF" served as guideposts (p. 157). Boron's work highlights the importance of policymaking and the potential for neoliberal versions of globalization to have deleterious effects for colleges and universities.

The United States, too, has experienced the pressures of neoliberalism to turn universities over to the market. One clear avenue of attack has been to target academic freedom. As Santos (2006) pointed out:

> Academic freedom is seen as an obstacle to the responsibility of the entrepreneurial university vis-à-vis firms that wish to enlist its services. The power of the university must be wrested from the faculty and given to administrators trained to promote partnerships with private agents. (p. 70)

An example of a social movement that challenges academic freedom is the effort launched by David Horowitz, cofounder of the Center for the Study of Popular Culture. Over the past decade, Horowitz helped to create and has promoted the activist group, Students for Academic Freedom, through which he advanced the idea of an academic bill of rights. With funding from large, conservative foundations such as the Sarah Scaife Foundation, the John M. Olin Foundation, and the Lynde and Harry Bradley Foundation, Horowitz waged an assault on what he described as the liberal bias of the American university and gained the attention of state legislative bodies around the country. Horowitz found allies in organizations such as the American Council of Trustees and Alumni (ACTA), a right-wing advocacy group led by Anne Neal and cofounded by Lynn Cheney. The terrorist attacks on the United States in September 2001 added fuel to the fire, as a powerful movement to challenge academic freedom, supported to some extent by the U.S.A. Patriot Act, raised questions of patriotism and abuse of professorial power in targeting professors, such as Ward Churchill of the University of Colorado at Boulder, Sami Al-Arian of the University of South Florida, and Miguel Tinker-Salas of Pomona College, among countless others (Rhoads, 2007). What these professors were mostly guilty of was adopting unpopular or critical stances – positions that for the most part were in opposition to US foreign policy. The context of a "perpetual war" (Vidal, 2002b) against unknown enemies who are "here, there, somewhere" (Vidal, 2002a, p. 44), offered solid ground for bringing the American university further in line with the neoliberal/neoconservative alliance.

The work of Horowitz and other like-minded activists can be seen as a response consistent with conservative perceptions that the 1960s and 1970s had yielded too much ground to educational progressivism. Consequently, in contrast to the progressive vision, the rise of Reaganism and Thatcherism offered a neo-vision for turning the university over to the dictates of capital and installing the free market as the ultimate source of social justice. Thus, the American university was to be refashioned in a manner consistent with market forces, while a social interventionist vision stressing education as a means for addressing inequality was redefined as essentially biased and unfair. Indeed, language drawn from the civil rights movement was turned on its head to protect the interests of the most privileged (Rhoads et al., 2005). In the context of the neoliberal university, there is no room for affirmative action or other social programs, as the very idea of government intervention violates the basic principles of neoliberal philosophy. This also is an excellent example of a social movement seeking to transform the university from the right.

The fact that the university has become such a central target of social reform in part reflects the transformative potential of this vital institution. While some seek to control and limit the university's force within society, others, coming from a wide range of political and ideological positions, see the university as a key agent in efforts to advance social change.

The University as an Agent of Social Reform

Slaughter and Rhoades (2004) drew from Foucault's (1972, 1980) work on "regimes of power" in describing the "academic capitalist knowledge regime" as a dominant influence on contemporary American universities. They also noted that other, perhaps less powerful, regimes of power exist, and sometimes offer opposition to the dominance of academic capitalism. One such regime may be described as the public-good regime. Concern for a broader social contribution of the university, including service to less-revenue-generating sectors of society, defines key elements of the public-good regime. Ideologically, this regime is associated with various social movements emerging in combination with or having the support of university actors seeking to challenge the various manifestations of neoliberalism and the conservative restoration. Oppositional qualities of the public-good regime raise the possibility of the role of the university as an agent of social reform (Calhoun, 1992; Mansbridge, 1998; Marginson, 2004; Pusser, 2006).

There are numerous examples of the ways students in particular have organized in opposition to the dictates of global capital. Some of the better cases come from outside the United States. For example, the student strike at the National Autonomous University of Mexico (UNAM) is illustrative of the ways in which students may come to oppose neoliberal policies and practices (Rhoads, 2003; Rhoads and Mina, 2001). For nearly a year, from 1999 to 2000, groups of students at UNAM took over the campus to resist the implementation of significant tuition fees, partly initiated by pressure from the IMF on the Mexican government to reduce public expenditures for

higher education. Although it may be overly simplistic to suggest that the strike was purely an anti-neoliberalism movement, given the complex set of circumstances that led to its rise and fall, the students' actions nonetheless represented a response to external economic pressures driven by a globally networked society.

The student demonstrators perceived efforts by UNAM's administration to increase tuition as a direct challenge to Mexico's national autonomy and as an obstacle to higher education access and the possibility of social mobility for Mexico's low-income families. As the "nation's university," UNAM's importance resonated across the broader Mexican cultural and political landscape (Ordorika, 2003). Many student protestors believed UNAM to be a public good and therefore opposed what they saw as global pressures pushing Mexico and UNAM toward a privatization model of higher education. The key tension here was primarily over the power of neoliberal economic policies on the one hand and oppositional students holding to a public-good state-supported model of UNAM on the other hand.

Often, university students are joined by faculty in their resistance against neoliberalism. The case of the Argentine rebellion is a good example in that many of the protests in and around Buenos Aires involved groups of faculty and students from UBA and other universities as they marched side by side with countless unemployed and disenfranchised Argentines. The targets of the protesters were the nation's political leaders and the IMF, which for years had held up the Argentine economy as the neoliberal model, only to see it collapse in December 2001. A central call of the IMF in its dealings with Argentine economic and political elites was a push to privatize most public services, including public universities such as UBA. Such initiatives were interpreted by many within Argentina as a direct assault on the university-as-public-good ideal associated with the 1918 Cordoba Movement, wherein elements of the democratic foundations for the Latin American and Argentine university were constructed. The power of the Argentine rebellion eventually enabled newly elected Argentine president, Néstor Kirchner, to adopt a set of policies in opposition to IMF dictates. This in turn contributed to a growing oppositional movement throughout South America. Although this broader movement was not led by universities and their actors, oppositional voices arising at universities within the region have played a major role (Boron, 2006; Slocum and Rhoads, 2009).

Turning to the US context, an excellent example of how universities and university actors engage in opposition to neoliberal ideals is the case of the University of Michigan and efforts of students, faculty, staff, and supporters to preserve affirmative action as a strategy for increasing opportunities for underrepresented minority students. On the one hand, attacks from the right as part of a collective movement to reduce the role of government policy through ending affirmative action on campuses may be interpreted as an example of the university as a target of social reform. On the other hand, the coordinated efforts to preserve affirmative action may be linked to the broad social objectives of the earlier civil rights movement, which were aimed at ending inequality, particularly as defined by race and racism. Hence, we see the case of the University of Michigan as an example of the university playing a vital role as an agent of social change, as it sought to advance and preserve an important social program to diminish inequality.

With the support of a powerful coalition of student organizations, the University of Michigan and its leaders took bold steps to use the university and its resources to fight for the right to consider race as a factor in making admissions decisions for its law school and undergraduate programs. The battle became one of competing social movements. On the one side was a conservative-led movement that included organizations such as the Center for Individual Rights (CIR) and the American Civil Rights Institute (ACRI), along with well-known anti-affirmative action figures such as Ward Connerly. On the other side, in support of affirmative action, were organizations such as the National Association for the Advancement of Colored People (NAACP), the American Bar Association, the Equal Employment Advisory Council, labor unions, military leaders, and numerous Fortune 500 companies, along with educational associations, including the American Council on Education (ACE). The outcome of the *Grutter v. Bollinger* and *Gratz v. Bollinger* Supreme Court cases allowed for the continued use of affirmative action. Yet, as a consequence of the *Grutter* decision relating to admission practices at the university's law school, the use of race was so restricted that many colleges and universities dropped such considerations altogether (Rhoads et al., 2005).

A key point here is that the struggle involving the University of Michigan over affirmative action revealed the power of a university and its key actors to engage, perhaps even lead, an important movement aimed at advancing interventionist programs meant to alleviate social inequality, thus offering a clear challenge to the dominance of neoliberalism and efforts to eliminate government policies designed to increase diversity in public universities (Rhoads et al., 2005). Engagement in the affirmative action struggle by the University of Michigan also highlighted the reality that universities cannot so easily disengage themselves from politics, for the case was as much about ideology and value systems as it was about best evidence. In the end, with the same set of empirical facts before all nine justices (in terms of the *Grutter* case), the four liberal-leaning justices voted in favor, the four conservatives voted against, while as was so common with this particular court, Justice Sandra Day O'Connor swung the vote for the pro-affirmative action side.

That the *Grutter* and *Gratz* cases essentially came down to politics and political organizing is not surprising, given that Pusser (2004) documented similar sorts of processes in his study of the battle over SP-1 and SP-2 at the University of California.[2] He explained:

> A public university is a political institution, with great salience, visibility, and instrumental value. By accepting that, we can turn attention to the ways that long-term political action shapes the organization and governance of public higher education. (p. 227)

Pusser also highlighted the reality that universities, in this case public universities such as UC, have key roles to play in forging broader social change: "While the prolonged and often bitter struggle at UC was waged over affirmative action policies at one university, it was also a conflict over the role of elite public universities

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[2] SP-1 and SP-2 essentially ended consideration of race, religion, sex, color, ethnicity, or national origin as criterion for admissions and contracting throughout the University of California.

in the wider society" (p. 227). Although affirmative action has been a major source of political organizing and campaigning in academe, other recent issues such as the war in Iraq, the U.S.A. Patriot Act, a host of environmental concerns, and the use and treatment of laboratory animals also have generated significant political struggle at universities around the country.

In the cases of both the University of Michigan and UC, there was extensive criticism directed at key university personnel for adopting a pro-affirmative action position and engaging in what amounted to a political struggle (of course, there also was much support). Here, it is important to note how quickly university actions in opposition to neoliberalism and neoconservatism are labeled as "politically motivated." Yet when universities engage in an ever-deeper commitment to the neoliberal project, a charge of politicization rarely follows. Indeed, in many ways, neoliberal ideology has come to be so embedded in the contemporary American university that in essence it has become normalized.

Although student actors in particular played key roles in the more localized struggles in Michigan and California, they also have been actively involved in global movements, including trade protests such as the one in Seattle in 1999 (Rhoads, 2003). Whether they are protesting WTO, IMF, or World Bank meetings, organizing unions to protect their interests as a university labor force, striking against tuition and fee hikes, or agitating for democratic rule within particular countries such as Myanmar, the collective consciousness of students serves as a powerful rallying force from which oppositional movements emerge and expand (Rhoads, 1998; Rhoads, 2003; Rhoads and Rhoades, 2005). For example, in recent years, we have seen a great deal of student organizing in support of better wages for university workers, as part of what has been called the "living wage" movement (Madrick, 2001). Such movements are a direct challenge to the emerging institutional emphasis on adopting corporate labor models, often at the expense of employee wages and benefits. In a related contest, graduate student employees at US universities have been actively involved in union drives and general initiatives that may be interpreted as undermining the corporatization of the university (Rhoads and Rhoades, 2005).

Opposition on the part of students, and sometimes faculty, particularly with regard to their view of the university's responsibility to the public good, whether it be in fighting for living wages, affordable tuition, or programs to advance underrepresented minorities, calls attention to Castells' (1997) argument that the influence of global enterprises and their prevailing commitment to privatization and entrepreneurialism seeks to weaken organizations that serve the public good. Under the regime of global capitalism, private interests challenge the public good as they endeavor to corporatize universities. As a consequence, social movements become ever more vital as agents for social change. The university, with its key role in analyzing and conveying social values, paradoxically becomes both the target of social reform efforts to bring the institution into greater alignment with neoliberal values and a vehicle for launching broader social change that at times is likely to be oppositional in nature. The university's potential for oppositional social engagement is key to the conceptualization of the university as a site of social and political contest over the public good and as an essential public sphere (Calhoun, 1992; Mansbridge, 1998; Marginson, 2004; Pusser, 2006).

Implications for Research and Practice

The argument presented here has significant implications for research and practice. With regard to research, there are four key considerations for scholars engaged in the analysis of universities and their relationships to the broader societies in which they exist: consider the changing nature of societies and nation-states; move from organizational theory to social movement theory; center politics and ideology; and problematize globalization as a concept. In terms of practice, there are a number of key points to consider: recognize the university as the inevitable target of social reform; embrace the role of the university as a social reform agent; expand the definition of policymaker; and rethink university service and service learning.

The Challenges to Research

Consider the Changing Nature of Societies and Nation-States

Roughly a century ago, Ferdinand Tönnies theorized that two essential types of social relations had evolved. First published in the late 1800s in Germany as *Gemeinschaft und Gesellschaft*, and then later translated as *Community and Society* (1957), Tönnies argued that the idea of *gemeinschaft* reflected the more personalized relations associated with families and close-knit communities, whereas *gesellschaft* was more typical of impersonal relations such as those connected to the industrialization of societies and concomitant labor-related social bonds. Because the basic economic structure of society was evolving from that of cottage industry to a more industrialized model, wherein factories were becoming a dominant site of employment, the very nature of social relations also was being altered. Similarly, the globalization of societies in the context of late capitalism, including the growing power and influence of the corporation, also is producing new forms of society and social relations. For example, the fact that serious consideration is given today to the idea of global citizenship suggests the degree to which globalization is reshaping geographic and social relations.

What this suggests for research in the arena of higher education is that scholars must give greater thought to the ways in which globalization may be altering the landscape of societies, including their relationships with colleges and universities. A central purpose of this chapter has been to introduce some key theorists, such as Castells (1997), Santos (2006), and Touraine (1988), who are helpful for rethinking the nature of contemporary societies and the role of universities in an evolving, knowledge-based, global economy.

The concept of the nation-state is also being reconfigured within the context of globalization. Although many scholars disagree with the argument that the nation-state may be disappearing or fading into oblivion, there is considerable agreement that its fundamental nature is being challenged and reframed by IGOs, NGOs, and MNEs. Carnoy (2006) offers a concise and telling position on the importance of the state for education:

> Most education in most countries is provided by the state … because the state is the supplier and definer of education, the way changes take place in educational systems is largely defined by the political relationship of the nation's citizenry to the state and the way that the state has organized the educational system politically. (p. 555)

Although Carnoy primarily addressed K–12 education, higher education also comes under the province of the state in many ways. The state is the key site for contests over higher education policy and legislation, contests that often are seen as pluralist, yet, as the case of affirmative action clearly reveals, frequently are shaped by social movements (Rhoads et al., 2005). Consequently, researchers engaged in analyses of higher education policy not only need to give greater thought to the state and its role in shaping the context of higher education, but they also must give serious consideration to the ways in which the state is being altered by global processes, including most notably the expansion of neoliberalism as a source of influence. In this regard, scholars such as Chomsky (1999), Giddens (1990, 1998), Harvey (2003), Held (1990), and Said (1993) are theoretically insightful.

Move from Organizational Theory to Social Movement Theory

A focus on globalization, and its impact on contemporary societies, also suggests a rethinking of the foundational theories used to understand social change and its agents. Traditionally, and dating back to such classics as Whyte's (1956) *The Organizational Man*, the study of life in the industrial age was one centered on organizations and their impact on humans and the human condition. So powerful was the influence of the modern organization that studying the human experience beyond the context of common institutions of the time seemed to make little sense. In essence, "modern man" had become a product of a highly organized and institutionalized existence. To a large degree, then, human experience in the modern age was best understood by drawing from various organizational theories and literatures. Classic books such as Blau and Scott's *Formal Organizations* (1962), Kanter's *Men and Women of the Corporation* (1977), Scott's *Organizations: Rational, Natural, and Open Systems* (1981), Morgan's *Images of Organizations* (1986), Senge's *The Fifth Discipline: The Art and Practice of the Learning Organization* (1990), and Bolman and Deal's *Reframing Organizations: Artistry, Choice, and Leadership* (1991) were all, at different points in time, common texts in a variety of social science courses focused on analyzing contemporary organizational life. More specific to the field of higher education, works such as Clark's *The Distinctive College* (1970), Baldridge's *Academic Governance* (1971), Cohen and March's *Leadership and Ambiguity* (1974), and Birnbaum's *How Colleges Work* (1988) have been instrumental in framing our understanding of the organizational nature of college and university life. Although these texts are to this day replete with helpful insights, a new era, a global era, is upon us. There is a need for new insights about the nature of social change and the role of social actors operating at times beyond the confines and limitations of formal organizations. Indeed, scholars will find it increasingly necessary to turn to academic work on social movements to help make sense of the ways in which university actors and groups struggle to forge

social change. This also calls for a return to the basic argument offered by Touraine (1988): that a new sociology of action is needed to replace the former sociology of society, as the notion of society that once undergirded the essentials of sociological thought no longer exists. Globalization has changed modern society, and hence, the theories we use for understanding social change, including the role of universities in society, must also be revised and updated to fit these new times.

This research highlights two key ways of connecting social movement theory to universities: the university as a target of social reform and the university as an agent of social reform. To reform the contemporary American university, an assembly of organizations and actors often is implicated and such a collective may be more easily understood by thinking of it as a social movement. Additionally, universities acting on their own are unlikely to initiate or lead major social changes. Consequently, understanding the role universities play in addressing social issues is likely to require an analysis that moves beyond the limitations of organizational theory and incorporates greater elements of social movement theory and models of the political university.

Center Politics and Ideology

Elevating the importance of social movements as a framework for studying universities as both agents and targets of social reform also raises the importance of politics and ideology. Universities are inherently political in their operations and endeavors, although it is quite common for higher education scholars to ignore the political facets and complexities of university life (Ordorika, 2003; Ordorika and Pusser, 2007; Pusser, 2003, 2004, 2006; Rhoads et al., 2005; Tierney, 1991, 1993). Universities and their leaders also commonly act on the basis of particular ideological orientations, and yet many within academe tend to deny any and all ideological affiliations (Tierney, 1991). Hence, it is in part up to scholars of higher education to bring to light particular value sets and ideologies that inform university operations and decision-making processes. As one example, actions in opposition to the academic capitalist knowledge regime are often attacked for being ideologically driven, while those policies that support the pursuit of capital and revenue streams in academe are rarely described as acting on a particular ideological basis. Rigorous analysis of politics and ideology must account for other such contradictions expressed within academe.

Problematize Globalization as a Concept

There are many aspects of efforts to conceptualize globalization that lead to circularity, and a certain degree of abstraction. To avoid such problems in this chapter, the discussion has centered on the neoliberal vision of globalization. Researchers working in the arena of higher education policy must be as specific as possible when discussing various facets of the global environment that relate to a particular study undertaken. Some helpful typologies, such as those suggested by Torres and

Rhoads (2006), may be useful –globalization from above, globalization from below, cultural globalization, the globalization of human rights, and the globalization of the international war against terrorism (and the globalization of terrorism itself). Although this typology clearly has some limitations – typologies by their nature are simplistic representations that simultaneously serve to include and exclude particular elements – the key point is that scholars need to be as specific as possible in delineating the global circumstances and relations under study. Broadly employing the term globalization may not be of much assistance in many instances.

Challenges to Practice

Recognize the University as the Inevitable Target of Social Reform

Acknowledging the changing nature of society and the increasing importance global processes play in shaping contemporary organizations raises significant implications from a practical standpoint. For one, the growing influence of a knowledge-oriented global economy raises the stakes for universities, given their role in the production and commodification of knowledge, including their participation in cutting-edge scientific discovery. Consequently, universities will increasingly find themselves challenged by groups, organizations, and powerful individuals seeking to restructure them in ways consistent with their own interests. To protect against excessive interventionism, universities need to more clearly articulate what they are and what they intend to become, thereby better positioning themselves to resist efforts aimed at moving them in directions incompatible with their missions.

An excellent example of excessive interventionism that essentially brought the foundation of the university into question is presented by the many accusations of liberal bias made by conservative critics. Universities and their academic leaders often are quick to sidestep such charges. This is somewhat surprising, given that the university traditionally has placed great value on liberal learning in the classic sense and the goal of college and university graduates becoming more tolerant and understanding of others. Also, progress is at the very heart of what universities ought to stand for, as they have an obligation to contribute to improving society. For example, the university as a center of science and knowledge production stands for progress and therefore should inherently embrace progressive values associated with advancing people's lives, improving the human condition, and creating socially just changes within the broader society. Certainly, one can argue that universities have not always lived up to their social responsibilities, but it is difficult to argue that they should not. Given the liberating effects a university education ought to have on students, combined with the goal of making contributions to social progress, why is it so hard to imagine that the university is by nature more liberal than conservative in terms of its political and social vision? Indeed, universities need to be centers for progressive thought and not bastions of support for the status quo. As such, every effort should be made to oppose attempts to limit the potential liberational agency of universities.

Embrace the Role of the University as a Social Reform Agent

In order to fulfill their missions, universities need to be key organizations in broader efforts to transform societies in more democratic and socially just ways. Universities have not always been responsive to the communities, regions, and societies in which they exist, and as a consequence, have become quite vulnerable to external attacks. Lacking the ability to fully resist outside interventions, and facing serious financial constraints, universities became dominated by an ethos of mercantilization. This, for Santos (2006), represents the "new" condition under which many universities operate, but such a state of affairs cannot be met through efforts to return to the "old," or what once was. As Santos argued:

> Under such conditions the new cannot be viewed as the problem and the old as the solution. Besides, what existed before was not a golden age and, if it was, it was just for the university and not for the rest of society, and, within the bosom of the university itself, it was for some and not for others. (p. 82)

The response of the modern university to the neoliberal challenge should not be a return to the ivory tower. Instead, universities must embrace their transformative potential by creating intellectual and critical space for social movements of all types to flourish. A more democratic and emancipatory university is one that recognizes its obligations and commitments to society, but is not defined only by those forces within the society capable of offering it financial support. The public-good vision of the modern university is essential to its survival. This will require increasing engagement with communities and populations in need. The interests and actions of the university cannot be limited to privileging private interests and capital. The university as a public sphere must incorporate the many communities and interests that have a stake in the operations and commitments of these essential institutions (Pusser, 2006).

Expand the Definition of Policymaker

A focus on social movements as a vehicle for engaging universities in the broader struggle for social change suggests a more complex understanding of who are in fact "policymakers." Pusser (2004) put it quite astutely when noting the complexities of the decision-making processes leading to UC's Board of Regents adopting SP-1 and SP-2, thereby ending race, ethnicity, and gender as considerations in making admissions and contracting decisions:

> One of the more powerful findings from this case was the importance of resistance by actors with limited voting power in the policy contest. Most research on higher education policy-making has focused on pluralist processes, or the relationship between institutions and actors who control significant resources. In this case, student resistance, through rallies and protests, cross-campus alliances, and the invitation to Jesse Jackson to address the board on students' behalf, led to a significant shift in the contest. (p. 224).

Pusser's work suggests that policy decisions often are the outcome of complex and dynamic political and social struggles. As such, a wider array of actors actually may hold the potential to impact higher education policy than is typically considered.

There are countless examples of successful efforts either to engage universities as key players in broader social struggles or to target them for reform that had little to do with individuals typically identified as "policymakers." Conventionally, scholars and researchers conceptualize policymakers as state or federal officials charged with overseeing various segments of the higher education arena, or as foundation officers holding the financial wherewithal to shape programmatic development within higher education, or as powerful elected officials participating in various decisions that impact colleges and universities. A focus on social movements, however, complicates this picture. The emergence of ethnic studies as an interdisciplinary academic program is a fitting example. Coming out of the powerful social and political movements of the 1960s, such struggles were able to transform in significant ways the curriculum of countless colleges and universities. This was not accomplished by actors generally defined as "policymakers," but by student and community activists challenging curricular traditionalism and a triumphalist vision of American society (Hu-DeHart, 1993). Consequently, when we consider the ways in which universities are to engage society or the manner by which they become targets of social reform, we must think about the many diverse constituencies that actually play a part in shaping these dynamic processes. Obviously, policymakers come from many corners of the society, and so we must consider them and their potential influence in far more complex ways than we have in the past.

Rethink University Service and Service Learning

Just as the growing importance of social movements suggests new notions of who policymakers may be, so too does it raise considerations with regard to how we think about and define university service. Recognizing that the university should not be subordinate to the demands of neoliberal globalization leads us to consider dynamic ways in which universities and their constituents may become involved in various social movements as an extension of the university's obligation to society. A good example is suggested by the engagement of students and faculty at UBA in their nation's grassroots movements opposing neoliberalism (Slocum and Rhoads, 2009).

Typically, university leaders see it as quite fitting for key faculty and staff to engage in various forms of economic development, involving, for example, the commercialization of university products and services, including the generation and application of knowledge and scientific discovery. It is also customary for faculty in a school of business to work with local or regional business entrepreneurs to develop new and innovative enterprises. University professors in these areas might even find ways to engage their students in forms of service learning or internships beneficial to various businesses or corporations. But does the academy afford all professors the same opportunity to connect students' academic studies to relevant civic and community engagement? Would the actions of a labor studies professor engaging her students in support of a union drive by campus cafeteria workers be seen in the same light as the entrepreneurial engagement of business students?

At the beginning of the twenty-first century, it is far more acceptable to support an entrepreneurial economic development mission, which itself represents particular

ideological and political assertions, than to engage in activities in opposition to neoliberalism. This leads us to ask: To what degree are contemporary university actors able to offer resistance to the neoliberal project? Can the university in the United States truly create space for service such as that evidenced by the oppositional engagement of UBA students and faculty participating in the Argentine grassroots rebellion? To do so, universities need to do a far better job of expanding conceptions of service. The fact that such mission-related and public-service-oriented projects might seem oppositional says a great deal about the extent to which neoliberalism has come to define the modern American university (Giroux, 2002).

Conclusion

Globalization has shaped, and will continue to shape, the modern university in significant and multifaceted ways. Furthermore, because global processes are also refashioning the very nature of societies, the manner by which we go about constructing the relationship between universities and the societies in which they exist is also changing. More specifically, social movements play a growing role in the ways in which higher education policy is constructed and advanced. The days of a single president or even a "small cadre" of devoted academic leaders forging institutional sagas (Clark, 1972) are increasingly numbered, as the complexities of knowledge-based network societies bring an array of social actors into the fray of higher education policy making and the very nature of what colleges and universities represent.

From a scholarly perspective, any discussion of global forces interacting with the contemporary university must begin and end with acknowledgement of the massive influence of neoliberalism and its power over the world economy. That the university has become highly commercialized is likely irreversible (Bok, 2003). And despite the many challenges it presents, there certainly are facets to commercialization that may be desirable – such as forcing the university to be more responsive to external constituents. A global economy shaped by neoliberalism is a dominant force of our time. However, as has been demonstrated throughout this chapter, there are innumerable spaces for university actors and social movement participants to engage in, and lead, oppositional endeavors. The modern American university must remain vibrant and vital across broad sectors of society.

Finally, the research presented here suggests that it is possible to link the contemporary American university to the power of social movements, in recognition of the university's obligation to serve a democratically negotiated public good. Such a goal at times will bring the university into conflict with neoliberal forms of academic capitalism and the commercialization of university teaching, research, and service. That tensions will arise is inevitable, but universities equipped to support a range of endeavors, representing diverse philosophical viewpoints, will be better positioned to excel in a global environment where essential challenges are likely to arise from near and far and from many different ideological and political positions.

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Hispanics and Higher Education: An Overview of Research, Theory, and Practice

Amaury Nora and Gloria Crisp

Introduction

According to the 2000 census, there are currently 35.3 million Hispanics living in the United States, a near 60% increase from just 10 years earlier (Pew Hispanic Center, 2005). The largest subgroup of Hispanics is of Mexican origin (66%), followed by groups from Central or South America (15%), Puerto Rico (9%), Cuba (4%), and other Hispanic countries (6%) (US Department of Commerce, 2001). While immigration has been the major contributor to this increase in the past 4 decades (National Research Council, 2006), it is believed that future increases in the Hispanic population will be driven primarily by high birth rates of second- and third-generation citizens (Pew Hispanic Center, 2005). A substantial Hispanic population will result, as it is projected that in the next 50 years this group will account for 51% of the population growth, making one fourth of the total US population by 2050 of Hispanic origin (Llagas & Snyder, 2003).

Latinos lag behind other groups educationally (Fry, 2004). In 2000, only 10% of Hispanics aged 25–29 had earned a bachelor's degree or higher compared to 34% of Whites and 18% of African-Americans (Llagas & Snyder, 2003). This variation in postsecondary educational attainment has caused substantial labor market inequalities with this population. In contrast to African-Americans who continue to suffer from discrimination that contributes to disparities in earnings, Hispanics are presently paid comparably to Whites given the same amount of education (National Research Council, 2006). Regardless, the low levels of formal schooling earned have contributed to the overrepresentation of the Latino population in low-skill occupations that pay less, and have higher unemployment rates than other groups (6.8% for Hispanics compared to 4.3% for Whites). Currently, Hispanic households own less than 10 cents for every dollar in wealth owned by White households (Pew Hispanic Center, 2005). Unless college graduation rates of Hispanic students show significant increases, the unemployment and poverty rates for this group are sure to rise. In Texas, for example, it is projected that by 2030 the average household will be US$4,000 poorer than in 1990 (in constant dollars), increasing the poverty rate nearly 3% (President's Advisory Commission, 2002).

Although Latinos are among the least educated groups in the United States, they are making a significant impact in schools at all levels (Laden, 2004). In 2000, over 11.4 million school-aged Hispanic children resided in the country, representing 16% of all children. By 2020, it is projected more than 20% of all children under age 18 in the United States will be Hispanic (Llagas & Snyder, 2003). Differences in the educational experiences of Latinos are seen as early as preschool, as Hispanic children are significantly less likely than other children to attend preschool programs (Pew Hispanic Center, 2005). These differences are consistent throughout Hispanic students' K–12 education; the percentage of 16–24-year-old dropouts who leave school before earning a high school credential is consistently higher for Hispanic students. It is believed that roughly 48% of Hispanic students enrolled in middle school in the eighth grade will not return to school to begin their high school education. Moreover, Mexican American students failing to earn a high school credential has been estimated at nearly 50% (using ninth grade enrollment as the baseline year). And finally, of those Latino students that survive high school and graduate, only a mere 35–40% enroll in college (Arbona & Nora, 2007; Nora, Barlow & Crisp, 2006).

The low high school completion rate, particularly among immigrants, is negatively impacting Hispanic postsecondary enrollment. Less than half of all Hispanic high school students in this country currently qualify to enroll in 4-year institutions. Of those, only between 30% and 40% (depending on geographic region) are enrolling in college immediately following graduation (President's Advisory Commission, 2002). This figure equates to only 22% of the 18–24-year-old Hispanic students in this country enrolled in college in 2000. The percentage of eligible Hispanic students attending college appears to be on the rise, at least at the community college level (Fry, 2005). In 2000, 36% of high school completers enrolled in college, up from only 27% in 1985 (Llagas & Snyder, 2003).

Figures from the 2000/01 California Postsecondary Education Commission (CPEC) provide a sobering illustration of Hispanic postsecondary educational pathways in the state. According to CPEC, of every 100 Hispanic students who graduate from California high schools only 40 enroll at a postsecondary institution. Of these 40 students, 30 begin at one of the state's community colleges, three are admitted and enroll at the University of California, and seven at California State University system campuses (Solorzano et al., 2005). Regrettably, the figures present in California appear to be reflective of Hispanic students around the country.

Discrepancies are also seen in the types of institutions Latino students attend when compared to White students. Presently, Latinos are much more likely to attend community colleges or less selective 4-year universities than White students (Pew Hispanic Center, 2005). In 2004, 66.2% of Hispanic students enrolled at an open-door institution or community college, compared to 45% of White students. Although similar percentages attended highly selective colleges, 9% of White students attended selective 4-year institutions compared to 6% of Hispanics (Fry, 2004). It is important to note that these disparities are only partially attributable to differences in academic preparation, as these enrollment differences are seen not considering high school preparation (Pew Hispanic Center, 2005).

At the graduate level, Hispanics earn a mere 4% of all master's degrees, 3% of doctoral degrees, and 5% of professional degrees. Compared to national averages, Hispanic students are more likely to earn master's degrees in education (33% versus 27%) and are less likely to earn their master's degree in engineering, health professions, business, and computer information sciences. Similarly, at the doctoral level Hispanics are earning higher than average numbers of degrees in education and psychology but are less likely to earn a terminal degree in engineering (7% for Hispanics compared to 12% nationally), physical science, and science technologies (6% compared to 9% nationally) (Llagas & Snyder, 2003).

The importance of reaching a higher level of academic accomplishment past a high school diploma is evident in that it provides increased opportunities for career development and enhances the choices that are made available to those with an undergraduate degree. Its importance is even much more evident in that advancement and salary are highly associated with a 4-year degree. In 2000, among people 25 years and older, 1.7% of those with a bachelor's degree or higher were unemployed in contrast to 3.5% of high school graduates and 6.4% of high school dropouts. Those with higher levels of education garner better incomes. In 1999 the median annual income for year-round full-time male workers was about $25,000 for high school dropouts, $33,000 for high school graduates, and $53,000 for college graduates (the median incomes for women were $17,000, $23,000, and $38,000, respectively). Overall, a college graduate is estimated to earn one million dollars more in income and benefits over a lifetime than a high school graduate (National Center for Educational Statistics, 2001).

Improving access and success of Hispanic students at all postsecondary levels has been declared a national priority by the Clinton and Bush administrations (Fry, 2004). But substantial gaps exist in our knowledge base relative to understanding and serving the unique needs of Latino students in higher education (Hurtado & Ponjuan, 2005). In order to improve access for Hispanic students in higher education a better understanding of the current issues surrounding access and the in- and out-of-college experiences which lead to persistence for this group is needed. More specifically, an understanding of the multidimensional components of Hispanic students' academic experiences is critical (Castellanos & Jones, 2004).

Current Barriers to College Access

Academically Related Barriers

Dropping Out of High School

It has been reported that in the last 20 years there has been a substantial increase in the participation of minorities in higher education (Harvey, 2003). Despite these reported increases, Hispanic youth continue to show lower college participation and graduation rates than their African-American and White counterparts. Among the

general population of individuals between the ages of 25 to 29, the percentage of those with at least a bachelor's degree in 2000 was lower for Hispanics (10%) as compared to African-Americans (18%) or Whites (34%) (National Center for Educational Statistics, 2002).

Not surprisingly, a major reason for the small numbers of Hispanic students enrolling in college is grounded in the fact that there is a high incidence of high school dropout behavior among Hispanics. Data from the National Center for Education Statistics (2002) indicate that in 2000 the school dropout rates among 16–24 years olds was much higher for Hispanics (28%) than for African-Americans (13%) or Whites (7%). It is estimated that the dropout rates among Hispanics and African-American students enrolled in inner-city or urban school districts may be as high as 56% (National Center for Education Statistics, 2000). Utilizing the NELS 88:2000 database, Arbona and Nora (2005) examined those factors that would impact on whether or not Hispanic students attended college, whether or not they enrolled initially in a 2- versus a 4-year institution, and whether or not they graduated 6 years following their initial enrollment in college. In that study, the authors found that only 56% of students starting the eighth grade managed to graduate with a high school diploma.

Academic College Preparation

Using information from the National Educational Longitudinal Study (NELS), Swail et al. (2005) analyzed the high school academic preparation of Hispanic students and its impact on their postsecondary educational attainment. In their study, Swail et al. noted substantial differences between Latino & White students with regard to their precollege academic preparation. Those differences included the number of remedial courses taken, scores on the college qualification index, their high school curricula, placement in advanced courses, and testing for college placement. In sum, Latino students were less academically prepared *for* high school, *during* high school and, ultimately, *for* college as compared to White students. Evidence of this lack of preparation was evident in that only 12% of Latino students scored in the top quartile of the NELS reading and mathematics tests compared to nearly a third of White students. Moreover, scores on the College Qualification Index (based on cumulative academic course grade point average (GPA), senior class rank, NELS aptitude test scores, and American College Test (ACT) or Scholastic Aptitude Test (SAT) exam scores) indicated a 19% gap between Latino and White students. Without the appropriate academic background needed to enter and compete in college, it is no wonder that so few Hispanic students go on to college.

In a study funded by the Association for Institutional Research (AIR), Arbona and Nora (2005) further substantiated that significant factors leading to enrollment in college among Hispanic students included following a more rigorous academic curriculum or just taking an academic track while in high school. At the same time, Zarate and Gallimore (2005) also found that the enrollment in college for Hispanic students was driven by their academic achievement in high school.

Academic Performance

While academic achievement might be a significant predictor of college enrollment, Zarate and Gallimore (2005) believe that it is because studies to date have relied almost solely on high school academic achievement measures. The problem with this approach is that other noncognitive factors are often excluded from any data analyses leaving mainly precollege academic performance measures to predict Hispanic student participation. What the higher education community is left with is that very little is known about what differentiates Latino/Latina students who enroll in college and those that do not (Zarate & Gallimore, 2005). Policymakers, educators, and researchers who focus their attention on Hispanic students after they have been admitted to college are only addressing part of the problem and may be overlooking what is creating barriers that limit the degree of access for Hispanics (Nora & Oliva, 2004).

Socioeconomic Barriers/Cultural and Social Capital

While cognitive stumbling blocks play a major role in accessing higher education, other noncognitive factors also point to barriers (economic, cultural, and social) that are equally as influential in denying access to higher education. In 2000, 28% of all Hispanic children in the United States were living in poverty (Llagas & Snyder, 2003). Researchers argue that, in addition to economic circumstances, college decisions of minority and low-income students are limited due to a lack of cultural and social capital. That is, these students may not have the cultural knowledge or access to informal social networks needed to engage in seeking and acquiring the necessary college-related information that could provide easier access to college participation (Gonzalez et al., 2003).

In contrast to the parents of White and/or upper-middle-class students who can draw on their own personal experiences in higher education and can count on social networks to improve their children's abilities to successfully enroll in, and graduate from, college, low-income Hispanic parents typically prepare for college later in their students' academic careers. Concomitantly, these same families face more obstacles with fewer resources that can assist their children in achieving their educational aspirations (Auerbach, 2004).

A recent qualitative study conducted by Gonzalez et al. (2003) examined how the relationships established between school personnel and families more often than not affect college opportunities for Latina students. Using life history research methods, the school experiences of Latina students were investigated. The findings indicated that the lack of social capital, or limited assets, ultimately impacts on the student's actual and/or perceived access to college. More specifically, students who did not have access to high volumes of social capital early in their academic careers were often neglected in the college planning process. Research by Gándara (1998, 2002) had earlier found that the single most influential barrier to access for

Hispanic students in California is not having the instrumental knowledge of the steps involved in enrolling in postsecondary education. Access to guidance counselors and teachers has been found to play a critical role in the college attendance decisions of Latino students (Gonzalez et al., 2003).

Gonzalez et al. (2003) further found that, among Latina community college students that managed to overcome those barriers and enroll in college, these students continued to endure institutional neglect resulting from an inadequate curriculum in their secondary education, were tracked into remedial or English as Second Language (ESL) courses in college, had negative experiences with faculty, and had limited or negative contact with college counselors.

Increasing Tuition and Lack of Financial Aid

One key contributor to access for minorities and low-income students is financial assistance or, more succinctly, college affordability (Nora, 2004b). According to a report released by the College Board (2003), average tuition and fees have risen almost 50% at public 4-year colleges and 22% at community colleges over the past 10 years (1993–2003). Moreover, this upward trend continued for the 2003/04 academic year; average tuition and fees rose an additional 15% at both 2- and 4-year public colleges and universities. Santiago & Brown (2004) argue that the growth in tuition and fees will continue due to gradual decreases in state funding for higher education.

To pay for college, Hispanic students have relied heavily on support from the federal government to meet the costs of tuition, books, housing, etc. According to data from the National Postsecondary Student Aid Study (NPSAS), for the 2003/04 academic year 80% of Hispanic undergraduates applied for financial aid, of which 63% were awarded some form of financial assistance. Although proportionately Latinos were more likely to receive federal aid than all of the other racial groups combined, they received the lowest average aid award of any racial/ethnic group (i.e., $5,415 for Latino students compared to $6,230 for Whites). It is evident that grants and loans are critical for Latinos as 50% of these students receive grants and 30% receive loans. However, it should be noted that the average loan amount received was $5,620 compared to only $3,810 in grants (Santiago & Cunningham, 2005).

Acculturative Stress

Several Hispanic researchers have identified noncognitive features that also have a predictive nature related to college enrollment (Contreras, 2005; Zarate & Gallimore, 2005; Arbona & Nora, 2005). As is most often anticipated, parental expectations and aspirations and socioeconomic status (SES) have been associated with college attendance. In examining differences in achievement between Latino and White college-bound (SAT and AP test takers) students with respect to background and achievement, Contreras (2005) reveals the gaps in "inputs" Latino

students possess regarding disparate income, parent education levels, access to Advanced Placement courses, and scores on standardized exams. In addition, the author notes that Latinos reported lower self-perceptions with regard to potential and ability than White students with comparable ability.

Research by Smedley Myers, Harrell (1993) found that minority status among Hispanics and African-American students undermine a student's academic confidence that only leads the student to question his or her ability to meet the demands of attending a highly competitive university. If this situation were not enough, minority students' concerns among those that manage to enroll in college are only worsened by the negative expectations of their nonminority faculty and peers.

Early work by Nora & Lang (1999) identified the student's academic self-efficacy as a major contributor of college enrollment. The authors believed a student's perception that they possessed the academic ability to attend college was captured through a measure of the academic rigor of the student's curriculum in high school. In this sense, psychosocial factors may also play a role in deciding whether to enroll in college or not.

A longitudinal study following a random selection of Latino/Latina students from kindergarten through college investigated the possibility that gender differences were at play when it came to those factors predicting college enrollment (Zarate & Gallimore, 2005). The authors indicated that while academic achievement, language proficiency, and parental factors consistently predicted college enrollment for Latinos, the pursuit of college counseling services and teacher-rated classroom performance were found to significantly affect college going for Latinas.

Parental Support and Encouragement

Research has consistently demonstrated that parental support is critical to a student's decision to apply and enroll in college (Gándara, 1995, 2002; Hossler et al., 1999; Hossler & Stage, 1992; McDonough, 1997; Perna, 2000). Hossler et al. (1999) provided evidence that Latino parents with low socioeconomic levels or who lack a formal education does not necessarily lead to low college aspirations on the part of their children.

Ceja (2004) examined the importance of the role that parents play in the development of the educational aspirations of Chicana students. Interviews with 20 Chicana students revealed that each of the students indicated a belief that they were provided parental support to seek a college education. Although the majority of the Latino parents in the study had no previous formal college experience, Chicana students indicated their parents had still found unique ways of influencing their thoughts and college aspirations.

Using a multiple case study design, Cejda et al. (2002) investigated those factors that influence Hispanic students' decisions to attend and persist in Hispanic Serving Institutions (HSIs). Familial support and encouragement as well as a motivation to "not repeat" or "not be like" other family members that did not attend college were found as primary influences on students' college-going decisions.

Arbona & Nora (2005), however, found that parental expectations were not as influential as has been found in the past. The researchers found that several variables distinguished Hispanic students who attended college from their peers who did not attend college. Students whose native language was Spanish were *more likely* than not to attend college. The result was thought to be consistent with other studies in that second-generation Hispanic students tend to show higher academic achievement than their later-generation counterparts (Ortiz, 1986). Students' academic goals as well as their high school preparation also predicted their college enrollment. Students who followed a more rigorous academic curriculum in high school and who had expectations of obtaining a bachelor's degree while in the tenth grade were more likely to attend college than students with lower academic achievement and expectations.

Perna & Titus (2005) also found that parental encouragement, defined as a mother's educational expectations and her involvement in her child's precollege education, were unrelated to college enrollment for Hispanic students. The authors speculate that this contradictory finding may be at least partially attributed to the fact that parental involvement is typically defined as a single indicator, rather than a multidimensional construct.

The Transfer Function and Hispanic Students

Another issue of concern regarding Hispanic participation in higher education is their disproportionate representation in 2-year colleges (*Chronicle of Higher Education*, 2001; Nora et al., 1999). In the fall of 2000, 58% of Hispanics enrolled in colleges were attending 2-year institutions whereas the same was true for 42% of African-American and 36% of White students (Harvey, 2003). Contrary to what was once thought, community colleges have not served as the gateway to a bachelor's degree for large numbers of lower-income and ethnic-minority populations. Approximately 25% of Hispanic students in the Beginning Postsecondary Students Longitudinal Study (BPS:96/01) who attended a 2-year college intended to transfer to a 4-year institution and obtain a bachelor's degree. However, 6 years after first enrolling in the community college only 6% had obtained a bachelor's degree and an additional 12% remained enrolled in college (Hoachlander et al., 2003).

One of the major barriers to graduation for Hispanic students appears to be transferring from the community college to the university. Although 71% of Latino vstudents attending community colleges report desiring to transfer to a 4-year institution, currently only 7–20% actually transfer (National Center for Educational Statistics, 2003). Contributing factors to the poor transfer rates include an absence of a "transfer culture," a lack of articulation agreements between 2- and 4-year colleges, poor academic guidance and counseling, the myth that completing an Associates of Arts degree will fulfill transfer requirements, and low expectations of community college faculty (Ornelas & Solórzano, 2004).

Barriers/Limitations in College Choice

Not only is preparing for college an important issue; choosing which type of college to attend, which campus will provide a good fit, and which student populations are more likely to be tolerant or accepting is just as equally important for Latino students. The choice of college that a Latino student makes affects so many different aspects of a student's life, from the academic and social integration and adjustment of that student to his or her academic performance and, ultimately, his or her degree attainment. Studies have examined such issues as selectivity patterns among Latino students as well as an examination of the different factors that students consider in making a final choice.

The Choice Process

In comparing Hispanic and White freshman with average or near-average level of high school preparatory work, a report by the Pew Hispanic Center (2005) revealed that Hispanics tend to choose less selective colleges and universities. Hurtado et al. (1997) investigated the differences in college access and choice among students of different racial/ethnic groups using the National Educational Longitudinal Study (NELS:88/92) and the Beginning Postsecondary Student Longitudinal Study (BPS:90/92). The investigators found significant group differences in the number of colleges students applied to, preparation behaviors, and the decision to attend their first-choice institution. Specifically, Latino students applied to fewer colleges, were less likely to engage in an extensive search and college choice process, had the lowest goal aspirations, and were less likely to enroll in college immediately following graduation when compared to other ethnic groups.

A qualitative study by Immerwahr (2003) identified several intangible impediments faced by Hispanic students that influence their college choices including a lack of knowledge about higher education in general, misinformation on admissions requirements and financial aid, and competing options. Many of the Hispanic students interviewed indicated they failed to receive adequate guidance from parents or counselors. As a result, many students were misinformed about higher education which led to poorly informed choices. Additionally, competing options were found to keep students away from higher education as many of the students interviewed were already offered full-time employment or military service that were perceived as more attractive in the short-term.

Using data from the NELS 88:2000 database, Arbona and Nora (2007) examined the likelihood of Hispanic high school graduates attending either a 2- or 4-year college. The results of a hierarchical logistic regression analysis indicated that the likelihood of attending a 4-year versus a 2-year institution following graduation from high school was influenced by five significant factors. These factors were the student's gender; parental educational expectations as perceived by the student; the

student's self-concept as it related to English; enrollment in a calculus course in high school; and the perception that most, if not all, of the student's peers planned on attending college.

The results revealed that male Hispanic students, in contrast to female students, were more inclined to enroll in a 2-year college while female Hispanic students were much more likely to attend a 4-year postsecondary institution. Hispanic students' choice of institutional type was also dependent on expectations on the part of their parents that their children would attend college. Those students whose parents had low expectations that their children would attend college were twice as likely to enroll in a community college as opposed to a 4-year higher education institution. Moreover, the more positive a Hispanic student's academic self-concept in science, the more likely they would enroll in a 4-year university. The two most influential factors that predicted enrollment in a 4-year college were taking a pre-calculus or calculus course while in high school (3.98 times more likely) and knowing that most, if not all, of a student's peers also planned on going to a 4-year institution. It becomes apparent that the choice to attend a community college by Hispanic students is impacted more by a student's academic curriculum and the degree of perceived academic capital than by the social capital received at home.

Nora (2004a) examined the influence of *habitus* and social capital within the context of both persistence theory and college choice theory. The intent was to test whether factors such as a student's psychosocial experiences during high school (Nora & Lang, 1999), encouragement and support from family (Nora, 2004a), environmental pull factors (Nora & Wedham, 1991), and precollege academic performance also contributed in much the same way they did to persistence to a student's choice of college and, subsequently, to the degree of satisfaction (overall, with the institution, and with the intent to reenroll). The results of testing a more holistic model of student college choice and persistence were especially strong regarding the impact of psychosocial factors, specifically *habitus*, on different measures of college satisfaction experienced by students and their intent to reenroll in college for a second year. In sum, the findings established that students take into consideration such factors as comfort within the university; acceptance by students, faculty, and staff; and the degree of fit between the student and different aspects of the institution.

Factors Influencing Student Retention of Hispanic Students

Although the literature on college choice as it relates to Hispanic students is still in its infancy, numerous analyses can now be found in the persistence literature making it possible to provide a fuller profile of the different factors that impact on the retention of Hispanic students. This body of knowledge, however, should not be taken to imply that there is no longer a need to further investigate the withdrawal phenomenon among Latinos. As such, the following review of existing literature begins to focus on the many and differential impacts of various academic, social, noncognitive, perceptual, and behavioral variables on the persistence of Hispanic students.

A Profile of Latinos in Higher Education

Swail et al. (2005) analysis of data from the NELS:88/00 database found substantial differences between Hispanic and White students with regard to postsecondary persistence and completion. Nearly two thirds (66%) of Latino students that survived a K–12 educational system and were encouraged to enroll in college failed to earn any degree by 2000. This figure compares to only 40% for White students. As discouraging as this may sound, while half of White students earned a bachelor's degree or higher, only 24% of Latino students accomplished the same. Contributing to the differences in educational attainment among students included *attendance patterns*, *delay of entry into college*, *time to degree completion*, and *semester credit hours earned*.

Over half (53%) of Latino students attend college part-time, compared to only 37% of White students. Moreover, while 70% of White students remained continuously enrolled throughout their stay in college, only 44% of Latino students were able to do the same. And, a five-point gap exists between Latinos (78%) and White (83%) students as to entering postsecondary education within 7 months of graduating from high school. Not only do Latino students take longer to enroll in college but they also need more time to graduate; 44% of White students earn a degree within 4 years compared to only 23% of Latino students. Upon closer examination of the first 2 years in college, it was found that 81% of White students earned 60 or more college credit hours compared to 65% of Latino students. One logical conclusion is that a large number of Latino students may be dropping out much sooner than other student populations.

Hurtado & Kamimura (2004) point out that to more fully realize why Hispanic students may not persist to graduation, we must understand that a student's withdrawal decision is contingent on a variety of institutional support structures and college experiences. However, other factors external to an institution have also been found to contribute to a student's resolve to stay in college or, in a far more negative sense, to consider nonacademic options in their lives (dropping out of college). A recent publication of the Center for Higher Education Policy Analysis (CHEPA) identified nine propositions found in the literature that influence student college success including cocurricular activities; a rigorous academic curriculum; academic, college, and career counseling; mentoring; peer support; family and community engagement; incorporating students' cultures in intervention efforts; funding priorities; and the timing of interventions (Tierney et al., 2004).

Cultural and Background Variables

Two major conclusions reached by DesJardins et al. (2002) were that the quality of the school from where Hispanic students were enrolled made a difference as to whether they persisted or not, and that the socioeconomic status with which minority students enter college negatively affect their retention. However, earlier

studies by Nora and associates (Nora, 1987; Cabrera et al., 1992, Cabrera 1993) indicated that of the two factors, socioeconomic status as measured by the educational attainment of the student's parents and the total amount of income earned by the family was only minimally associated with a student's integration into his or her social environment and not related to a student's decision to reenroll in college.

The influence of socioeconomic status on the integration of students into a college environment and in predicting college retention and graduation for all students was once more revisited by Hamrick & Stage (1998), Hurtado et al. (1997), and by Perna (2000). However, their findings demonstrated that socioeconomic status may impact different groups of students in different ways as SES offers benefits to some and limitations or barriers to others (Hurtado et al., 1997; Perna, 2000).

While certain aspects of a student's socioeconomic status may have limited influence, other cultural aspects have been uncovered to significantly impinge on the retention of minority students (Rendon & Hope, 1996). Among those factors are limited English proficiency, irregular attendance patterns on the part of minority students, being raised in a single parent home, and the quality of a minority student's education prior to college attendance. Moreover, the quality and type of education that minority students receive prior to enrolling in college has been shown to not only keep these students engaged in a higher education but to also predict different measures of college success (Castellanos & Jones, 2004).

Educational Goal Commitments or Aspirations

One of the most influential factors on any student's decision to remain enrolled in college is exerted by the educational aspirations of that student. Similarly, prior research has established that Hispanic students' educational hopes play a part in a student's decision to remain in college (Cabrera et al., 1993; Nora et al., 1992). While the impact is encouraging, the discouraging part is that a number of circumstances have been identified that negatively influence the educational aspirations of Hispanic students. These factors include having to deal with family responsibilities, working off-campus as opposed to on-campus, commuting long distances to a college campus, performing poorly in coursework, and perceiving a sense of prejudice and discrimination on a campus (e.g., Nora & Cabrera, 1996; Cabrera & Nora, 1994; Cabrera et al., 1992; Nora & Lang, 2001; Nora, 2002, 2004a).

The strength of this commitment to an educational goal is evident even years after it was first solidified in middle or high school. Perna (2000) found that the desire for a higher education following high school graduation and continuing into graduate school for an advanced degree has a positive and long-lasting influence on the college enrollment rates for Hispanic students. Having a goal in mind from early on remains a driving force so much so that it influences a Hispanic student from withdrawing from college.

Sense of Belonging

Another highly important factor for Latino students is the belief that they are part of the academic and social life going on around them (Hurtado Carter, & Spuler 1996). This sense of belonging on campus subsequently influences a student's desire to remain in college. In an attempt to apply Tinto's theoretical model of student departure to a population of Latino students, Hurtado & Carter (1997) focused on clarifying the structure of a conceptual model that specified those factors that led to a sense of belonging on the part of the student. The authors tested the extent to which Latino students' background characteristics (i.e., gender and academic self-concept) and academic and social experiences in the first and second years in college contributed to a sense of belonging in the third year. Their findings confirmed that the first-year academic and social experiences of Latino students at 4-year institutions led to a strong sense of belonging at their respective institutions in their third year of college. Hurtado & Carter established that Hispanic students' sense of belonging on campus was closely linked to the frequency with which they engaged in discussions with other students outside of class, their membership in religious and social-community organizations, and negatively associated with perceptions of a hostile racial climate on their campuses. In other words, in an environment that encourages tolerance and acceptance and engages students and faculty in academic and social discourse, a Latino student's sense that they belong in college and are accepted at that institution is established and nourished.

A recent study conducted by Gloria et al. (2005) assessed the degree to which social support, university comfort, and self-beliefs were interrelated and predictive of undergraduate Hispanic students' decisions to persist. All three constructs were found to be significantly interrelated as well as predictive of student attrition. Individual variables of perceived mentorship, perceptions of social support from friends, and perceptions of the university environment as comforting to Latino students were found to have the strongest predictive value.

Student Engagement

Padilla et al. (1997) examined the different forms of informal knowledge that are required by minority students to be able to handle their academic and social environments while enrolled in college and to be able to succeed, which they operationally defined as graduating from college. Their findings indicated that sophomore, junior, and senior minority college students that successfully involved themselves at their college campuses took specific actions to overcome four major categories of barriers: *discontinuity*, *lack-of-nurturing*, *lack of presence*, and *financial resources*.

To overcome any discontinuity barriers (or a disconnect with one's surroundings), successful minority students took actions that would engage them in the different aspects of the academic and social life on their campuses. Such engagement included joining an organization of interest, formulating and making their

own decisions, and researching the profitability of their own chosen majors. To successfully deal with the issue of nurturing, students confronted issues of self-worth, dealt with their specific needs or sought nurturing from others through support groups or through mentoring resources on his or her campus. The issue of a lack of presence on a university campus involved meeting head-on the institutional culture and practices that devalued and ignored ethnic minority students. Students successfully met such challenges by seeking out an ethnic presence on their respective campuses, fully participating in the activities of ethnic student organizations, and making themselves known on campus one way or another. Finally, successful minority students had to overcome barriers brought on by a lack of resources by preparing and applying early for financial aid, talking to people familiar with the financial aid process, and developing time management skills.

Financial Assistance

The importance of financial aid within the student persistence process is well established (Cabrera et al., 1990, 1993; Stampen & Cabrera, 1988). In 1993, Cabrera, Nora, and Castaneda identified an intangible feature associated with financial aid. In addition to the more traditional tangible component considered when investigating financial assistance (the receipt of loans, grants, etc.), the authors believed that affective/emotional attitudes were associated with different aspects of student finances. Because college costs such as tuition, room and board, and books (to name a few) are stressors in the lives of many minority students, a sense of relief is associated with the ability to meet financial responsibilities through different forms of financial aid. In their study, both the intangible and tangible (financial aid received) components were found to directly and indirectly influence Hispanic student's persistence decisions.

Hu and St. John (2001) examined the effects of receiving financial aid on the within-year persistence of Hispanic, African-American and White students. Their findings confirmed that the receipt of financial assistance serves an important role in equalizing the playing field and providing opportunities for Hispanic and African-American students. In comparing the odds of persisting between those that had received a financial aid package versus those students of each ethnic/racial group that did not receive aid, Hispanic and African-American students who received financial aid were more likely to persist than their nonfinancial aid counterparts.

A recent study of Latino student retention conducted by Longerbeam et al. (2004) examined the reasons for dropping out of college among Latino and non-Latino students. Based on a series of multivariate analyses, significant differences were found between Latino and non-Latino students in the perceptions that most likely led to attrition. Among those factors identified as reasons for dropping out of college among Latino students were financial circumstances, the perception on the part of students that they lacked the academic capital needed to be successful in college, and the desire to enter military service. Embedded within those financial reasons was the expectation to send money home to help with family finances.

Social Interactions/Experiences

Very early in the investigation of what contributed to student dropout behavior among undergraduates, Pascarella & Terenzini (1980) established the importance of the student's social integration on his or her campus. While earlier studies substantiated the influence of a student's social integration within a college environment on their choice to persist in college (e.g., Braxton & Brier, 1989; Terenzini & Pascarella, 1977 Bean, 1980;), its conceptualization and importance was questioned as appropriate for minority students (Tierney, 1992; Rendon et al., 2001). Much of the criticism centered on cultural differences that would question whether social integration was forcing an acculturation or assimilation on minorities by proposing that social integration should be applied equally to all groups. The final conclusion reached by some researchers was that the theoretical construct was not an inappropriate variable within persistence models as they applied to minority students but, rather, that the form or manner in which it expressed itself among minorities versus nonminorities was different; that all groups of students are engaged in socially interacting and integrating on a college campus could not be denied. The issues raised were more a matter of measurement and implementation and not the theoretical applicability of the construct (Nora & Cabrera, 1994).

Studies on minority and nonminority students in 2- and 4-year institutions reveal some overall conclusions regarding the social experiences of Hispanics and their relationship to student persistence. Early on Nora (1987) found that the influence of social experiences, at least in a small way, impacted Hispanic student's decisions to remain enrolled in college. In Nora and Cabrera's (1996) study on the role of perceptions of prejudice and discrimination within a theoretically based model of college persistence, the authors hypothesized that social interactions with peers and faculty were positively influencing student persistence decisions equally for majority and nonmajority college students. In contrast to what had previously been established among White student populations, Nora and Cabrera found that social experiences only had a minimal indirect effect on the persistence of minority students as opposed to Whites where the effect was much more direct. Moreover, Nora et al. (1996) found that student interactions were not significantly related to the persistence of minority students. The indication is that factors other than the social integration of Hispanic students in college may be more important in deciding whether to return to college for a second year. Social experiences of Hispanic students play a much lesser role within the persistence process.

Academic Integration/Experiences

It comes as no surprise that constructive academic experiences during the first year of college enhance the commitment to earn a college degree and to remain in college on the part of Latino students. Rendon (1994) found that when Latino students

were engaged in positive and validating classroom and laboratory experiences, study groups, and academic discussions, they were more likely to stick to their goals and to continue to return to college for another academic year.

In one of their earlier studies, Hurtado et al. (1996) focused on those features that affected Latino students' adjustment and attachment to college. One measure of adjustment to college concentrated on academic integration. The authors found the size of the Latino population at a university and the students' perceptions of their interactions with faculty positively influenced the academic adjustment of Latino students. A large concentration of Hispanic students enrolled and positive interactions between students and faculty were identified as two major reasons contributing to the retention of Hispanic students.

Commitment to a Specific Institution

The desire to attend and graduate from a specific higher education institution has been found to be one of the major influences on student persistence for nonminority students. However, the same research indicates that this commitment to a specific institution has shown mixed findings when it comes to Latino students. While this factor was shown to positively impact student persistence in studies by Braddock (1981), Nora and Cabrera (1993, 1996), and Nora et al. (1992) more recently established that the importance of this commitment to an institution is the number one factor influencing the persistence of White students and it does not play as big a role in reenrollment for Hispanic students. The finding is not that it does not play a role in deciding to return to college, but that other factors outweigh the influence of this commitment.

Academic Performance in College

In considering the importance of academic performance as it impacts returning or dropping out of college, one should note (or at least be reminded) that the decision to withdraw from college in studies of student retention is voluntary and not based on academic performance. To this end, the impact of a student's academic performance on returning to college is based on the notion that the student has the option to reenroll or to withdraw from college. The most influential factor on a Hispanic student's decision to persist is his or her academic performance (cumulative grade point average) during their first year in college (Nora & Cabrera, 1996; Nora et al., 1996; Nora, 2004b; Hu & St. John, 2001). The authors believe that, based on racial/ethnic comparisons, lack of self-efficacy in academically related matters, and self-doubt Hispanics may be more prone to question whether they belong in college and whether they can compete and succeed academically. In other words, a C average will weigh much more negatively on a

Hispanic student's decision to return to college than it would for a nonminority student. What the studies revealed was that, for Hispanics, earning less than "good" grades made these students question their ability to attain a college degree. The end result was a sense of giving up and a decision to drop out.

More importantly, though, is the enormous influence that a Latino student's academic performance has on reenrolling in college as the GPA increases. Research by Nora et al. (1997) and Hu and St. John (2001) substantiated the importance of academic performance on the persistence decisions of nontraditional Hispanic students finding that the GPAs of these students have a significant and positive direct influence on those students' decisions to remain in college. Moreover, Nora and Cabrera (1996) found that not only did the academic achievement of Hispanic students have a positive impact on persistence but that even the perceptions that they had made cognitive gains during their first year in college were influential in a Hispanic student's decision to remain enrolled in college.

Environmental Pull Factors

Early on in the research on student persistence, Nora and Wedham (1991) proposed that a set of environmental pull factors would exert a "pulling away" or a "drawing in" of students into the academic and social campus environments and that, subsequently, these pulls would impact on a student's tenacity to continue a college education. These pulls centered on factors external to university life: having to work off-campus immediately before or after classes, family responsibilities (i.e. taking care of children, siblings, parents, or their entire family), and having to commute to campus. The findings revealed that while working on-campus resulted in a positive pull by providing the opportunity to interact with faculty and peers, working off-campus only increased the chances of dropping out of college.

In much the same way, students that took on serious family responsibilities and could not spend more time on campus to participate in academic and social activities were also very likely to drop out at the end of their first year in college. The inability to spend more time on campus is also embedded within the third pull factor, commuting. As the distance that students needed to drive to attend classes increased, the more likely that the students would choose not to return. The other side of this coin indicated that students residing on campus and not having to leave the campus for work or family provided them with the time necessary to fully integrate both academically and socially at their institutions.

Nora et al. (1999) later examined differences between minority and nonminority male and female students on a national sample of 2- and 4-year institutions on those pull factors earlier identified by Nora and Wedham (1991). Latino and African-American students who commuted large distances to campus, who left campus to work elsewhere, and who assumed responsibility to take care of family members before or after classes were less likely to persist in college. The pulling away brought on by family responsibilities was particularly detrimental to female students.

Women who assumed those household tasks were 83% more likely to give up attending college and their educational goals.

Cultural Climate/Perceptions of Prejudice and Discrimination

Critical to the adjustment and engagement of students in college, academically or socially, is an atmosphere of acceptance, tolerance, or rejection by others. The realization that a campus climate is not conducive to student learning, interactions, and engagement is an area of research that has received much attention in the persistence literature. The perception that racial/ethnic tensions continue to exist on campuses even after the advances that were made in recruiting and enrolling Latino students in higher education institutions in the 1970s and 1980s was substantiated by Hurtado (1992) who found that Latino/Latina students tended to perceive the campus climate more negatively when compared to White students. Further evidence was reported by Hurtado (1994) and Nora and Cabrera (1996) who also found that Latino/Latina students reported more discrimination while on campus than White students.

In three separate studies, Nora et al. (Nora & Cabrera, 1996; Cabrera & Nora, 1994; Cabrera et al., 1993) established the impact that these perceptions of discriminatory behavior exerted on both the educational aspirations and withdrawal behavior of Hispanics. Student perceptions of prejudice and discrimination on campus, inside as well as outside of the classroom, were extremely harmful to the goal of attaining an undergraduate degree. Of specific importance was the finding that it was not only the direct exposure to discriminatory words and gestures that led to the negative impact on the hopes and expectations of Hispanic students but also to the perception that an environment of intolerance and discrimination existed on their campus and, more specifically, in the classroom.

Although Nora and Cabrera (1996) found that both Hispanic & White students were just as likely *to perceive* discriminatory acts and gestures in and outside the classroom, the magnitude with which they were felt was much stronger for Latino students. The perceptions that students are exposed to acts of racial bigotry were realized to have negative effects on the academic performance of students, their social experiences with faculty and peers, students' academic and intellectual development, and on institutional commitment. Moreover, perceptions of discriminatory behaviors were also found to indirectly affect Hispanic student's decisions to persist.

Hurtado et al. (1996) found that Latino/Latina students exposed to a cultural climate on their campuses that they perceived to be hostile were less prone to adjust socially, emotionally, and academically at their institutions. Moreover, Hurtado et al.'s findings held constant regardless of a student's background characteristics, type of institution they attended, or even on the percentage of Hispanic students attending their college.

More recently, Longerbeam et al. (2004) investigated the issue of diversity on a college campus as it related to the persistence of Latino students. The authors' overall conclusions indicated that those Hispanic students that came to perceive their campuses

as being ethnically diverse were much more likely to remain enrolled. However, even after years of research, Nora (2004b) notes that there exists a lack of minority mentors and role models in our higher education campuses, curricula that does not appropriately address minority issues, and a lack of minority support groups and programs that has led to adverse conditions for Hispanic students that they must somehow overcome.

Family Support

The importance of a support system through words (and actions) of encouragement and validation by parents has long been established as significantly impacting on student persistence (Cabrera et al., 1993; Nora, 1987; Nora & Cabrera, 1996). Nora (2004a) notes that encouragement and support come in different forms (e.g., financial, emotional, psychological, etc.) and from different sources (e.g., parents, spouses, professors, etc.). Collectively these different types of encouragement from a variety of people provide a safety net for Latino/Latina students that they come to rely on under stressful and non-stressful circumstances.

Most importantly, *la familia* has been identified as a major source of support affecting Latino/Latina persistence decisions (Hurtado et al., 1996). The importance of family in the Latino/Latina culture makes it central in considering the impact that a family support system exerts on student persistence (Castellanos & Jones, 2004). For example, Flores (1992) established that Latino/Latina students whose mothers and fathers provided continuous encouragement to attend college and remain in college increased the likelihood that Hispanic students would persist. Sanchez et al. (1992) found that Latino/Latina students who were not retained reported family and related financial obligations and the need to take on adult roles as major reasons for dropping out of college.

Precollege Psychosocial Experiences

While specific precollege factors were included in studies that tested Tinto's (1987, 1993) model of student persistence, the operationalization of those factors was limited to the student's entering academic ability, high school rank at time of graduation, and desire to attend college (Pascarella & Terenzini, 1990). However, Nora and Lang (1999) identified a set of high school psychosocial experiences engaged by students prior to enrolling in college as representing precollege student characteristics. The authors found that past leadership experiences, anticipatory attitudes to attend college, a student's sense of his or her social self-efficacy, close personal relationships with peers, and the importance of attending college expressed by parents significantly impacted a student's transition to a college environment as well as the student's decision to persist. No longer is it thought that the only factors to consider prior to enrollment in college are the student's academic performance in high school, their rank at the time they graduated, or, at most, students' educational aspirations.

Attitudes Related to Remediation in College

Most of the studies focusing on student persistence have used student populations from 2- to 4-year institutions relying on minority and nonminority student populations. This line of research centered on identifying, testing, and confirming specific models of student retention and the variables in those studies. Because so many students enter college academically underprepared, many of these students are forced or encouraged to enroll in remedial courses. While the same theoretical constructs apply to these students in establishing those factors that influence subsequent dropout behavior, it was hypothesized by Nora and Garcia (1999) that student perceptions and attitudes related to their remediation would also be likely to impact on their dropout behavior. Some of the most notable factors affecting the withdrawal of development students in negative or positive ways included: the student's perceptions of whether or not they needed to take remedial courses, the value placed on remediation on the part of the student, and the extent to which the student believed that their precollege academic preparation allowed them to develop the necessary competencies to succeed in college. If students did not come to accept the value and utility of remediation and development courses, the likelihood that they would remain enrolled in college was drastically minimized.

Mentoring Experiences

The importance of mentors and role models for Latino/Latina students has been stressed in the literature (e.g., Castellanos & Jones, 2004). The authors note that its impact on Hispanic student persistence should not be underestimated. However, only quite recently have researchers started to examine the nature of this construct prior to testing its influence on student retention or its role in the student persistence process, specifically as it relates to the student's adjustment to college. Nora and Crisp (2005, 2008) examined the different dimensions of mentoring, hypothesizing that several subcomponents underlie this much noted factor. The authors believed that extracting the appropriate latent variables underlying a set of items that related to mentoring experiences would uncover or capture the different domains or conceptualization of mentoring. Although the intent of their research focused on establishing the factor structure of mentoring, preliminary results indicated that when introduced within the context of current persistence models, these mentoring components make a contribution in explaining why students drop out of college.

Spirituality

During the last few years, the topic of spirituality on the part of faculty and students has become quite prevalent. Rendon (in press, 2000) speaks of the "Academics of the Heart" as she engages faculty and researchers to consider a more spiritual

approach to students in the classroom and in the empirical investigations of under-graduate students. Influenced by this current interest in spirituality among students and faculty, Nora and Anderson (2003) studied the differential impact that religiosity versus spirituality exerted on the adjustment of Hispanic students to college, their academic performance, and on withdrawal decisions within the context of current persistence models. The results of a quantitative data reduction revealed that subcomponents of religiosity focused on the more symbolic expression of a student's religious beliefs while indicators of spirituality focused on the treatment of one another. The findings indicated that while Hispanic students who were more satis-fied with the development of their religious philosophy in life were more likely to persist, several components more of a spiritual nature exerted a greater influence on reenrollment decisions. Those Latino students that experienced a positive treatment from others on campus, who reported an overall positive outlook on life, and trusted or had faith in others were much more likely to remain enrolled in college.

An Overview of Policy on Hispanic Educational Opportunity

This section will examine the impact that state and federal policies/legislation has on Latinos in higher education. This review will focus on the following five major policies/legislation/initiatives: (1) the role of Hispanic-Serving Institutions (HSIs), (2) policy granting in-state tuition to undocumented students, (3) state policy banning the use of race-sensitive criteria in college admission decisions, (4) state percent plans, and (5) the dual enrollment higher education market.

Hispanic-Serving Institutions

Hispanic Enrollment

For many Latino students, the pathway to higher education is through a Hispanic-Serving Institution (HSI) as nearly half of all Latino students enroll at an HSI (Laden, 2004; Santiago et al., 2004). HSIs are defined as colleges and universities that enroll 25% or more full-time equivalent Latino students, with 50% of that group classified as low-income students (U.S. Department of Education, 2005). In 1997, nearly 90% of Hispanics were enrolled in HSIs located in California, Texas, New Mexico, New York, Illinois, and Arizona (De Los Santos & De Los Santos, 2003). Due to the large concentration of Hispanic students in community colleges, over half (53%) of all HSIs are community colleges (Benitez & DeAro, 2004).

Attempts to identify salient characteristics of Hispanic-Serving Institutions and their student outcomes have been minimal (Flores et al., 2006). Two exceptions are recent work by Mulnix et al. (2002) and De Los Santos and De Los Santos (2003). Mulnix et al. (2002) brought attention to the documented disparities in institutional advancement activities which exist between HSIs and other universities around the

country. According to the U.S. Department of Education (1998) the total revenues of HSIs are 42% less per full-time equivalent (FTE) student compared to other institutions. Additionally, HSIs report spending 43% less on instruction, 51% less on academic support functions, and 27% less on student services per FTE than other colleges and universities.

Examining the unique challenges/issues facing HSIs, De Los Santos and De Los Santos (2003) surveyed presidents, chancellors, and chief executive officers (CEOs) of HSIs to discuss the three most important concerns facing HSIs in the next few years. The most frequently cited responses included the lack of funding and technology, diversity among their faculty, student growth and diversity, the academic precollege preparation of students, and high attrition rates with corresponding low graduation rates. Although some indicated that the problems faced are generic to higher education, half of the respondents indicated a relationship between the issues faced and being a leader of an HSI.

In-State Tuition for Undocumented Students

Legislative Action

Demographers estimate that the total undocumented population in the country is currently ten million of which roughly 80% are believed to be of Hispanic origin (Pew Hispanic Center, 2005). In response to an increased number of Hispanics wanting to attend college, both federal and state policymakers are currently creating and revising policies related to granting in-state tuition to undocumented students (Biswas, 2005; Olivas, 2004). Section 1623 of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) of 1996 prohibits states "from providing a post-secondary education benefit to an alien not lawfully present unless any citizen or national of the United States is eligible for such a benefit (in no less an amount, duration, and scope) without regard to whether the citizen or national is such a resident eligible for such benefit" (p. 673).

Another important piece of legislation that may impact undocumented students is the Development, Relief, and Education for Alien Minors (DREAM) Act is presently being debated in Congress. This legislation would repeal Section 1623 of the IIRIRA, eliminating federal penalties to states that provide in-state tuition to undocumented immigrant residents (National Immigration Law Center, 2005; Olivas, 2004). To date, nine states have passed bills into law allowing undocumented students to pay in-state tuition at public institutions and another 24 states have formally considered such legislation. However, even those states that have successfully passed such bills for illegal undocumented students continue to face legislative and legal challenges (Flores et al., 2006). Moreover, several states have recently introduced bills which would restrict in-state tuition for undocumented students. Mississippi is the only state that, by statute, has mandated all undocumented students be classified as nonresidents (Mississippi Code, 1972).

Race-Sensitive Criteria in College Admissions

Legislative Action

In the past, some states (e.g., Texas, California, & Florida) implemented policies banning the use of race-sensitive criteria in making admission decisions, dramatically affecting the number of Latinos who can gain admission into selective colleges and universities (Tienda, 2001). Decisions by the Fifth Circuit in *Hopwood vs. Texas*, Proposition 209 in California, and an order by the governor in Florida, known as the One Florida Initiative, are the specific policies and/or legislation which ended race-sensitive admissions (Horn & Flores, 2003). Following the *Hopwood* case, states such as Washington, Georgia, & Florida moved to ban race from their public university admissions policies and enacted alternatives (e.g., Percent Plans) in an attempt to maintain diversity within their institutions (Olivas, 2004). However, the Supreme Court decisions of two cases overturned the *Hopwood* decision and made the use of race as a plus factor constitutional (Olivas, 2004).

In *Grutter vs. Bollinger* (*2003*), the Supreme Court ruled that the use of race as a consideration for admissions did not violate the 14th Amendment of the US Constitution and deferred "to the law school's educational judgment that diversity is essential to its educational mission" (539 U.S. 306, 2003, p. 3). However, in *Gratz vs. Bollinger*, the ruling specifically stated that the use of an equivalent of a quota system in the admissions procedure was prohibited because "enrolling a 'critical mass' of minority students simply to assure some specified percentage of a particular group merely because of race or ethnic origin would be patently unconstitutional" (539 U.S. 306, 2003, p. 3).

Legislative Impact

In response to recent rulings, universities have implemented a variety of standard race-neutral admissions practices: (1) a holistic review in which each applicant's file is reviewed in its entirety (e.g., extracurricular activities, letters of recommendation, classes taken, advanced courses taken, GPA) (539 U.S. 306, 2003); (2) merit-based admissions policies, which rely solely on the applicant's high school GPA and/or standardized test scores, without regard to race, ethnicity, socioeconomic status, or class rank (Calcagno & Alfonso, 2007); (3) class-based or economic-based policies that pay close attention to the economic and social circumstances of the students (e.g., parental income, parental occupation, single-parent household, parental education, school socioeconomic status, neighborhood socioeconomic status, and overall wealth and net worth) (Kahlenberg, 2003; Roach, 2003); and (4) percent plans, in which class rank serves as the primary measure for college admissions, removing the use of standardized test scores as a potential obstacle into higher education and serving as a more democratic means of

access to colleges and universities, regardless of race and ethnicity (Chapa, 2005; Kahlenberg, 2003).

As expected, state policies in Texas, California, and Florida have negatively impacted the participation of Latinos in higher education. In California, while community colleges do not appear to be significantly affected, the percentage of Hispanic students admitted to, and enrolling at, the University of California (UC) system and the California State University system has been extreme (Rendon et al., 2004). Gándara and Chávez (2003) estimated that the percentage of Hispanic students admitted to the two flagship campuses (UC, Berkeley, & UCLA) has decreased from an all time high of 15% to only 8.6% in 1998, the year Proposition 209 went into effect. The University of California system has not been able to return to the proportion of Hispanic students enrolled prior to Proposition 209 (Gándara, 2005).

State Percent Plans

Legislative Action

Specific attempts to address the anticipated negative impact of state policies banning race-sensitive criteria in admissions Texas, California, and Florida have lead to the implementation of percent plans that guarantee admission to state universities or the state university system for the top percentage of high school graduates (Horn & Flores, 2003). In Texas, House Bill 1678 mandates that the top 10% of all graduating seniors be admitted to the public university of the student's choice (Montiel, 2002). In contrast, California limits guaranteed admission to only the top 4%. Furthermore, admission is only guaranteed to a university in the University of California system, not the university of the student's choosing. Similarly, Florida guarantees admission only to the state university system (Horn & Flores, 2003). However, admission to the university system is granted to an impressive 20% of graduating seniors (Tienda, 2001).

Legislative Impact

It is assumed percent plans are at least partially effective in maintaining a racial diversity on the campuses of these states because of the extreme residential segregation that ensures minority representation among the top percentage of students graduating (Tienda, 2001). However, recent findings indicate that percent plans or other race-neutral policies are actually less effective than race-conscious policies in promoting student diversity (American Educational Research Association Amicus Brief). Horn and Flores (2003) and Tienda et al. (2003) recently began to investigate the impacts of each state's plan toward the goal of an ethnically diverse student body. Unfortunately, state plans previously mentioned have shown to have little effect on the majority of students in California & Florida, simply because admission is only

guaranteed into the state system which in most cases would be the situation without the plans (Tienda et al., 2003). Findings by Horn and Flores (2003) have also indicated that short-term effects have had the least impact on minority admission to the most competitive campuses, especially in California. It appears that those state plans have the potential to work when used in conjunction with other recruitment and race-attentive outreach programs. However, Horn and Flores' findings also indicated that in some cases, despite the state plan and the existence of retention and outreach efforts, student diversity is not guaranteed (Horn & Flores, 2003).

Dual Admissions Programs

Institutional Policy

Policies related to increasing the number of formal collaborations and partnerships between 2- and 4-year colleges are currently in development at the institutional and state levels (Zamani, 2001). Some of the most notable of these efforts include articulation agreements between transferring and receiving institutions, dual admissions, guaranteed university admissions to students completing Associates' degrees at a community college, and coordinated student support services (Flores et al., 2006). The most comprehensive link between the community college transfer function and the 4-year university system to date is California's Dual Admissions Program (DAP). DAP is designed to grant students who rank in the top 4–12.5% of their high school-graduating class admission to one of the University of California campuses after successfully completing course requirements at a California community college. Unfortunately, the program is not currently active due to financial/budgetary circumstances in California (Flores et al., 2006).

Federal/State Programs

Federal Initiatives

Major federal programs that support postsecondary education in the United States are authorized by the Higher Education Act (HEA). Among the institutional aid and development programs that have been authorized, the two that directly serve Hispanic students are the *Developing Hispanic Serving Institutions* (HSIs) *Program* and the *Minority Science and Engineering Improvement Program* (MSEIP). The Developing HSIs Program, first authorized in 1994, provides grants to institutions that serve large percentages of Hispanic students (HSIs). This is an important avenue for targeting services to Latino students in higher education as roughly half of Hispanic students are enrolled in HSIs. The MSEIP Program is specifically designed to address the underrepresentation of Hispanic and other minority groups in engineering and

science fields. Since 2002 the overall initiative has allotted $8.5 million toward institutional grants aimed at increasing recruitment and supporting Latino students seeking bachelor's degrees in science and engineering (Santiago & Brown, 2004).

To help prepare low-income students for higher education, HEA has authorized programs such as Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR-UP) and TRIO that includes Upward Bound, Talent Search, and Student Support Services. HEA also authorizes federal grant and loan programs to provide financial assistance to students in the form of Pell Grants, special programs for migrant families, federal supplemental educational opportunity grants (SEOG), Federal Family Education Loan Programs (PLUS), loan forgiveness for teachers and child-care providers, unsubsidized loans, direct loans, College Work Study, and Perkins loans. At the graduate level, HEA supports several national graduate fellowship programs that support education in law, the humanities, and disciplines of national need including the *Jacob K. Javits Fellowship Program*, *Graduate Assistance in Areas of National Need*, and *Thurgood Marshall Legal Educational Opportunity Program* (Santiago & Brown, 2004).

State Initiatives

At the state level, a number of programs designed to increase minority access and persistence have been implemented in the past 5–10 years. For instance, GEAR-UP was modeled after several localized programs from around the country. Three of the most notable include the *Advancement Via Individual Determination* (AVID) *Program*, *Project GRAD* (*Graduation Really Achieves Dreams*), and "*I Have a Dream*" (Santiago & Brown, 2004). Another well-known program, *The Futures Project*, follows urban minority students in diverse educational settings from high school to college. The program is conceptually driven by several theoretical frameworks including sociocultural learning theory, critical pedagogy, and critical sociology (Collatos et al., 2004).

In response to poor transfer rates, the PUENTE Project was implemented in California in 1981. PUENTE provides three areas of service to all community college students: teaching, counseling, and mentoring. As a partnership between the state's community colleges and University of California (UC) system, the program currently serves students in 56 community colleges and 36 high schools throughout the state (Puente, 2006). The project is unique in that it is tailored to affirm Hispanic students' ethnic identities and validate their unique cultural experiences through course offerings (Saenz, 2002).

At the graduate level, organizations such as the Hispanic Border Leadership Institute (HBLI) are being created to better prepare minority educational leaders, largely absent in higher education. HBLI is a doctoral program in educational leadership designed to provide students interaction with influential minority scholars in the field through internships in policy and binational settings. HBLI prepares students to pursue careers in a multicultural environment and foster the educational attainment and persistence of Latino students (Derlin & Martinez, 1999).

Evaluation of Federal and State Programs

Perna and Titus (2005) emphasize the need to examine the effectiveness of existing federal and state programs designed to improve the preparation, recruitment, enrollment, and degree completion of students. Although evaluations of federal and state programs are limited, existing evaluations have shown mixed results that call into question the quality and, in some cases, the integrity of the evaluations. For example, while one evaluation (Laden, 2004) found that 50% of Puente students transferred to a 4-year institution in a 3-year period, Saenz (2002) reported disappointing results for the same time period that included low high school graduation rates, minimal enrollment rates at the postsecondary level, and high attrition rates during the students' first years in college. Gándara and Bial (2001) identified the program as a template for designing programs geared toward the persistence of Hispanic students in higher education.

   National evaluation efforts at assessing the effectiveness of such programs as the National Center for Urban Partnerships (NCUP) and GEAR-UP have been lacking in theoretical soundness and methodological rigor. Initially, the emphasis on outputs rather than on outcomes did little to address the issue of how effective these programs were in affecting student achievement and success. Even when efforts were focused more on outcomes, methodological issues cast doubt on the accuracy of those evaluations. Moreover, the separateness of programmatic and evaluation components associated with these programs was consistently responsible for the lack of rigor in the assessment of activities and outcomes. More often than not, those implementing the programs and those assessing the programs did not collaborate their efforts from the beginning. Evaluation was not taken seriously until the end of the programs when outcomes assessments were requested or required. Oftentimes it was impossible to assess specific outcomes when no baseline data existed.

Best Practices: Implications of What May Work

While there is still much more to be done on evaluating state and federal initiatives, several characteristics and components of programs targeted at expanding access to, and retention in, higher education for Latino students have surfaced as successful. The following section is not intended to be a detailed profile of activities, practices, and interventions making up those programs but, rather, a summary of general/overall recommendations that are associated with increased Latino access and/or persistence at different institutions. The summary of recommendations is based on pragmatic investigations by CHEPA (2002) on early intervention programs, evaluations by the Building Engineering and Science Talent (BEST) initiative (Building Engineering and Science Talent, 2003), features of effective college-access programs found by Gándara and Bial (2001), principals aimed at providing strategic direction for administrators to increase access and retention rates of Hispanic students at 4-year colleges

according to Hurtado and Kamimura (2004), and Rendon and Taylor's (1990) ten-point action plan targeted at community colleges.

Recommendations at the K–12 Level

Parental Impact

From early on, Rendon and Taylor (1990) emphasized the involvement of the Hispanic family in the education process. One factor that has consistently been found to influence college enrollment is the early and constant reinforcement of college aspirations provided by family members, specifically by parents. Auerbach (2004) notes that reinforcement of educational aspirations and goals must be done often and in a variety of ways. The author suggests that Hispanic students should research and present college information to their parents at public meetings to attract and build interest.

CHEPA (2002) concluded that all students, parents, and educators should be provided with timely, accurate information. At the junior high and high school level, resources should be provided to students who are at high risk, not on a college-bound track with information regarding those courses that help students prepare for college-level coursework. They strongly urge the mandatory advisement of the college application process before the student's senior year. Furthermore, K–12 should attend to the specialized information needs of Latino parents, such as worries surrounding their children's safety on a higher education campus, undocumented status, and financial aid opportunities and responsibilities. Counselors should also make parents aware of the barriers students may face on campus and the strategies that can be used or overcome them in a sensitive, culturally appropriate way (Auerbach, 2004).

Recommendations at the Postsecondary Level

Administration/Campus Leadership

One key factor that must be acknowledged by higher education administrators is the number of faculty of color on their campuses (Gregory, 2003; Hurtado & Kamimura, 2004). The leadership on campus must also have a strong and genuine commitment to a diverse student body and a sense of inclusiveness across the campus community (Building Engineering and Science Talent, 2003).

More specifically, chief administrative officers must provide a means of rewarding faculty that are successful in developing student talent (Building Engineering and Science Talent, 2003). They should strive to build coalitions between the college, families, business, and the community-at-large (Rendon & Taylor, 1990). In line with a

strong commitment to diversity among students and faculty, administrators must examine those dimensions that affect the campus climate (Hurtado & Kamimura, 2004). Lastly, because so many Hispanic students first enter higher education through community colleges, the transfer function must take on more importance to both 2- and 4-year administrators. Linkages with feeder schools should be established and maintained (Building Engineering and Science Talent, 2003; Rendon & Taylor, 1990).

Student Services

Auerbach (2004) urges that recruiters reach out to parents in both English and Spanish – especially on the Internet and in college directories and catalogues. The important thing is to make communication with students and parents as personal as possible such as inviting personal stories from guest speakers of similar backgrounds to help families make sense of complex information and feel comfortable asking questions.

Recruitment of targeted Hispanic students can be achieved through executed feeder systems (Building Engineering and Science Talent, 2003). More importantly, Hurtado and Kamimura (2004) stress that recruiters at 4-year universities should utilize more aggressive recruitment strategies, identifying students who are not college bound. The authors further note that institutions must focus on underrepresented areas such as engineering and science programs.

One key suggestion by Gándara and Bial (2001) is the "untracking" of students once they enroll in college. An emphasis should be placed on providing access to the most challenging courses at the university to Hispanic students. They also note that special attention should be paid to financial aid assistance and incentives and that structural elements be incorporated into the campus environment that increases retention.

Campus Climates

Once students are admitted, institutions must assist those students in navigating the institution (Hurtado & Kamimura, 2004), implement summer programs for incoming minority and low-income students such as California Alliance for Minority Participation (CAMP) and provide orientation programs designed specifically for minority students and/or low-income first-generational students. In other words, institutions must engage Latino students in the academic and social fabric of the college (Building Engineering and Science Talent, 2003; Gándara & Bial, 2001; Hurtado & Kamimura, 2004; Rendon & Taylor, 1990) such as providing opportunities or avenues for peer support that helps to build social experiences and support institutional commitment and real opportunities for Latinos to participate in student groups/organizations. At the same time, these opportunities must be accompanied by an encouragement of communication and tolerance between racial groups (Hurtado & Kamimura, 2004). Programs that attempt to change intergroup dynamics,

formal activities around understanding race and culture (especially important at predominantly White institutions), and activities designed to increase knowledge on campus of Chicano/Chicana and Latino/Latina cultures are especially important at predominantly White institutions.

Faculty

In addition to providing a climate of acceptance and tolerance, faculty must be strongly encouraged to provide high-quality instruction. This level of instruction can be provided through tutoring and courses specifically designed to meet the needs of Hispanic students (Building Engineering and Science Talent, 2003), by setting high and reasonable faculty expectations of their students and continually measuring their learning and growth (Rendon & Taylor, 1990), by reinforcing faculty to stay current in their teaching field, and by training faculty to use assessment as a teaching tool (Rendon & Taylor, 1990).

Hurtado and Kamimura (2004) suggest that faculty identify academic problems early on in the semester and address the issue with the student. A conference at the end of a semester will not provide the student with enough time to engage in any remediation that is necessary. They also stress that faculty must also accept the responsibility of assisting students with managing their time and resources.

Mentoring

Currently, close attention is being paid to the issue of mentoring undergraduates. While not much specifically has been empirically researched in this area, and there is confusion as to what constitutes a mentoring experience (Nora & Crisp, 2008), the consensus is that mentoring is beneficial to students and more so to minority students and that it should be long term (Gándara & Bial, 2001). An important aspect of mentoring is the realistic appraisal of student needs and strengths that help to focus on the unique needs/talents of each student (Building Engineering & Science Talent, 2003; Nora & Crisp, 2008). Gándara & Bial (2001) believe that mentoring should not be engaged in a halfhearted manner, nor should it be assigned simply to other students but that a key person should be formally assigned and responsible for individual students.

Policy Recommendations: A Final Note

Researchers at Stanford University responsible for the evaluation of their Bridge Program offer several policy recommendations relative to increasing access and postsecondary academic success for Hispanic students. Their most notable recommendations focus on shifting media, policy, and research attention to the 80% of

students who do not attend a highly selective university. Access and admissions into flagship universities, while important, will not address the many issues facing Latino students in higher education. Just as important is the need to expand the focus of local, state, and federal programs to include access to success in college rather than the current focus on access exclusively.

A major part of the dilemma with the research on Hispanic students and the evaluation of federal and state initiatives is the lack of theoretically sound longitudinal databases. Typically, state and national databases are not informed by a body of empirical evidence suggesting which variables should be collected and tracked year-to-year. Those databases that may exist at the institutional level and rich in the kinds of constructs captured are not linked to state databases. Even when 2- and 4-year institutions have data on the same set of students, efforts to link the two institutions are nonexistent. Venezia et al. (2003) propose that states should create K–16 databases that can enable researchers and policymakers to monitor and track students' progress.

Ultimately, all interventions and policies can only be informed by research using databases that are longitudinal in nature, conceptually sound, theoretically driven and analyzed with sophisticated statistical techniques. Until attitudinal, behavioral, and perceptual factors are linked to cognitive and noncognitive outcomes, creating appropriate interventions is difficult, assessing those efforts may be misguided and accepting the findings from evaluation studies questionable.

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Turning from Time to Space: Conceptualizing Faculty Work

Aaron M. Kuntz

The present epoch will perhaps be above all the epoch of space. We are in the epoch of simultaneity: we are in the epoch of juxtaposition, the epoch of the near and far, of the side-by-side, of the dispersed. We are at the moment, I believe, when our experience of the world is less that of a long life developing through time than that of a network that connects points and intersects with its own skein.

(Michel Foucault, 1986, Of other spaces p. 22)

Introduction

Since Foucault (1986) articulated the spatial turn in postmodern experience, scholars in the humanities and social sciences have developed a large body of literature based in spatial metaphors. This research assumes that individuals make meaning within multiple spheres, both locally and globally, within cultures of the immediate environment as well as in relation to larger sociohistorical trends. Some educational theorists have participated in this inquiry into the spatial dimension of education (e.g., Apple, 2000; Giroux and Giroux, 2004), and it is emergent in scholarship on higher education. More often, however, higher education research employs temporal frameworks: developmental models for students and faculty, narrative accounts of identity development, positivist characterizations of human behavior along fixed trajectories, and neoclassical economic analyses of efficiency.

Analytical frames affect our interpretations of key elements within the study of higher education – what it means to be a successful student, for example, or a productive faculty member – yet inform our scholarship in such subtle ways that they often escape critical scrutiny. Postmodern theories that turn to spatial metaphors assume that language overlays all experience and that the relational logic of definition can be used to understand social processes such as identity formation. Hence, identities are seen in context, juxtaposed against other identities – "near and far," "side-by-side," and "dispersed" – and, importantly, are always in process, recreated by and creating the dynamic "network that connects points and intersects with its

own skein" (Foucault, 1986, p. 22). What these spatial frames offer the study of higher education is the perspective that change is integral to the very structure of educational institutions: a clear departure from the modernist premises by which colleges and universities traditionally operate (Bloland, 1995; Mourad, 1997).

Temporal structures abound in the modern institutions of higher education: learning happens in a set amount of time, resulting in a credential; faculty are often ranked according to their progress on the tenure track; and numerous policies are set against the academic calendar. Higher education research often absorbs the modernist frames of university structures without question; consequently, change seems impossible. The constitutive changes by which the university is continually institutionalized go unnoticed, and larger structural change appears unlikely. The study of the university as a complex and continual process of interrelation requires a shift of metaphors from the temporal to the spatial, and this is not simply a matter of semantics.

Earlier uses of postmodern theory critiqued as overly linguistic in their focus have lately given way to materialist revisions. Materialist analyses seek to understand and describe the influence of lived experience, embodiment, and daily practices on larger cultural structures, as well as the effect of culture on materiality. Important to a materialist focus is an understanding of language as not just conceptual, but also embodied (Feldman, 2008; Fleckenstein, 2003; Lakoff and Johnson, 2003). Accordingly, the shift I propose from time to space for research in higher education involves first a critical awareness of our metaphors and, second, an inquiry into the social spaces and material places from which these metaphors emerge.

To ground my discussion of analytical frames, I present the subject of faculty work as it is currently rendered in higher education research, that is, within a temporal frame, and as it may be reconceptualized through a critique of metaphors and an inquiry into daily practice within social space and material place. This approach finds precedent in the work of social theorists from multiple disciplines who have characterized embodiment as the integration of social processes and material practices within the lived experience of the individual (e.g., Cheville, 2005).

Although few studies within the field of higher education present materialist analyses that link embodied experience to physical place, or the social construction of identity in context, Green and Singleton (2006) tell us

> constructions of time and space are based not simply on the structural design of spaces, but also on feelings, fears, and anxieties depending upon where they are situated in particular localities; emotions that are embedded in local discourses and knowledge, and characterized by gender, "race" and relations of power. (p. 867)

Green and Singleton's (2006) study of young women's experiences of risk on and off university campuses in England is a strong reminder of the importance of both material and social context in our conceptualizations of time, space, and self. In their study the authors find that "risk is spatially and temporally situated and relates to the social and cultural identities of the embodied self" (p. 859). Embodied experience exists at the nexus of situated localities – the microgeographies of daily experience. In a similar vein, studies of faculty may interrogate the multiple locations that

engender faculty practices as well as the metaphors faculty use to describe and understand their professional identities and relationships. Conceptual awareness of space and spatial metaphors is a first step in a developing understanding of the social processes and institutionalizing structures of higher education. Here, I argue that such conceptual critique must be followed by materialist analyses that emphasize the dynamic interrelationship between place, daily practice, meaning-making, and professional identity. Embodied metaphor links these two levels of analysis by first highlighting our conceptual patterns and then pointing to the embodied experiences from which we draw and through which we enact these metaphors.

Like scholarship in other disciplines (e.g., Dale, 2005 in organizational studies; Dyck, 2005 in critical geography; Green and Singleton, 2006 in leisure studies; Holloway and Valentine, 2000 in childhood studies), this chapter attempts to make available to higher education researchers a critical perspective that, though experienced and embodied in everyday existence, remains largely unexamined within the research. Often, scholarship on tertiary education unduly privileges temporal experiences over spatial interactions, and this tendency has consequences for how we frame individual identities, experiences, and meaning within tertiary education. This happens despite the fact that our research studies are laden with spatial metaphors.

Conceptually, space and place have endured a long history of debate within multiple disciplines. Generally, it is difficult to separate the physical worlds we inhabit from the social meanings we develop within our environments; however, it does help provisionally to disaggregate the two for the benefit of more clearly understanding their dynamic interrelationship. Edward Soja (1989) notes the conditional nature of such division, understanding that *place* and *space* conceptually overlap and draw meaning from one another. For the purposes of clarity, I define *space* as the social meanings produced and interpreted in material environments, which I in turn define as *place*. In order to sustain that definition, I term space "social space" and place "material place."

Place frames the work we do, and we rely often on spatial metaphors to understand our work relationships. How do we represent the faculty workplace? What is the relationship between what faculty do and the places in which faculty work? Utilizing faculty work as an entry point for analysis, I assert the possibilities that emerge when we interpret faculty through a spatial frame, one that extends from our everyday experiences of the contemporary social world. Through an examination of recent research on faculty work within tertiary education, I present the many ways in which material place and social space contribute new frames for how we conceptualize faculty and their work practices. I draw on an interdisciplinary body of literature that has emerged within several fields of study, most prominently critical and postmodern geography, workplace studies, cultural studies, and education. In various ways, these fields make it possible to argue for a renewed emphasis on spatial and platial modes of meaning-making.

Beyond my call for examinations into the microgeographies of higher education, this chapter contributes to the growing body of research on space and place by detailing the use of embodied metaphor as a theoretical heuristic through which

conceptual interpretation and embodied experience are linked. Further, because this chapter emphasizes faculty work within the field of higher education, it offers an area of study that remains relatively untouched by spatial- and platial-based analyses. Finally, this chapter offers a series of methodological considerations for the practical application of the theoretical concepts that currently dominate research into space and place.

In the end, tertiary scholars of all kinds will benefit from an interrogation of social space and material place within higher education. Those researchers invested in studying identity formation within colleges and universities will find value in micro-level analyses of individual daily practices, the spaces in which such practices occur, and the collective meanings evoked by such practices. Scholars interested in articulations of academic scholarship would do well to inquire into the ways in which the material places where faculty work insinuate normalized definitions of legitimate scholarship within the academy. Individuals who call for changes to the academy itself will find value in addressing the ways institutional spaces recognize select changes even as they constrain the effect of others. Finally, administrators and faculty alike who are engaged in campus alterations will benefit from understanding the layered and dynamic meanings material place contributes. It is not, after all, the way we think about the university – it is the way we live the university on a daily basis that has consequences for how we frame our inquires into higher education. It is here, in the critical space of daily practices, that we may ask how postmodern scholarly practices have the potential to change the modernist institutions that are their subject matter.

This chapter is organized along the following lines: the next section involves an examination of the dynamic intersections of place, space, embodied practice, and professional identity within faculty work in tertiary education; I then examine inter-disciplinary calls for a "spatial turn" in academic work and feature four key social theorists who have greatly influenced spatial analyses in multiple disciplines; finally, the concluding section presents embodied metaphor as a link between our conceptualizations and embodied practices as well as a reflection on how materialist research methodologies help us investigate the dynamic intersection of space, place, practice, and embodied experience in higher education.

Faculty Work: Placing Our Metaphors

Scholars in tertiary education have conceived of faculty and faculty work in a number of ways, often through spatial metaphors. Yet rarely do they articulate spatialized analyses of their findings. With the importance of studying faculty in mind, this section reviews scholarship within the field of higher education for its implications on the material places, social spaces, and embodied daily experiences of faculty. This section is ordered around the following frames through which scholars have articulated faculty work: organizational frames, economic frames, and new conceptualizations that seek to reframe faculty work within emerging

sociocultural contexts. As tertiary education strives to reconcile institutionalized practices with changing sociohistorical contexts, the role of faculty and their work is increasingly questioned and in need of critical investigation. As Austin and McDaniels (2006) note, "[a]s higher education institutions address a growing number of societal expectations and needs, the work of faculty is more important than ever – and the range of competencies they need grows as well" (p. 422).

The study of faculty careers is relatively new within historical discourse (Finkelstein, 2006). Perhaps because we have only recently turned a critical eye to the study of faculty, we have yet to fully explicate the many aspects of faculty life (Bieber, 1999). Yet, despite the relatively recent attention to faculty careers and faculty work, distinct analytic patterns shape how we research faculty within the field of higher education, and, consequently, what we know about faculty and their work. Even as Finkelstein categorizes research on faculty work within three distinct historical contexts, I suggest throughout this chapter that our understanding of faculty and faculty work would benefit from an analysis of the social spaces and material places in which such work occurs. Insights provided by scholars such as Finkelstein will prove even more powerful if framed alongside discussions of social space and material place. One might, for example, expand Finkelstein's temporal categorization of change within faculty work and identity by asking how such statistically significant changes intersect with alterations in the workplace. These questions are meant to enhance current scholarship, not replace or repudiate previous research on faculty.

Within the emerging field of higher education spatial metaphors abound. Scholars write of the "field" of study, of faculty mobility, enlarging one's sphere of influence, and erasing disciplinary boundaries. In 2006, the Association for the Study of Higher Education (ASHE) focused their annual conference on the theme of "Borderlands/Borderlines in Higher Education," two spatial metaphors with a history of provoking critical analyses (e.g., Anzaldua, 2007). However, despite the many ways in which we spatialize the field, scholars of tertiary education rarely pause to consider the implications of such spatial metaphors, often choosing instead to highlight the economic and temporal frames that give meaning to faculty and their work. Consequently, before considering the ways in which spatial and platial conceptualizations of faculty practices might alter existing interpretations of faculty work, it remains important to locate the conceptual frames commonly applied to the study of faculty and their work.

As my analysis of research on faculty shows, higher education scholars often render social space and material place as silent backdrops in the production of meaning. Consequently, my critique of scholarship on faculty parallels an emerging critique within the fields of critical and cultural geography. As Eyles (1989) claims, place "is not only an arena for everyday life – its geographical or spatial coordinates – it, in itself provides *meaning* to that life. … Places are thus conceived as profound centres of human existence" (p. 109). Other researchers echo such a perspective, critiquing scholarship that presents space as an "empty container in which history unfolds" (Wilson, 2000, p. 3); "a backcloth against which action takes place" (Clarke et al., 2002, p. 288); "an 'absolute container' for congeries of objects and naturally occurring processes" (Kostogriz, 2006, p. 177); an "inert territory awaiting

discovery and colonization" (Gruenewald, 2003, p. 628); "an empty code" (Edelman, 1978, p. 2); "a backdrop for history" (Knopp, 2004, p. 127). All these scholars strive to replace connotations of space and place that are fixed, static, and empty, and often posit definitions that include fluctuation, dynamic activity, and embodied experience. In the sections that follow, readers should take note of the many ways space and place are conceptualized as static and inert, rarely contributing to the meanings we make of faculty and their work.

Organizational Frames

Many scholars of higher education have sought to utilize organizational theory to make sense of the material places and social spaces of faculty work within institutions of tertiary education as well as the professional identities legitimated within the academy. Within these analyses, researchers insinuate spatial metaphors to make sense of faculty work, but do so without acknowledging the many ways such spatializations inform their analyses. This remains important because organizational theorists have historically noted two key characteristics of higher education. The first characteristic is a rendering of higher education, like other institutionalized fields, as marked by a striking amount of what Scott (2001) terms "structural isomorphism" or structural similarities across institutions. Second, organizational theorists often point out that campus organizations are slow to change and rely on normalizing symbolic values for legitimacy (Duderstadt, 2001; Levin, 2000).

Consequently, although American society has changed much over the past 100 years, and knowledge production has increased at exponential rates, educational organizations themselves are understood to have altered only slightly. Persistence continues as a result of the highly institutionalized interactions within the field of higher education. Alpert (1985), for example, extends the remarkable conformity of the organizational structures of tertiary education to the very ways in which individuals perform or enact their roles as faculty within tertiary education. Thus, we understand the activities of faculty *as* faculty, for example, through the uniformity and consistency of their daily practices. Consequently, the structural conformity that dominates the organizations of the academy implicates the daily practices of faculty even as the normative repetition of faculty practices ensures the maintenance of the institution. Stasis becomes the norm.

As organizational theorists strive to make sense of faculty identity and practices within university systems, they often utilize spatial metaphors, though do so without consciously pointing to how such spatializations affect their understanding of faculty and their work. Two important examples of this are found in seminal works by Alvin Gouldner and Daniel Alpert, scholars whose work has had a significant impact on scholarship concerning faculty work.

Gouldner (1957) begins his examination of "cosmopolitans" and "locals" among faculty by critiquing previous scholarship on role theory for relying on vague notions of spatial positioning to determine an individual's relation to a larger organization:

> A social role is commonly defined as a set of expectations oriented toward people who occupy a certain "position" in a social system or a group. It is a rare discussion of social role that does not at some point make reference to the "position" occupied by a group member. Despite its frequent use, however, the notion of a social "position" is obscure. … Often, it is used as little more than a geometrical metaphor. (p. 282)

Gouldner draws attention to the significance of "position" within role theory but emphasizes its emptiness as a defining term; position becomes "little more than a geometrical metaphor." Through his study of faculty Gouldner aims to draw new meaning to the term "position," offering further refinement through the concepts of "cosmopolitans" and "locals." Keeping with the spatial renderings of individuals within organizations offered by position, Gouldner asserts that cosmopolitan faculty "use an *outer* reference group orientation" while the locals "use an *inner* reference group orientation" (p. 290, emphasis added). In this sense, Gouldner brings increased meaning to faculty position through defining their spatial relation to the educational organization. Position is more than a geometrical metaphor, it gains meaning through a context-specific set of spatial relations. One no longer inhabits a vague *position*, but is instead *positioned* in relation to a larger organizational space – thus defining faculty as they orient themselves according to inside or outside reference points.

Although Gouldner critiques role theory for the emptiness of its "geometrical metaphors," he fails to fully examine the ramifications of his own spatializations. Inner and outer positions call forth the spatial metaphor of the container (in this case, the educational organization contains the orientation of locals, even as its boundaries mark the external orientation of faculty defined as cosmopolitans). Such a conceptualization is not without important consequences for how we are to interpret faculty and faculty work. As the following section shows, the metaphor of containment is especially important to the study of faculty in relation to the larger disciplinary and departmental organizations from which they draw meaning.

Alpert (1985) strives to makes sense of faculty orientation within the university differently, though still maintaining Gouldner's spatial emphasis on relation. In order to better represent the complex interrelations between professor, department, campus, and discipline, Alpert presents an organizational matrix, a spatial model that grants added dimensionality to traditional representations of university structure. Alpert's matrix spatially represents conflicts and tensions between two institutional spaces central to faculty work – the local campus and larger department – as they vie for more direct relation to faculty. In Alpert's model, disciplinary and campus communities show divergent goals, thus making it more difficult to pinpoint the location of faculty identity. Within scholarship on faculty, many researchers recognize such tensions; though do so without examining them in overtly spatialized models. Indeed, Alpert proclaims a need for his matrix model in order to counter the overemphasis of linear models utilized to understand the organization of the university or college; he seeks to bring added dimensionality to the organizational models through which faculty are known.

Many researchers seem particularly concerned to resolve the disciplinary and departmental tensions invoked by Gouldner and Alpert's models by asserting the

need for departments to contain the loyalties of faculty, thus affirming a repro-duced belief in the academic department as the primary structural unit within the university. This remains especially important as campus departments increasingly fail to fully represent distinct academic disciplines *in toto* and are thus no longer able to fully contain faculty spatializations. In this sense scholars often depict departments as social spaces and material places that maintain a centrality to faculty practices and present strategies for foregrounding the department above other organizational entities.

Both Lewis (1993) and Spencer-Matthews (2001), for example, depict faculty loyalty to their disciplines as an organizational problem in need of resolution. Lewis (1993) writes that faculty remain responsible to themselves and professional associations as opposed to the university in which they work. A desire to change such an historical lineage of extra-departmental loyalty responds to previous scholarship which notes the academic discipline as the container more apt to hold faculty loyalty (e.g., Boyer, 1990). In the face of such research, scholars such as Lewis and Spencer-Matthews reaffirm the central importance of the department within the structural organization of the university and thereby present a need to shift academic culture away from emphasizing disciplinary affiliation over depart-mental membership.

Concerns over disciplinary affiliation and loyalty stem from a recognized cen-trality of the academic department to university operation. As Hearn and Anderson (2002) assert, "the academic department is the foundational unity of U.S. universities. Curricula, degree programs, grading practices, research initiatives, and faculty careers are shaped there" (p. 503). Clark (1998) notes that the university's "heartland is still found in the *traditional academic departments* formed around disciplines, new and old, and some interdisciplinary fields of study" (p. 7, emphasis added). Hobbs and Anderson (1971) maintain academic departments "constitute the funda-mental elements" of campus organizational structures (p. B134). Such essentialized language – the department as the "foundational unity," "heartland," "fundamental element" of our universities – becomes problematic when the organizing structure can no longer encompass the knowledge it is meant to represent. Departments may no longer claim to represent or organize knowledge, but are seen to instead *manage* the material aspects of the campus: the material places and daily policies in which professors, students, and administrators operate.

Similarly, scholars such as Weber (2001) emphasize the central importance of the academic department to the university organization as well as the potential for disciplinary affiliations to interfere with the localized campus organization. Among other things, Weber notes that faculty should adhere to institutional goals over disciplinary goals even as they naturally draw their identity from their uni-versity rather than disciplinary affiliations. As the analysis that extends through-out this chapter indicates, the spontaneous allegiance to one's university that Weber so desires points to a necessary cultural shift within tertiary education; such seemingly unconscious affiliations cannot be mandated via policy imple-mentation and must, instead, extend into the very social spaces and material places in which faculty operate. Faculty allegiance to departments or disciplines

– how they conceive of their role in the many spaces of higher education – is constituted in particular daily practices, as well as interpretations of social space and material place.

Weber (2001) later notes the benefits to the university of faculty's dual positionality, asserting that they are required to "alert the university authorities about recent developments and trends in their disciplines" (p. 91). Remarkably, such assertions maintain a focal point on the essentialized department as faculty pledge fealty to their university, operate within departments, and report the actions of the discipline to "university authorities." Like Weber, Walvoord et al. (2000) suggest administrators "strengthen institutional influence, in order to counterbalance disciplinary influence" on individual departments (p. 29). In order to achieve this, Walvoord et al. (2000) present a series of strategies for foregrounding the departmental unit over the academic discipline: increasing the number of faculty with less direct ties to specific disciplinary cultures (such as adjuncts), collaboration across disciplinary boundaries, and facilitating alternatives to discipline-based professional associations. Such strategies aim to increase the influence of the campus organization on individual professors through decentering the traditionally dominate social spaces of the academic discipline within tertiary education. All these strategies go out of their way to reinscribe departmental boundaries to create an academic workforce that finds identity and definition through its placement within the department. Within such a perspective departmental spatial boundaries are strengthened through the encouragement of interdisciplinary practices of faculty work; as disciplinary boundaries are overcome, departmental affiliation gains prominence. Here, we see a wide array of suggestions for ways to manage and control faculty work through a reframing of the social spaces that maintain key elements of faculty professional identity. Throughout, increasing the standing of the department within the professional culture of the campus organization remains an organizational response to a history of disciplinary influence over the professorate.

Within the organizational distribution of departments and disciplines, unique frames emerge within the literature. Disciplines are depicted as more fluid than fixed, evolving relationally to knowledges produced and revised. Departments, on the other hand, remain static, an organizational structure that can no longer contain the disciplines they were meant to represent. Thus, as Bloland (1995) and Mourad (1997) infer, the department takes on the limits of modernism, a modernist institution vying to control more postmodern forms of knowledge and institutional identity.

Economic Frames

Increasingly, scholars have come to read faculty through an economic frame that gains meaning through its emphasis on the temporal at the consequence of the spatial meanings. Generally, an interpretation of faculty work through economic frames proves difficult because what faculty labor to produce cannot be easily quantified. As Martin (1998) notes, the work of faculty

confounds received categorization. Knowledge, if that is what is being produced, is a slippery thing. It is at once local and in defiance of locality. Wages for thought jostle uneasily between what is paid for and what is not. Product, whether as successfully completed credit hour or publication, cannot straightforwardly be seen as containing the value attributed to it. Appropriation, which names learning as much as it does teaching, generates kinds of surplus that are not necessarily commensurate with one another. (p. 22)

Martin locates the difficulty of situating faculty work within an economic frame: the standard economic operations of production (knowledge production), labor value ("wages for thought"), product ("credit hour or publication"), and appropriation of product (learning and teaching). And yet, despite the difficulty of reading faculty work within an economic frame, policies surrounding faculty work persist, as faculty and administrators alike strive to make meaning of what faculty do within increasingly prevalent economic contexts. Further, because such economic frames depend on elements of production and efficiency, they inevitably invoke temporal associations. Faculty are evaluated based on their production on a set timeline, often rendered as the tenure track, which, in turn, defines some faculty as "junior" or "pretenure" and others as "senior" or "tenured."

Although the relation between faculty work and traditional economic assertions of productive value with set timelines are tenuous at best, researchers and policymakers alike have sought multiple ways through which to define faculty work within an economic frame. Indeed, as the economic market increasingly plays a role in the everyday operations of colleges and universities – dictating institutional responses to contemporary economic realities – faculty have been called upon to articulate the value of their work in economic terms. Often the connection between a faculty member's work – in this case his or her production – and economic value play a large role in promotion and tenure decisions. Increasingly, universities are buffeted by market forces and require faculty to justify their positions by promoting the commercial value of their work (Martin, 2005).

Such connotations of economic value have direct implications on not only the determination of faculty work, but also the assertion of particular faculty identities as "good" or "productive"; the economic frame privileges select academic practices while delegitimizing others, contributing to an emergent sketch of a successful faculty professional identity. Consequently, as Castree (2002) finds in the British context, "the 'successful' academic self is a figure who publishes not just a lot but in the 'right' journals; who wins pots of research money, preferably from blue-chip funding-bodies" (p. 105). Faculty identity draws meaning from the fulfillment of legitimized activities within legitimized spheres. Increasingly, economic spheres have determined the value and legitimacy of faculty work.

As practices and contexts increasingly become meaningful in economic notions of value, what faculty can and cannot do, their *work*, becomes increasingly disciplined. As Martin (2005) later asserts,

with employment advancement increasingly tied to teaching and research that brings in the dollars, there is no tiptoeing around the fact that when the use-value orientation of academics is not directed toward surplus accumulation, the university rears its ugly multiplicity of heads, like Cerberus, the guard dog at the gates of Hades. (para 28)

Martin's representation of disciplinary action within the academy reinforces the strong pull for faculty to engage in activities recognized and valued in economic terms. This proves especially problematic for those faculty whose work is perhaps on the margins of mainstream acceptability, never fully in line with the values of economic production, causing critical scholars such as Apple (2000) to critique the "conservative modernization" of the academy.

Social critics like Giroux (2005), Apple (2000, 2006), Slaughter and Rhoades (2004), and Readings (1996), have rightly critiqued the influence of an increasingly normative neoliberal economic rendering of education or, as Gumport (2002) writes, the "logic of industry." Such theorists implicitly critique the economic frames that have come to dominate interpretations of tertiary education and, in turn, the material realities they infer. Certainly, a concerted attempt to reframe conceptual discourse surrounding faculty work in higher education may potentially change the social and material practices through which we have come to know faculty identity (Kuntz, 2007).

New Conceptualizations

Some scholars within the field of Higher Education have called for new interpretations of faculty and their work, invoking alternative frames and new metaphors in order to represent better daily faculty practices in newly developed social contexts. Bean (1998) specifically foregrounds the affect of language on our everyday conceptions of faculty roles, pointing to the constraints inherent in the language with which scholars have described faculty work. Bean presents a dynamic relationship between language and practice, beginning with the premise that new descriptions of faculty work make possible new faculty practices. How we frame faculty, their work and roles within the university, matters, because, as Bean points out, "the language we now use is poison" (p. 497). Although he does not directly refer to theories of embodied metaphor, Bean's argument is a call for a reframing of the conceptual system through which we make sense of faculty identity and daily work.

Like Bean (1998), Lee et al. (2005) argue for new conceptualizations for faculty and their work, though do so by pointing to the new political and economic contexts in which faculty operate. Lee et al. essentially offer a new conceptual metaphor – that of the professor as knowledge worker. As Lee et al. rightly recognize, the contemporary context of the new global economy alters the spatial properties in which faculty work is enacted: "[I]n the new economy, increasing amounts of work are being conducted at different times and work sites than has traditionally been the case" (p. 66). As the authors extend their review of previous scholarship on faculty work, they critique an overemphasis on studies of faculty time allocation that, in turn, reaffirms the separation of the traditional triad of teaching, research, and service as distinctly categorizable activities.

In light of the contemporary context of the "new economy," Lee et al. (2005) call for "the increasing fluidity of the boundaries between work and personal space"

that necessitates a newly critical review of faculty spatial practices (p. 83). The present-day context requires new metaphors for faculty work that highlight spatial analyses over strict temporal interpretations. So it is that the authors strive to merge traditionally temporal interpretations of faculty work with spatial analyses of daily faculty practices. Lee et al. argue that "with the increased use of technologies … there is reason to believe that increasing amounts of time are being allocated to work that take place off campus and outside of what would be regarded as normal working hours" (p. 83). Note the ease with which their analysis slips into the use of spatial metaphors in order to explain contemporary faculty work experiences in the new academy: faculty work in new spaces and newly spatialized time. These faculty work "*outside* normal working hours" even as they place their work outside of traditional faculty work spaces (i.e., faculty offices, campus libraries, etc.).

Although Lee et al. (2005) offer a new interpretation of faculty and their work – asserting new metaphors – they never overtly note their recommended shift to spatialize faculty work both in terms of what to study and the conceptual basis that frames the research for which they advocate. Instead, one might read the authors' attempts to align spatial considerations of faculty work alongside traditional inter- pretations that emphasize time allocation as a means to better reconcile a theoretical framework with the daily lived experiences in what Foucault (1986) calls, "the epoch of space" (p. 22) (hence Lee et al.'s insistence that faculty now work in a new context – the new knowledge economy – that demands an assertion of newly devised faculty professional identities). As the authors note, this reconceptualization of the metaphors through which we render faculty work causes researchers to ask new questions that merge previously bifurcated notions of time and space: "there is good reason to gather data on time allocation that concentrates on *when* and *where* work time is allocated" (p. 83, emphasis added).

Similarly, Erin Leahey (2007) articulates a reconfiguration of faculty away from traditional notions of "publish or perish" to an emphasis on visibility within her study on faculty in linguistics and sociology. Leahey implicitly calls for a new spatial metaphor – visibility – to replace traditional metaphors for faculty work that reify temporal renditions of faculty within the timeline of tenure. Through her study, Leahey produces a gendered analysis that merges spatial and economic frames, finding that women faculty tend to specialize less and, consequently, have a lower degree of visibility within the field, thereby reducing their economic poten- tial within the academy.

Leahey (2007) emphasizes visibility as it relates to professional identity, examining publication rates, citation counts of published articles, book awards, and book reviews. As faculty generate increased publications and citation counts they generate a degree of visibility within their field, a representational identity within the social space of their discipline that has significant effects on salary and tenure potential. The end result of Leahey's shift toward a spatialized interpretation of faculty work is a more layered and multidimensional representation of faculty professional identities that incorporates both temporal and spatial considerations. Specific to Leahey's analysis, women faculty members in her sample earned less than their male counterparts in large part because they tended to specialize less and

were thus less visible within their field of study. The former conclusion has been documented in previous sociological analyses of faculty (e.g., Horning, 2003; Preston, 2004). However, Leahey's findings concerning visibility are relatively unexamined in previous scholarship, perhaps only made available through Leahey's incorporation of the spatialized metaphor of visibility.

Of course, one could extend Leahey's (2007) notion of visibility to yet another dimension, that of material visibility, evoking elements of faculty-embodied daily practices – this Leahey does not do. By conceiving of visibility only in the abstract sense, Leahey remains bound by discursive boundaries that are silent about the material activities of faculty. In Leahey's articulation, faculty visibility is an aftereffect of imagined or assumed practices (i.e., published articles as the result of the practices of scholarship, book awards as symbolic representations of the success of faculty work). Instead, a materialist analysis more directly links the daily embodied practices of faculty with their material visibility on campus, in department halls, or at disciplinary conferences, and to their embodied experiences of seeing or not being seen. These material practices affect a degree of visibility that is both material and symbolic. The consequence of such an analysis is an interpretation of faculty work that paints a more complete picture for the implications of gender and visibility that Leahey calls for, including the embodied experiences of gendered faculty members and the ramifications of their work in the academy.

Colbeck (1998) takes issue with the frames through which we read faculty identity and work, although she remains more invested in advocating for a particular conceptualization that resists the fragmentation typically proffered by previous scholarship on faculty. Generally, Colbeck argues that scholars have mistakenly assumed fragmented faculty roles, typically splintered between teaching and research. Most often, Colbeck claims, scholars assume a fragmentation of time, that faculty fail to integrate their time spent on teaching and time devoted to research. In response to such incessant reproductions of bifurcated faculty work, Colbeck points to many faculty who successfully integrate teaching with research (integration here is presented as an overlap of teaching and research time). However, there is no mention of the alignment between time and place within Colbeck's text; place remains absent within the framework of her analysis. This is done, of course, despite the spatial metaphors Colbeck uses throughout her study, claiming that "faculty members might *expand* available time and energy" by integrating teaching and research (p. 650, emphasis added).

This conceptualization of the expansion of time and energy, alongside the very notions of fragmentation and coherence that are the basis of Colbeck's study, presents an argument for a newly spatialized conceptualization of faculty, faculty identity, and the daily practices of work. Consequently, Colbeck's study makes important arguments for a new conceptual frame within higher education scholarship yet never fully explicates the degree of change for which she advocates. Colbeck critiques a spatial metaphor of fragmentation for its misrepresentation of faculty practices, yet remains bound by a temporal scheme. As a result, even as she calls for newly imagined articulations of faculty identities and work, Colbeck limits her imaginative capacity, never fully realizing the extent of change and possibility inherent in her critique.

Although the previous discussion has insinuated that few studies critically examine the social spaces in which faculty operate overtly, even fewer have directly addressed the material places in which faculty work. As Thelin and Yankovich (1987) aptly describe in their research on faculty and architecture, "the flame flickers, but feebly" (p. 58). Thelin and Yankovich go on to ask researchers to "heed the reminder that higher education *does* include 'bricks and mortar' as the interesting setting in which the organizational drama of higher education is played out in a changing, complex, and unfinished script" (p. 80, emphasis in original). Interestingly, though the authors are intent on scholarship on the material architecture of tertiary education, they recognize the fluid nature of higher education and change as a continuous part of the process.

Similar to Thelin and Yankovich's work, Sturner (1973) seeks research perspectives on higher education that recognize the material properties of "the college environment," a term Sturner finds all too often has only social connotations. In line with the theoretical perspectives presented in this chapter – though certainly appearing earlier – Sturner critiques the "rational, visual and linear thrust of [faculty's] book-oriented lives" (p. 75), claiming they lend themselves to an insensitivity to material surroundings. Sturner's emphasis on rationality and a linear perspective of progression are both hallmarks of modernism. (Unfortunately, Sturner does not expound on the social and material significance of his own gendered metaphors.)

More recent scholarship by Jamieson et al. (2000) also links university architecture with learning practices. Looking specifically at Australian universities, Jamieson et al. remain concerned with how a lack of critical attention to the ways in which formal learning environments (i.e., the places of the classroom and lecture hall) implies normative pedagogical practices

> the idea that the formal teaching and learning process "takes place" somewhere needs to be acknowledged by university administrators, facility managers and architects, educational researchers and teachers, and be a primary consideration in the design of new buildings or the redevelopment of existing facilities. (p. 221)

Through a review of existing literature on teaching and learning in tertiary education, Jamieson et al. locate a distinct gap in the literature wherein material place is assumed a fixed variable and context is defined as absent the material places that give it its meaning. The consequence of isolating formal learning places from discussions of faculty pedagogical practice, the authors surmise, is that faculty take a leading role in the formation and development of the curriculum, yet rarely have a hand in shaping the material places in which such curricula are enacted. Consequently, Jamieson et al. recommend faculty achieve a degree of agency in shaping the material classrooms in which they teach in the same way they are asked to shape their curriculum. So it is that the authors encourage faculty to take an active role in facility management and planning on their campuses. The consequence for faculty who continue to divorce themselves from issues associated with the architectural places of the campus, the authors assert, is that buildings will continue to be designed by architects who reproduce traditional assumptions about how teachers teach and students learn. In the end, Jamieson et al. firmly recognize

the means through which material campus places encourage the reproduction of normative faculty pedagogical practices.

However, when considering the findings of Jamieson et al. (2000) in light of those by Thelin and Yankovich (1987) and Sturner (1973), difficulties emerge. If, as Sturner surmises, faculty are complacent about the environments in which they work and unconsciously accept the work norms such places encourage, then asking them to take an active role in the reformation of the material campus requires a simultaneous reimagining of what faculty do – no easy task. If faculty do take an active role in the architecture of the campuses on which they work, who is to say that they will advocate for new material places that open possibilities for new pedagogical practices? The concerns of Jamieson et al. regarding the reproduction of normative material structures and subsequent faculty practices within classrooms are important and very real. However, Jamieson et al. may not take seriously enough the very claims of architectural–pedagogical reproduction they themselves advance.

In my own work (Kuntz, 2007), I found that faculty often alter the material places in which they work – regardless of how new and potentially innovative – in order to bring them more in line with their learned normative practices. This finding remains in line with environmental-behavior approaches typified by Moos (1985), who claims that individuals "modify an incongruent environment to make it more congruent with the behavior they wish to enact" (p. 126). Thus, it is that faculty reproduce learned norms in their everyday practices and affect the material environment in such a way as to enhance those practices they recognize as legitimate and valued within the social spaces in which they work.

Other scholars have also sought to encourage change in faculty practices through investigations into the campus environment, though they have conceived of the campus as a social space primarily, disregarding the material places of the campus itself. An interesting example of this is Lindholm's (2003) analysis of organizational fit among faculty and the universities in which they work. In her article, Lindholm asserts a dynamic link between faculty behaviors and the environment in which they work, arguing that "faculty perceptions and behavior are known to affect, and to be affected by, their academic work environments" (p. 126). Clearly, throughout her text, Lindholm considers the social or discursive aspects of faculty work environments and not the material places in which they work. Thus, when Lindholm asserts the need to "understand more clearly how faculty define the associations between themselves and their academic workplaces" (p. 126), the "place" in "workplace" remains silent about the material manifestations of academic departments or faculty offices. Interestingly, Lindholm's recognition of the dynamic relationship among faculty and their campus environments is quite similar to Moos' (1985) examination of the dynacism involved in individual–environment interaction. However, whereas Moos remained invested in explications of the relationship between individuals and the material places in which they work, Lindholm emphasizes analyses which privilege the social spaces in which faculty work at the expense of the material environment.

Lindholm (2003) goes on to note that "faculty tend to relate to their institutions most extensively through subinstitutional units, primarily their academic department"

(p. 128). Here, Lindholm's analysis might benefit from a renewed emphasis on the material manifestations of academic departments, thereby bringing the social connections faculty feel into direct relation with the actual material places that give the department, for example, its meaning. Thus, when Lindholm presents her own study as an integrative conceptualization of faculty fit within the university – bringing together previous work on culture, climate, faculty expectations, and socialization – she neglects to see the material-discursive bifurcation that her own work sustains.

In the end, the actual material environment in which her faculty participants work remains on the periphery of Lindholm's (2003) study, given recognition only in a short discussion of the "sharing of facilities and space" (p. 141) as a necessary means for departmental expansion. Thus, when Lindholm discusses her research findings, notions of faculty "fit within a particular environment" (p. 142), or participants' expressed "need to establish a sense of space within the university that is distinctly their own" (p. 143), the material connotations of such terms – environment, space – are left by the wayside. What are the consequences of such a decidedly material-free conception of faculty workplaces? How might a study such as Lindholm's benefit from the recognition of the many ways in which social space and material place intersect and affect one another? Consequently, one might take the challenge Lindholm offers in her conclusion and reimagine it: "The challenge, then, within all types of college and university work environments, is to find ways to create the space for more open exchanges among colleagues" (p. 146). Obviously, such a challenge has both spatial and platial meanings. The challenge is rendered richer, more dynamic, and more layered when the multiple meanings of space and place are allowed for – when words like "environments" and "space" are understood as encompassing the very interrelation of both the social and the material.

Similar to Lindholm (2003), Kostogriz and Peeler (2007) remain keenly interested in educational work environments and practical change, although the authors begin with an examination of the powers of metaphorical representation. Those metaphors that strive to depoliticize the spatial or to represent workspace as simply an empty container should, according to Kostogriz and Peeler, be contested and reconsidered. Thus, similar to the ways in which Lindholm's work might benefit from a more layered interpretation of space and place, Kostogriz and Peeler offer scholars of tertiary education a multifaceted means through which to interpret faculty workplace. The work of Kostogriz and Peeler might lead tertiary scholars to investigate how faculty professional workplaces gain meaning through a confluence of historically produced, normative faculty practices, construction and enactments of disciplinary knowledge, and how the workplace is lived through everyday local practices inferred by more macro-level assumptions about faculty work. Faculty, new and old, must continually orient themselves – both materially and discursively – within the spaces and places of their workspace. When this orientation becomes commonsensical or a matter-of-course, faculty have most often taken on the norms of their spatialized profession.

Other scholars of tertiary education, such as Bauder (2006), examine the micro-practices of the everyday within faculty work as a means to understand better the

interaction of daily meaning-making with the material environments faculty traverse on a daily basis. Specifically examining power relations as they play out on campus, Bauder presents a useful example of faculty and graduate student interactions in similar material places. Whereas graduate students "are expected to knock humbly on professors' doors and patiently wait their turn to speak … professors typically walk right into the students' offices and immediately demand undivided attention" (p. 676). Such actions occur within material places, often without thought, as professors and graduate students alike perform the activities which define them, intuitively recognizing the meanings of such practices and the social spaces which make them necessary, such as when the graduate student knocks on the professor's door as a matter-of-course, or when the professor walks into the graduate student office without stopping to acknowledge the implications of his or her absent knock. Bauder asserts that such material practices are learned over time, a product of socialization.

As a means for explaining the many ways in which faculty members have been conceptualized, Austin and McDaniels (2006) note that faculty work in multiple contexts simultaneously, each with their own guiding expectations and norms. While the authors locate several arenas through which socialization occurs and identity emerges – "the country, the various institutional types[,] the discipline that is their academic home, the professional role of the academic" (p. 419) – they neglect to include the impact of the material environment on such entities, thus removing the possibility of fully considering the embodied experiences of faculty socialization. Austin and McDaniels point out that faculty professional identity stems from attaining a degree of literacy in the multiple forms and structures of faculty work: "Part of assuming a professional identity as a scholar and faculty member is to know about the different forms that faculty work can take" (p. 422). As this chapter attempts to spell out, it is important to interpret such "different forms" in both social and material ways.

Similar to Austin and McDaniels (2006), Reybold (2003) examines processes of socialization within the professoriate as they stem from multiple contexts that inform faculty professional identities. Different from Austin and McDaniels, however, Reybold emphasizes the subtle means through which individuals learn how to act as faculty: "apprenticeship into the professorate is tacit, embedded in the everyday activities and practices of their professional training milieu" (p. 235). Through a qualitative study that explores the development of professional identity among faculty and graduate students, Reybold examines processes of socialization at the micro level of the everyday. As graduate students become junior faculty their daily experiences, the way in which they reproduce everyday practices, shape their emerging identity as faculty. Further, as junior faculty learn to perform their professional identities as faculty, they reproduce normative practices for faculty to come; "their socialization into the professorate will establish the norms and expectations for future professional behavior" (p. 236).

Reybold (2003) advances a critical interpretation of faculty socialization by examining the way in which graduate students emulate the daily practices of their mentors both within graduate school and later as faculty themselves. An extension

of this work, of course, includes the way in which professional identities are embodied and impacted by the material environments in which faculty work as well as the meanings we make of such spaces. Similarly, Bauder (2006) advocates critically confronting reproductive processes in academia and creating "the spaces in which problematic professional practices can be challenged and transformed" (p. 672). Inherent in Bauder's desire for new spaces for institutional critique is the notion that, as a social field, academia "defines the parameters of academic practice within which these activities are supposed to occur" (p. 672).

Faculty Practices

In line with Bauder's (2006) interrogation of academic practice, several scholars have advocated for a close analysis of individual material practices in order to understand better their role within social institutions. One may follow Southerton (2006), for example, who decenters the individual from the focus of study to examine daily practices as an entry point for her study of space and time within social institutions. Southerton writes that she remains "informed by a 'theory of practice', which takes practices rather than individuals as the primary unit of investigation" (p. 436). Faculty daily practices have material and spatial ramifications, such practices become embodied, re-practiced, as one learns to engage the material places and social spaces in which one is immersed as faculty. Thus, higher education scholars will benefit from examining the ways in which material and discursive environments contribute to faculty socialization as well as from how faculty enacted practices, in turn, contribute to practiced interpretations of these very environments. For example, examinations of faculty identity that scrutinize the processes through which faculty learn to encounter, interpret, and experience the places and spaces of higher education in particular ways are especially important. Faculty learn to interact with their campus offices and to engage in particular practices within them, while assigning other practices to different places and alternative spaces.

Following Bourdieu's (1988) claim that academia utilizes its own logic to define a social field, Bauder (2006) notes the mutually constitutive relation among accepted daily practices and professional identity among faculty: "we have been socialized into practices that we use to define our professional identity" (p. 673). Further, such socialization dissuades faculty from critically considering the everyday practices which communicate their professional identities; "rarely do we address the *reproduction* of academic practices and conventions through our everyday behavior and interaction with students and colleagues. We rarely ask how and why we convey 'the nature' of academic work to our students" (p. 673, emphasis in original). Bauder's analysis of professional identity through the recreation of normative practice proves especially potent when considered in relation to the material places in which such practices are enacted, thereby recognizing that such practices take place in material environments, drawing socially power-laden interpretations.

Within feminist geography, Dyck's (2005) insistence on recognizing the multiple scales of social processes – regional, national, and global – offers higher education scholarship on faculty a layered interpretation of the multiple social discourses within the spaces and places faculty occupy everyday. In the very offices faculty inhabit there exist disciplinary, departmental, and campus mechanisms that contribute to who faculty are and what their work entails. Further, often competing and contradictory definitions exist within a broader contemporary framework of globalization that "is attended by an ever-increasing stretching of social relations over time and space" (Dyck, 2005, p. 234). Such discourses are embodied by faculty members as they move through a series of material places and social spaces. So it is that the notions of faculty and faculty work are continually reconstituted through ongoing spatialities, sets of both global and local relations. Dyck offers higher education scholars the challenge of "making sense of an ongoing changing 'local'" (p. 242) that permeates our very conceptualizations of tertiary education, the practices we believe possible in material places and social spaces.

Additionally, as everyday practices are reproduced within institutions, in and through the production of space, they are also historically situated. That is, such practices are not objects or actions contained by the sociohistorical contexts in which they are enacted. As Smeyers and Burbules (2006a) argue, education itself is "a cluster of culturally and historically constituted *practices*" and, thus, not reducible to "a set of techniques or a simple means-end relation" (p. 364, emphasis in original). Smeyers and Burbules' notion of practices as "culturally and historically constituted" reveals more than the everyday activities of faculty; it also calls forth those social and historical contexts that make such practices possible.

Despite the fluid nature of daily practice, several scholars have noted that the institutions of higher education are slow to change (Duderstadt, 2001; Levin, 2000; Williams et al., 2005). New technologies may enhance elements of practice already in place, for example, but they never alter significantly the larger social structures. Computers might replace typewriters, or laptops might make faculty work more portable, but faculty must still produce scholarship often in isolation and through separating "their work" from teaching and service in order to attain legitimacy within the educational institution (Kuntz, 2008). In fact, newer technologies only reinforce entrenched patterns of identity formation in faculty practices. This relationship between technology and the reproduction of faculty practices has led scholars such as McGregor (2004) and Lawn and Grosvenor (2001) to juxtapose daily practices of teachers and faculty with those educational practices "designed into the technology" (McGregor, 2004, p. 358). Such research makes possible investigations into the ways in which faculty (mis)use technology to subvert the practices such technologies are designed to facilitate. Consequently, a useful examination of educational practices includes both the ways in which they reproduce normative activities and the interstices in such reproduction, those spaces where change on institutional and practiced levels may occur.

In addition to the recognizable repetition of daily practices within higher education, it remains important to recognize the potential for change within the institution and/ or professional identities of faculty themselves. As Smeyers and Burbules (2006b)

note, "practices transform the self, but at the same time there may be subversions of a practice that give opportunities to the self" (p. 449). Here, the authors invoke the interrelationship between daily practices, the environments in which such practices occur, and the social identities invoked by such practices within material contexts. Consequently, scholarship that examines more than reenactments of practices, recognizing the many ways in which individuals counter normative patterns, opens a space for new interpretations of faculty and their work.

Boundary Work

One example of the multiple daily practices of faculty is found in what some scholars term "boundary work," itself a spatialized metaphor that is meant to convey the ongoing process of disciplinary definition through one's practices as a professor of history for example, or a faculty member in the College of Arts and Sciences (Amariglio et al., 1993; Fuller, 1991; Gieryn, 1983; Good, 2000; Klein, 1993; Messer-Davidow et al., 1993). "Boundary work" consists of a learned set of practices which differentiate one discipline from another along multiple lines (Gieryn, 1983; Klein, 1993). Disciplinary boundaries are always in the process of negotiation, a state of flux only given definition through the ongoing reproduction of disciplinary practices. As a result, authors such as Amariglio et al. (1993) note that incessant boundary work results in disciplinary agreements between contending discourses that serve to silence inferior disciplinary discourses and embolden others as more socially legitimate. Boundary work, then, exists as a series of activities that reinforce normative disciplinary practices, displacing and delegitimizing actions and actors deemed outside disciplinary boundaries. A logical answer, then, would seem to be the voicing of alternative activities, which would both make visible the silencing function of boundary work and disrupt the seemingly fixed categories that normalize faculty practices. However, the use of the metaphor "boundary" remains relatively silent about the material experiences in which it is embedded. As educational theorist Cheville (2005) notes, "the recurring physical experience of being 'inside' or 'outside' culturally codified boundaries shapes an individual's abstract, or non-physical, understanding of herself as actor or audience, accepted or negated, insider or outsider" (p. 99). One's material, situated, experience plays a key role in how one comes to understand one's own subjectivity within higher education. Once again, the material and social exist in dynamic interrelation, while material place and social space continue to interact and implicate one another. Giving voice to alternative practices, then, would require an understanding of the physical places and situated social practices that perform silencing boundary work on a daily basis, including the physical boundaries of campus buildings, offices, and pathways, as well as the embodied micromovements that give them meaning.

As Cheville (2005) notes, "material, historical and interactional features constitute not only physical space but the bodies that inhabit it" (p. 90) within educational institutions. Cheville takes a Foucauldian approach to embodiment by examining

the ways embodied experiences are emergent within sociohistorical contexts, ultimately encouraging educational research that seeks "to explain how physical space 'produces' habits of body from which attitudinal dispositions emerge" (p. 91).

Cheville (2005) finds the metaphor of containment relevant to the study of education, arising "from concrete experiences of 'in' and 'out' and orients one to recognize and identify with distal and proximal conditions, even in an ideation realm" (p. 94). So it is that one's everyday experience affects one's metaphorical interpretations of the world, and vice versa. Cheville's use of metaphor as a link between conceptual frames and material experience illustrates the importance of a materialist perspective to the study of identity and practice within space and place.

The metaphors we use to understand and convey our realities are based in our material experiences and have material effects. Cheville's (2005) examination of containment, for example, evokes both conceptual understandings of containment and similar physical responses. As humans engage with the conceptualization of abstract containment they draw their understanding from their own physical experiences of being inside or outside material environments. In this way, nearly all of our discursive conceptual work is rooted in materiality. Faculty work entails processes that reaffirm disciplinary boundaries, a sense that one is happily ensconced within the discipline of history, for example, even as one recreates the material and social processes of the historian or the unease that might accompany scholarship that requires investigations beyond the traditional lines of one's discipline. Yet our sense of discursive boundaries remains very much tied to our corporeal experience of material walls, giving us a sense of what it means to be "on the margins," "in the center," or at the "outer limits" of our disciplinary faculty work. How does a particular faculty member see his or her office within his or her particular academic building in relation to the larger campus? In order to begin to make sense of such issues, one might draw upon a lineage of research that posits material place and social space as central to its study.

Examining Space and Place

In many ways spatial and palatial studies are not new. For example, Casey's (1997) *The Fate of Place* traces the philosophical history of place from the time of Plato to the postmodern theorizations of the contemporary era. A key premise of Casey's text claims that although philosophical conceptualizations of place stretch back "more than two millennia," this history remains virtually unknown:

> Unknown in that it has been hidden from view. Not deliberately or for the sake of being obscure … just because place is so much with us, and we with it, it has been taken for granted, deemed not worthy of separate treatment. (p. x)

So it is that scholars offer interpretations of place, perspectives that implicitly assume the presence of place and the valence of space without consciousness.

Often, as Casey (1997) asserts, platial and spatial analyses have been disciplined by temporal determinism, subjugated in an "era of temporo-centrism (i.e., a belief

in the hegemony of time) that has dominated the last two hundred years of philosophy''
(p. x). Accordingly, as the previous sections have shown, although the theoretical
interrogations of tertiary education may give nod to conceptualizations of space and
place, they do so within an overarching interpretive framework that privileges
temporally based meanings. Further, many contemporary critical scholars refute the
centrality of the temporal frame by asserting the interconnection of the social and
the material, social space, and material place.

More recent studies that make use of space and place as categories for analysis
draw from earlier seminal works by philosophers who have grappled with the
phenomenon of material places, social and cultural understandings of space, as well
as the relationship between the conceptual and the material. To further make
available the categories of space and place to higher education researchers, I now
provide a brief review of this philosophical history.

The theoretical perspectives of four key scholars have become known as founda-
tional by interdisciplinary scholars of social space and material place. Each perspective
asserts particular assumptions concerning the relationship among space, place,
embodied experience, and identity. Two of these, Tuan (1977) and Lefebvre (1991),
are perhaps best known for producing seminal texts from which space-based
research has been extended, although each author provides dramatically different
readings of space and place. Tuan was heavily influenced by humanist geography,
while Lefebvre offers a Marxist interpretation of the production of space.

Tuan's (1977) *Space and Place: The Perspective of Experience* advocates for the
centrality of spatial and platial interactions in human experience. Tuan's interpretation
of space and place distinguishes between human experience and the material environ-
ment: humans interpret the environments in which they live and generate meaning
from their interactions with a material world that is separate from them. In this way,
abstract space becomes concrete place through processes of meaning-making.

Two key aspects of Tuan's (1977) explication of space and place stem from his
assertions that (1) there remains a distinctly material experience of space and place,
and (2) our experiences of space and place occur on extremely subtle, often uncon-
scious levels. The material or physical aspect of experience leads one to more
thoroughly consider the embodied experiences of individuals, and to understand the
meanings we make of space and place as intimately tied to our embodied experi-
ences within such environments. In this sense, Tuan (1977) anticipates Lakoff and
Johnson's (2003) link between conceptual metaphor and embodiment:

> "Empty" and "full" are visceral experiences of lasting importance to the human being. The
> infant knows them and responds with crying or smiling. To the adult, such commonplace
> experiences take on an extra metaphorical meaning, as in the expressions … "an empty
> feeling" and "a full life" suggest. (Tuan, 1977, p. 21)

The embodied experience of the infant feeling hungry or full develops into a meta-
phorical expression in adulthood that, importantly, is never absent its material mean-
ing. Contemporary scholars from a variety of disciplines followed Tuan's theoretical
link between space, embodied experience, and conceptualization (e.g., Dyck, 2005),
which is examined more closely in the section on embodied metaphor below.

Although Tuan's (1977) work is often cited by contemporary scholars for the intimate connection he establishes between humans and the world in which they live, Tuan creates a theoretical distance between individuals and the environments which surround them. The consequence is a privileging of the individual as a defined entity that typifies the philosophical positioning of humanism. Other scholars interested in the intersection of lived experience and space strive to understand the larger macro and institutional implications of space and human experience are more apt to draw upon the work of Henri Lefebvre.

Scholars from a variety of disciplines, such as Taylor and Spicer (2007) in management, Dale (2005) in organizational studies, Soja (1989) in cultural studies, and Kostogriz and Peeler (2007) in education, point to Lefebvre's (1991) insistence on the social production of space as a valuable means through which to understand the complex interactions of individuals, social institutions, and power-laden constructions of space. Additionally, Lefebvre's Marxist influences draw him to envision a radical reformation of spatialized relations within contemporary society, paving the way for social transformation at the level of material structures. Lefebvre's spatial analysis makes way for new possibilities, new thought, and new material practices (Harvey, 1991).

Lefebvre (1991) is perhaps best known for his spatial triad, consisting of "spatial practice" (or observable practices, such as walking), "representations of space" (such as architectural diagrams and maps), and "representational spaces" (the social meanings given to particular physical spaces) (pp. 38–39). A superficial yet practical example of how the triad comes together would be new faculty member who is given a campus map (representation of space), setting out on a walk to the library (spatial practice), and comparing the campus to others she or he has known (representational space). Each element of the triad continually influences the other. As the campus map asserts a sense of possible direction and orientation, the actual walking gives the map newly concretized and experiential meaning, and memories of past campuses fill the landscape with referential meaning. Thus, it is that the three elements of the spatial triad merge in an ongoing production of social space. Of course, the example of the new faculty member walking through campus is inevitably simplistic. We rarely walk with actual maps in hand, relying instead on internalized, often unconscious, normative representations of space to add meaning to the production of space in specific contexts.

Lefebvre's spatial triad has been referenced in a variety of disciplines, particularly within the field of organizational studies (e.g., Watkins, 2005). However, it remains important to note that Lefebvre's triad hinges on a vision of an observable reality and the social meanings that represent it. In this sense, Lefebvre's epistemological assumptions reveal the modernist moment in which his spatial triad operates, a perspective that more postmodern spatial scholars have sought to complicate (e.g., Massey, 1996; Soja, 1989).

Soja (1989, 1996, 2000) and Massey (1994, 2005) build on the spatial analyses of Lefebvre and Tuan as a means for interpreting space and place through a postmodern lens of cultural and gender theory. Soja claims that he follows in the theoretical footsteps of earlier theorists by focusing "on the space in which we actually live, where history grates on us and erodes our lives, a space of complete

experience, of the unseen and incomprehensible as well as the tangible and everyday" (Blake, 2002, p. 141).

Beyond a desire to shift our collective critical gaze to our lived experiences within space and place, Soja (1989) offers scholars "a materialist interpretation of spatiality … the recognition that spatiality is socially produced and, like society itself, exists in both substantial forms (concrete spatialities) and as a set of relations between individuals and groups, an 'embodiment' and medium of social life itself" (p. 120). Soja's concept of spatiality is developed as a means to recognize the ongoing interplay between space and place – the material and the social – within lived human experience and meaning-making.

As Soja (1989) goes on to note, the concept of spatiality is itself imbued with a sense of change and potential transformation, what he terms a "transformative dynamic": "Spatiality exists ontologically as a product of a transformation process, but always remains open to further transformation in the contexts of material life. It is never primordially given or permanently fixed" (p. 122). Consequently, researchers invested in understanding change both on the level of the material and the social will find use in Soja's incorporation of the two together in a dynamic relationship.

However, although Soja (1989) emphasizes his theory of spatiality as a "praxis," some researchers might find his theoretical excavations of space and place cumbersome to incorporate into their own studies on faculty. As a critical geographer, Doreen Massey often incorporates her own theorizations into a direct analysis of empirical data. Consequently, though Soja and Massey operate within strikingly similar theoretical paradigms, Massey's data analysis often provides a concrete example of the theory's applicability. As a result, researchers who are new to the study of space and place might gravitate to Massey's work.

Like Soja, Massey (1994) begins her investigations into space and place with the assumption that "social relations are never still; they are inherently dynamic" (p. 2), and that the lived world exists as "a simultaneous multiplicity of spaces" (p. 3). Additionally, while recognizing the historical privileging of temporal ways of knowing over spatialized perspectives, Massey recognizes "that space must be conceptualized integrally with time; indeed that the aim should be to think always in terms of space-time" (p. 2).

Within her concept of space–time, Massey (1994) links spatial, platial, and temporal experiences to identity formation in more direct ways than Soja, Lefebvre, or Tuan. In doing so, Massey analyzes the spatiality of power-laden identities, emphasizing gender as a particularly important arena for critical investigations into lived experiences of space–time. In this sense, Massey emphasizes that social groups and identities occupy different spatial locations within the microgeographies of everyday life. This placing of identities within space–time has particular consequences for identity formation, embodied experiences, and the ongoing reproduction of normative daily practices. Thus, in an article examining the workplaces of faculty scientists, Massey (1996) details the way in which the labs and offices of faculty scientists assert particularly gendered meanings and practices that are repeated in the material places of the scientists' homes. Gendered practices, through their repetition in multiple places – the workplace,

the home – encourage embodied experiences that are interpreted in important and power-laden ways, becoming normative. Thus, it is that Massey conveys the articulation and presentation of space as an inherently political project: "we make the spaces and places through which we live our lives; the making of such spaces and places is thoroughly 'political,' in the widest sense of that word" (p. 123).

Together, then, both Soja and Massey offer scholars a means to recognize their political role in the making (and potential unmaking) of social spaces and material places. What are the microgeographies inherent in the production of faculty identity as a viable space within higher education? How might such spatialized identities interact with the local places of the campus, projecting meanings on the very material environments in which faculty work? In this way, both Soja and Massey present the incorporation of the spatial into our collective worldview as a political project, one that strives to decenter an overreliance on temporal frames for identity and context. Such a project remains particularly important for the study of faculty in tertiary education, particularly if one seeks to effect change on both micro and macro levels, through both the everyday practices of faculty and the larger institutionalized social systems in which faculty operate. In order to make such a project a reality, scholars of higher education would do well to examine the spatial language that already informs their research. Such analysis remains important because of the key link between our metaphorical framing and actual experience, a relationship posited by Lakoff and Johnson (1999, 2003) in their use of embodied metaphor.

Embodied Metaphor and Methodology

In this concluding section I present embodied metaphor as a useful heuristic for examining our conceptualizations of faculty identities and work practices, as well as the embodied experiences of faculty within spatial and platial contexts. I end with a series of methodological considerations for how an examination of social space and material place might be realized in our research practices.

Lakoff and Johnson (2003) explain that "metaphor is based on cross-domain correlations in our experience, which give rise to the perceived similarities between the two domains within the metaphor" (p. 245). For example, within tertiary education, disciplines are represented as departments, which are represented by the buildings on a given campus that physically divide and order, in effect disciplining the bodies of faculty who move daily between particular offices and classrooms.

In *Metaphors We Live By*, Lakoff and Johnson (2003) establish that metaphor is not just about the way we talk, it is about the way we conceptualize and reason, hence the term *conceptual metaphor*. Saying, "I'm on my way to a meeting over in history," for example, shows that rather than inhabiting a physical building, faculty seem to inhabit the history department or field. At the same time, one's understanding of a given field takes some meaning from the building one knows as "history" and the faces one meets along its halls. Lakoff and Johnson point out that nearly all

abstract thought is metaphorical, but that we most often fail to recognize the metaphors we use because they have become such an integral part of our everyday practices. In *Philosophy in the Flesh* (1999), Lakoff and Johnson use the term *embodied metaphor* to highlight the way body and brain shape our concepts and reasoning. This later text begins with three premises: "The mind is inherently embodied. Thought is mostly unconscious. Abstract concepts are largely metaphorical" (p. 3). The thought that interdisciplinary work, for example, "takes away from my work" is based in the physical structure of buildings that require a body to travel between departments, institutional policies, and daily faculty practices that support isolation as opposed to collaboration (Kuntz, 2008). And the largely unconscious way identities are (re)produced through interaction with such processes of institutionalization.

Metaphors We Live By (2003) has changed the way in which scholars across academic disciplines understand the complex interactions between our thoughts and material activities. Lakoff and Johnson assert that conceptual metaphors are ubiquitous within our social world and

> govern our everyday functioning, down to the most mundane details. Our concepts structure what we perceive, how we get around in the world, and how we relate to other people. Our conceptual system thus plays a central role in defining our everyday realities. (p. 3)

Because conceptual metaphors play such an intimate role in our lives – "down to the most mundane details" – it remains important to examine how they reveal our underlying assumptions.

Lakoff and Johnson's work on embodied metaphor counters key epistemological assumptions that govern traditionally Western philosophical positions, typified by contemporary American philosophers such as Davidson and Harman (1977) and Searle (1979), that claim a separation of the conceptual realm from the material realm. Within such a theoretical orientation, concepts are distinctly disembodied abstractions that remain unchanged by interactions between the body and brain. Instead, more recent work on conceptual metaphor (e.g., Cheville, 2005; Feldman, 2008; Lakoff, 2006) emphasizes the ways in which metaphor structures how we think, what thoughts are permitted, and how we conceive of our material actions and physical bodies. In short, embodied metaphor points to a dynamic and intertwined relationship between our concepts, the language we use to communicate and understand such concepts, and our material realities in the physical world.

As Lakoff and Johnson point out (2003), there are always material connections to metaphor. If I ask you to "grasp" the idea of conceptual metaphor, for example, your brain enacts a motor response – grasping – in order to understand what I am saying; the embodied experience lends meaning to the conceptualization of grasping an idea. More specific to the study of higher education, faculty who articulate a need to "keep up" with research in their field and not "fall behind" in their tenure trajectory invoke embodied metaphors that are decidedly spatial and draw meaning from the embodied experience of keeping up and falling behind. Perhaps one envisions a particular path on which people move toward tenure. Another's heart rate may begin to quicken, or, through a spatialized conception of time (e.g., feeling the

"pressure of the tenure clock"), someone else may imagine increasingly smaller office space. Each metaphoric use contributes to particular social and material practices that must be studied to understand the effects of thought and language on our embodied experience. Interpretations of faculty work within the literature on higher education are layered with spatial metaphors, often unexamined but no less connected to the material practices of faculty themselves.

Yet embodied metaphors are far from neutral links between the material and the conceptual. Because it is the nature of metaphor to incompletely represent a reality (a metaphor cannot fully render an experience, otherwise it would be that experience), a given metaphor necessarily shades or elides some aspects of reality while invoking others. Thus, even as metaphor accentuates some aspects of embodied experience, it simultaneously masks others. As a result, as specific metaphors gain legitimacy through their repetition, and become our experience, they structure our understanding of the world in which we live.

Lakoff and Johnson's (1999, 2003) work has spread throughout a variety of disciplines as scholars have begun to incorporate the centrality of embodied metaphor into their own research. Such interdisciplinary examinations serve as valuable examples for what metaphor might offer scholars of tertiary education. For example, Gibbs (1994) has examined the role of embodied metaphor in cognitive psychology, Fauconnier and Sweetser (1996) and Cheville (2005) have done so in cognitive linguistics, and Winter (2001) has used it in law. Lakoff (1996, 2002, 2006) himself has demonstrated the use of embodied metaphor in the field of politics. Finally, Lakoff and Johnson's *Philosophy in the Flesh* (1999) is an extended attempt to more elaborately document the intimate connection between embodied metaphor, our perceptions and actions within the world, and the material places we inhabit through philosophy. Lakoff and Johnson (1999, 2003) repeatedly call for additional empirical scholarship on the manifestations of embodied metaphor within our daily lives.

Methodological Considerations

I would like to end with suggestions for how these theoretical conceptualizations of faculty and faculty work might be operationalized within specific research methodologies. In a sense, this chapter follows Lakoff and Johnson's (1999, 2003) request for continued empirical scholarship that examines the intersection of language, conceptual systems, and embodied practices. Investigations into faculty work within tertiary education may be represented by beginning with a focus on metaphorical framing. Of importance are faculty descriptions of what they do in the classroom and beyond, and how such descriptions resonate with or contradict larger cultural metaphors.

Myers (2006), for example, finds elements of place distinctly aligned with identity formation, but in more complex ways than a revelation of where participants are "from." Instead, placing oneself or locating one's place, might be read as

a means for constructing one's identity within a larger world. In order to interrogate the role of place within our research, Myers (2006) asks that researchers "look at *how* people talk about place before they try to categorise *what* participants say about it. This shift in perspective has implications both for social research on place and for the study of talk in place" (p. 321; original emphasis). Researchers continually ask participants

> where they are from, and they answer. That's that. But if we attend more closely to the relevance of place in their talk, we see that we keep asking this question, in one way or another, and they keep answering, in different and complex ways. (p. 340)

Myers examines focus group data for the way in which meanings of place are inferred, represented, and enacted. Thus, Myers offers researchers the importance of allowing place to remain flexible, never predetermined or assumed.

The link between identity and conceptualizations of place is particularly relevant for scholarship on faculty within tertiary education. A number of scholars have previously identified the difficulties inherent in analyzing a faculty member's identification with various workplaces, questioning whether faculty most identify with their discipline, campus, or department (Alpert, 1985; Fuller, 1991; Gouldner, 1957, 1958; Hearn and Anderson, 2002; Spencer-Mathews, 2001; Weber, 2001). Myers' analysis asks scholars of tertiary education to consider the ways in which faculty members place themselves within the academy and how such placings correspond or deviate from their institutional emplacement. If we continue to ask faculty about the places they inhabit – within departments, disciplines, campuses, and fields of study – we will learn from the many ways in which they "keep answering, in different and complex ways" (p. 340). Determinedly interrogating the multiple placings involved in faculty work casts a useful interpretation on organizational analyses of faculty professional identities by, for example, altering the ways in which scholars interpret the tensions between departmental and disciplinary affiliation discussed earlier.

Descriptions of space, place, and practice will be metaphorical and imply material and spatial relationships. The way in which these metaphors interact with other institutionalized metaphors provides for the possibility of restructuring larger cultural metaphors. In this scenario, conceptual change will have social and material effects, since conceptual frames become material in faculty workplaces and bodies. Also, changes at the level of daily practice may work their way up to alter larger cultural metaphors. For this reason, it is important to incorporate materialist methodologies that focus on practice.

Because practices occur within material and discursive contexts (we operate within material environments and, at the same time, make sense of such operations with language), practices offer an important avenue into the critical explication of social and material contexts. It is important to remember that context is itself a spatial metaphor that points to material place through practice. Thus, historicity that calls on the microgeographies of Massey's (1996) space–time revolutionizes contextualization. Context involves the dynamic interplay of practicing identities in the production of space and place.

    With an eye toward generating methodologies that incorporate examinations of daily practices, Dyck (2005) calls for scholars to examine "the routine, taken-for-granted activity of everyday life [and] how the 'local' is structured by wider processes and relations of power" (p. 234). Dyck thus extends her analysis to consider investigations of the local as a "methodological entry point to theorizing the operation of processes at various scales – from the body to the global" (p. 234).

    As a means of generating a methodology to examine conceptions of place within university settings, Clarke et al. (2002) asked participants in their study to draw or diagram their association to work and study. Based on their analysis of interview transcripts and participant maps, the authors conclude that universities are primarily represented as enclosed spaces and there exists a "tension between the notion of flexibility as a liberation from constraint and the desire to be inside a place, to be contained however dangerous that might be" (p. 296). Thus, the authors call for research that addresses the question of "what forms of assemblage and effect of power are being manifested" in the design, manifestation, and experience of educational spaces (p. 296).

    Materialist methodologies can begin by studying the places that make up the university campus. Further, Elwood and Martin (2000) posit the interview site as a geography warranting further research and reflection:

> while the critical methodological literature explicitly recognizes power and positionality as crucial elements of research interactions to be examined, it has paid less attention to the ways that research sites – the microgeographies of the interview – can be interrogated to illuminate substantive research material about the power relations and social identities of the people participating in these interviews". (p. 652)

Moving from the body to the global, as Dyck (2005) suggests, may begin by gathering data on the researchers and participants' embodiment in the research site, relating the metaphors that emerge to larger cultural metaphors within the university and other social contexts.

    In the end, materialist methodologies can never study materiality without the effect of conceptualizations. There is no way of thinking about or representing materiality except through language and culture. However, attention to the body, daily practice, and environment, as well as the embodiment of metaphor bring material-discursive interactivity to the fore. From this focus new research strategies emerge. Crucial to this focus for the research of higher education is a shift in metaphors from time to space. A shift in metaphors will have social, as well as material, effects on faculty and the space of the university.

    The study of social space and material place in higher education scholarship is increasingly important due to its pervasiveness within contemporary theoretical conceptualizations of lived experiences and meaning-making in local and global contexts. Yet it remains critically absent in our research on faculty and faculty work. Studies that incorporate spatial and platial analyses highlight the dynamic interactions among language, conceptual frames, and material lived experience. Such studies ultimately offer a perspective on change that counters modernist representations of tertiary education which make institutional change seem impossible. We see that change happens continuously at the level of daily practices within

social space and material place. Such practices (re)produce those educational institutions in which faculty situate their identities, in turn, institutionalizing normative notions of what it means to be a faculty member engaged in faculty work, for example. Alternative practices, alternative identities, and alternative metaphors may be found in our embodied experiences in our daily lives. However, change at the local level of everyday practices cannot be seen through logical, linguistically based modes of inquiry; in short it cannot be "read." Thus, it remains important to maintain a materialist focus that attempts to understand the level of embodied experiences and their relation to larger conceptual and organizational structures. Such postmodern perspectives may provide a new, more generative space for the study of higher education.

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Student Aid and Its Role in Encouraging Persistence

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Overview and Research Questions

The study of college student persistence has become increasingly important during the past decade. Although the current postsecondary educational context provides ample reasons to be concerned about this topic, the most compelling reason is rooted in social equity. When institutions admit students, they should also be making a simultaneous commitment to help students achieve their educational goals. This is not to suggest that students have no role or responsibility in achieving their goals but to assert that institutions share this responsibility. Access to postsecondary education is achieved not solely by admitting students, but also by enhancing their odds of earning a degree or certificate. Without degree completion, access to postsecondary education provides fodder for critics who ask whether our colleges and universities promote upward mobility or perpetuate inequities based on class and race.

There are also more instrumental reasons to be focused upon the issue of college student retention and degree attainment. Several proposals have emanated from federal policymakers calling for the use of college graduation rates as an indicator of educational quality (Adelman, 1999; American Association of State Colleges and Universities, 2002; Gold and Albert, 2006). In addition, the *U.S. News and World Report's* annual publication of *America's Best Colleges* uses freshman-to-sophomore persistence rates and 6-year graduation rates as part of its formula for ranking colleges. During the past 25 years, hundreds of studies have tested assumptions of theories of student departure. Some examples include the following: Bean, 1990; Mallette and Cabrera, 1991; Pascarella et al., 1983; Stage 1989; Tinto, 1993; and Williamson and Creamer, 1988. In addition to efforts to test the models of Vincent Tinto (Braxton et al., 1997; Cabrera et al., 1990; Halpin, 1990; Hurtado and Carter, 1997; Milem and Berger, 1997; Nora et al., 1990; Tierney, 1992) and John Bean (Andreu, 2002; Farabaugh-Dorkins, 1991; Himelhoch et al., 1997; Stahl and Pavel, 1992), there is a growing body of literature that examines the effects of student financial aid on student persistence (e.g., Cabrera et al., 1992; DesJardins et al., 2002a; Dowd and Coury, 2006; DuBrock and Fenske, 2000; Paulsen and St. John, 2002; St. John et al., 1996; Singell and Stater, 2006). These studies represent a diverse set of foci. Some studies consider the effects of federal financial aid on

persistence (Cofer and Somers, 1999; DuBrock and Fenske, 2000), while others look at the impact of state financial aid programs (Long, 2002; St. John et al., 2001). Yet others investigate the effects of institutional financial aid on persistence and graduation rates (Desjardins et al., 2002a; Lichtenstein, 2002; Singell, 2004).

The study of the effects of student financial aid on persistence and graduation rates is particularly important given the increasing public policy focus on student financial aid programs. There is a growing sense that our federal, state, and institutional financial aid programs have become so complex and have been enacted to achieve such different goals that they no longer serve students, public policy goals, or institutions very effectively (Archibald, 2002; Kane, 1999; Mercer, 2006). Recently, Secretary of Education, Margaret Spellings, observed, "[t]he reality is – no matter the costs, the wealthy can pay. But for low-income, mostly minority students, college is becoming virtually unattainable. Chuck Vest, former MIT President, put it this way: 'In this country, you are better off being rich and dumb than poor and smart'" (U.S. Department of Education, 2006, ¶36).

This chapter provides a comprehensive review of the extant research on how student financial aid affects undergraduate student persistence and graduation. For more than 3 decades, scholars and practitioners have speculated on the extent to which financial aid increases the odds of students completing their degrees. Much of the early research and writing on student persistence does not mention financial aid. The original Tinto model of student persistence (1975) that has been so influential in shaping research on this topic does not mention finances or financial aid. Through much of the 1980s and 1990s, the common belief among campus practitioners concerned with student retention was that students who indicated finances as the reason they were dropping out were simply offering a socially acceptable reason, and that other concerns, such as poor academic performance, a lack of social integration, or homesickness, were more likely their real reasons for withdrawing. Bean's model of student attrition (1983) identifies student finances as a potential reason for dropping out, but it is arguably the consistent, ongoing research agenda of Edward St. John that began to shed light on the impact of the financial status of students and their families and the role of financial aid on student persistence. In the last 15 years, there has been a dramatic increase in research on the effects of financial aid on student persistence. Beginning with Bean's theory, throughout this chapter we consider a range of ways in which financial aid can directly and indirectly influence persistence and degree completion.

Despite the growth in research in this field, however, important areas of student aid and student persistence have received relatively little attention. We acknowledge this at the outset in order to trace the broad outlines of this landscape – what the literature has explored extensively and what it has not. The primary interest of policymakers is to understand the impact of financial aid on the probabilities that aspiring students, regardless of income, will matriculate and graduate from a postsecondary educational institution. Surprisingly, perhaps the most important limitation of research on the effects of financial aid on retention is that there are very few studies of the effects of financial aid on graduation. Because the process

toward graduation is longitudinal and difficult to analyze empirically over time, almost all studies reviewed in this chapter examine either the effects of financial aid on persistence from the first to second year of postsecondary education or the impact of aid on persistence from one semester to the next. Thus, while we know a good deal about the impact of financial aid on persistence, we know relatively little about the impact of aid on graduation. In addition, there is a dearth of research on the effects of financial aid on students enrolled in 2-year colleges, of loan debt on persistence and graduation, and of merit aid. Another collective limitation of research in this area is that too little attention has been given to how various design elements of financial aid programs contribute to student persistence. For example, despite the level of interest that has been generated by policymakers in front-loading, only one study has been undertaken on its potential to affect persistence.

Finally, we note one important additional caveat. Few studies adequately control for self-selection or the endogeneity of aid, a problem that we address later in this chapter. Without controlling for factors that may make students more likely to apply for aid, it is difficult to determine the unique effect of aid on persistence. Moreover, we look here only at persistence. Thus, it is difficult to estimate the potential impact of financial aid in encouraging many low- and moderate-income students to enroll in postsecondary education. And once they are enrolled, we are confident that many students who might not have otherwise matriculated succeed and graduate as the result of intrinsic motivation, institutional support, and financial aid. Thus, we acknowledge at the outset that our findings may understate the overall effects of financial aid. Nevertheless, this review of research on the impact of financial aid on student persistence provides a comprehensive and systematic overview of what we know about this important topic.

This study looks broadly at types of financial aid programs studied in recent decades – and the structure of those programs – to synthesize current understandings of how student aid affects undergraduate persistence and graduation, and searches the published literature to identify some of the less-studied effects of student debt on persistence and graduation. We apply a theoretical frame that – much aligned with the goals of the nexus studies (St. John et al., 1996; St. John et al., 2005) – acknowledges the interconnection between students' college experiences and the social and economic contexts that condition their interactions with, and participation in, colleges and universities and that lead ultimately to their academic success. The following research questions are addressed:

1. *Framing the landscape.* How have studies defined student persistence and student financial aid? What theoretical and methodological problems and what approaches to them characterize the study of how financial aid affects persistence? How do these features affect what we know?
2. *A synthetic view of the impact of aid on persistence*. What is the summative knowledge of the relative effects of grants and loans on within-year persistence, continuous enrollment, and graduation? For example, do grants and loans exert similar effects on persistence as on graduation? Are the effects of these aid programs the same

for full-time, traditional-age students on residential campuses as they are for older, commuting students?

3. *Special topics: Merit aid, loans, and programmatic elements.* How does merit aid affect student persistence and graduation? What special complexities inform our understanding of the effects of loans? How do programmatic elements figure in the research on student aid and persistence?

4. *Debt*: *Does it matter?* While many studies have looked at the relative effects of loans versus grants on persistence, fewer studies have examined (a) the effects of the amount of debt on academic success outcomes and (b) the influences on student persistence and graduation from the interactions of debt with student and institutional characteristics.

Methods

To answer these questions, we conducted an extensive review of published research on these topics. Table 1 shows the scope of our search and our approach. Our search incorporated sources published in 1991 or later. Federal, state, and institutional financial aid policies were shifting around that time (e.g., with the 1992 Higher Education Act (HEA) reauthorization) and we chose this time frame in order to capture concurrent changes in financial aid programs and research on them. We found more than 100 studies and papers released during the last 16 years, including several literature reviews. We gave priority to empirical work and reviews of research presented in peer-reviewed journals but also included work published as research reports that we judged to be relevant (e.g., National Center for Education Statistics (NCES) reports, materials from the National Association of Student Financial Aid Administrators (NASFAA) and the Association for Institutional Research (AIR)). This process yielded a set of 74 articles, chapters, and monographs for our in-depth review.

Due to our systematic approach, we are confident that the rich set of sources at the center of our review represents the mainstream analysis and social research discourse on the role of student aid in persistence over the last 16 years. A study group of five researchers trained in higher education research, sociology, public policy, and applied economics met in a series of discussions to identify important threads in this body of literature. Using *Atlas.ti* software to track and organize our analyses, we then coded and annotated our summaries according to the themes and questions that had arisen from our series of discussions. Following good qualitative research practice, we also remained alert and open to newly emerging themes as we worked our way through this phase (Marshall and Rossman, 1999; Miles and Huberman, 1994). The systematic analytical and interpretive work established through research memos and annotated summaries enabled us to identify unanticipated questions and to identify some of the problems with the current range of research conducted on the effects of financial aid on student persistence. It allowed us also to discover gaps in the literature and to reflect upon methodological issues endemic to this area of research.

Table 1 Approach to identifying sources

Resources searched		Search terms/strategies applied
Bibliographical databases	ERIC	College students, student financial aid, and persistence
		College students, financial aid, and graduation
		College students, persistence, and debt (financial)
	Education Full Text	College students, student financial aid, and persistence
		College students, financial aid, and graduation
	IngentaConnect	College students, student financial aid, and retention
		College students, student financial aid, and persistence
		College students, financial aid, and graduation
	JSTOR	College students, student financial aid, and retention
		College students, student financial aid, and persistence
		College students, financial aid, and graduation
	ProjectMuse	College students, student financial aid, and retention
	ProQuest	College students, student financial aid, and persistence College students, student financial aid, and retention
	WebofKnowledge	College students, student financial aid, and persistence College students, student financial aid, and retention
	WorldCat	College students, student financial aid, and persistence College students, student financial aid, and retention
Internet resources	Google Scholar	"College students" "Student financial aid" "Persistence" "College students" "Student financial aid" "Student retention"
	NASFAA Web site bibliography database	Persistence; retention
	AIR Web site: Publications and IR	Persistence; retention
Print resources	Higher Education: Handbook of Theory and Research, Vol. 1–21	Searched tables of contents by hand for relevant pieces
	Reference lists of major studies: Pascarella and Terenzini, 2005; and others yet to be selected	Searched tables of contents by hand for relevant pieces

   To draw conclusions across contradictory findings, it is of course often necessary to distinguish which studies to rely on more than others. In summarizing articles, we noted methodological features that we thought spoke of the relevance of a piece for this review, and also of its general quality or usability in the study. First, in terms of relevance, because our focus was on the relationships between aid and persistence, we put less stress on studies that looked primarily at college access or that provided mainly descriptive results. In our general methodological evaluations, we noted the quality of authors' approaches to data and their interpretations of the results. We valued a more subtle and differentiated view in these areas over approaches that took the adequacy or meaning of data for granted or that argued less critically for the claims made from the results. As we noted earlier, central problems of interest for this project included the question of the endogeneity of aid eligibility and of the indirect effects of aid. These questions imply specific analytical techniques for their solution, including multistage regression, longitudinal inquiry, structural equation modeling, and instrumental variable techniques.

   Using these comments and cues, we categorized studies by relevance and quality vis-à-vis their use for this specific project. Certainly, we do not claim these categorizations as absolute pronouncements on the general quality of each piece. Rather, we adopt the view that such evaluations are most precise and useful when contextualized and oriented toward a specific purpose. Through this method, we arrived at set of 32 highly relevant, high-quality studies on which we base some of our observations.

Framing the Landscape: How Have Studies Defined Student Persistence and Student Financial Aid?

Defining Persistence

It is important to note at the outset that there is a great amount of research on persistence that does not emphasize the role of financial aid. Efforts to incorporate finances into persistence research reach back through Bean's early work (1983), in which he notes that the opportunity to work and earn money can create an external environmental pull that increases the odds of dropping out. Moving from Bean's early work on, more complex understandings of costs, financial aid, and other variables have emerged throughout the 1990s (Cabrera et al., 1992; St. John et al., 1991) and also in the current activity of St. John and colleagues' nexus studies and other research reviewed here. Through each generation of research on this topic, analytic techniques have moved from simple regressions to structural equation modeling into logistic regression and more recently into multistage modeling.

   Looking across the work on student persistence, however, we see a distinct and notable thread of research that focuses primarily on financial aid variables in modeling persistence. Inclusion of college experience variables in these models is somewhat

limited. Grade point average (GPA) and full-time status are common measures used to stand for college experiences (e.g., Somers, 1995). Going a bit more in depth, St. John et al. (2001) include institution type and housing status. Lichtenstein (2002) incorporates number of semesters residing in on-campus housing. That two separate research threads have developed means it is difficult to get a full picture of the role of financial aid in persistence. Only a few attempts have been made to bring the two threads together (e.g., Cabrera et al., 1992; St. John et al., 2000a). In general, however, the college experience variables included have often been superficial measures of college experience at best, and because of the questionable causal relationship with persistence, these proxies for college experience constructs are fraught with problems. This drawback reflects the limitations of the available secondary data; nevertheless, it has ramifications for how we are able to use the research to draw conclusions about our central questions.

Research on student persistence has defined the central construct in a number of ways in the course of studying the effects of financial aid. Prevalent conceptions of persistence include fall-to-fall persistence, first-to-second-year reenrollment (Bresciani and Carson, 2002; DuBrock and Fenske, 2000; St. John et al., 1991), and within-year persistence (e.g., Cofer and Somers, 1999, 2000; Hu and St. John, 2001; Paulsen and St. John, 2002; St. John et al., 2001; Somers, 1995; Somers et al., 2004). Somers (1995) utilizes both within-year and year-to-year persistence as outcomes. Studies of community colleges incorporate transfer, return, and reenrollment into definitions of persistence (e.g., Battaglini, 2004; Dowd and Coury, 2006). Other studies examine persistence as ultimately defined by graduation (Alon, 2005; Stinebrickner and Stinebrickner, 2003; Singell and Stater, 2006). Since degree completion is the goal of both students and policymakers, the effects of financial aid on graduation would have the most utility for this chapter. Despite recommendations noted in the literature (DesJardins et al., 2002a; St. John and Starkey, 1995), one of the shortcomings of inquiry on the impact of financial aid on persistence is that most studies do not look at the effects of aid on persistence longitudinally. This is not a criticism of the research that has been undertaken; constructing longitudinal studies of the effects of financial aid is often impossible because of limitations in data sets, and only recently have analytical approaches utilized in other fields been applied to this impact of financial aid upon graduation. Within-year and year-to-year studies of persistence reflect the basic conventions of relevant theories and are empirically justifiable, but they also have limits in their ability to help us understand how aid plays a role in helping students progress to graduation.

Data Sources and Scope of Studies

These studies have taken place in a variety of institutional settings and have used a range of databases. Table 2 shows notable examples of studies and their data sources. Each of these types of data sets offers different strengths and weaknesses. National data sets typically have a robust set of student background variables and standardized definitions of federal, state, and institutional financial aid. Several

Table 2 Data sources and scope of studies

National databases	NPSAS	
	Cofer and Somers, 1999	
	Cofer and Somers, 2000	
	Cuccaro-Alamin and Choy, 1998	
	Dynarski and Scott-Clayton, 2006	
	Kaltenbaugh et al., 1999	
	Paulsen and St. John, 2002	
	St. John et al., 1994	
	St. John et al., 2005	
	Somers et al., 1999	
	Somers et al., 2004	
	Turley, 2005	
	BPS	
	Cuccaro-Alamin and Choy, 1998	
	Dowd and Coury, 2006	
	Gladieux and Perna, 2005	
	HS&B	
	St. John et al., 1991	
	College and Beyond	
	Alon, 2005	
	NLSY	
	Dynarski, 2003	
State databases	**Georgia**	
	Cornwell and Mustard, 2004	
	Henry et al., 2004	
	Long, 2002	
	Indiana	
	Hu and St. John, 2001	
	St. John et al., 2001	
	Missouri	
	Pantal et al., 2006	
	Ohio	
	Bettinger, 2004	
Institutional databases	Braunstein et al., 2000	Li and Killian, 1999
	Bresciani and Carson, 2002	Lichtenstein, 2000
	Cabrera et al., 1992	Singell, 2004
	DesJardins, 2001	Singell and Stater, 2006
	DesJardins et al., 2002	Somers, 1995
	Herzog, 2005	Stinebrickner and
	Lam, 1999	Stinebrickner, 2003

databases (e.g., Beginning Postsecondary Students (BPS), High School and Beyond (HS&B), and National Longitudinal Survey of Youth (NLSY)) are also longitudinal, enabling researchers to track the effects of financial aid over time. This makes it possible to examine how various forms of financial aid interact with student background characteristics and types of institutions to influence student persistence. The weaknesses of these databases include the following limitations:

(1) they may lack sufficient sample sizes to examine the effects of specific state financial aid programs, (2) they do not allow for the examination of the effects of institutional aid programs at a specific college or university, and (3) large national databases typically lack sufficient measures of the effects of college experience variables (such as academic and social integration) that have been found to be strong predictors of persistence. The first National Postsecondary Student Aid Study (NPSAS:87) includes GPA, hours of required instruction per week and remedial course-taking (NPSAS, 1987). NPSAS:96, however, includes more detailed measures of institutional climate and educational experiences.

State databases make it possible to scrutinize the effects of specific state aid programs. For example, St. John and colleagues have conducted several studies on the effects of the Twenty-first Century Scholars Program in Indiana (St. John et al., 2001, 2006). Similarly, several studies of Georgia's Helping Outstanding Pupils Educationally (HOPE) scholarship program draw on state-level databases (e.g., Cornwell and Mustard, 2004; Henry et al., 2004; Long, 2002). These databases also enable researchers to track the associations between financial aid and the longitudinal movement of students from 2- to 4-year institutions, as well as other forms of transfer and reverse-transfer behaviors. Inherent in state databases are some limitations: (1) they often lack data elements for institutional financial aid programs, (2) they typically incorporate insufficient measures of academic and social integration at the institutional level, and (3) they do not track students who transfer to out-of-state institutions.

Using institutional data, investigators have been able to conduct longitudinal studies of the effects of institutional financial aid programs on student persistence (Cabrera et al., 1992; DesJardins et al., 2002a; Herzog, 2005; Singell and Stater, 2006). Unlike federal or state databases, institutional databases sometimes include measures of constructs typically used in student retention research, such as academic and social integration (Lichtenstein, 2002; Perna, 1998; Cabrera et al., 1992). This permits the comparison of the effects of aid with other theoretical constructs found to be associated with student persistence and graduation. Institutional studies also permit scholars to compare the effects of merit- and need-based financial aid (DesJardins et al., 2002; Herzog, 2005; Lichtenstein, 2002; Singell, 2004; Singell and Stater, 2006; Somers, 1995). However, institutional databases also have limitations, including the lack of information as to whether students who leave the campus are in fact dropping out or are transferring to another institution (Chen, 2008). Moreover, the inherent constraints of institutional data can complicate researchers' efforts to examine how forms of campus-based aid programs affect persistence across institutions. Notably, however, a recent study by Singell and Stater (2006) has overcome this limitation by the use of data from three public flagship institutions.

Most of the campus-based studies were conducted at 4-year institutions. Relatively few studies focus on the effects of financial aid on persistence at community colleges; notable among these are studies by Cofer and Somers (1999), Dowd and Coury (2006), and Turley (2005). In addition, many of the studies that use state or federal financial aid programs focus most of their attention on students attending 4-year colleges and universities. Indeed, apart from a few studies of commuting institutions, including studies by Braunstein et al. (2000), Cabrera et al. (1992),

Somers (1995), and St. John et al. (2000b), there is a relative dearth of research on students enrolled at commuting institutions.

It is instructive to consider the scope of current studies from an overview perspective. Studies of individual institutions (e.g., Dubrock and Fenske, 2000; DesJardins et al., 2002a) or of multiple individual institutions (Singell and Stater, 2006), for example, write out of their analysis variation in institutional practices. In studies using federal databases, on the other hand, authors might control for institutional types – contrasting 4-year institutions with 2-year colleges, for example (Cofer and Somers, 1999).

Defining Aid

A principal question at the center of this literature is the choice to define aid as a dichotomous variable representing receipt of aid or as a more or less continuous measure representing the amount of aid. The preponderance of studies reviewed examine simple receipt of aid – aid in general and in various categories (e.g., grants, loans, merit-based, need-based). Examples include studies by Cabrera et al. (1992), Gladieux and Perna (2005), and Hu and St. John (2001). There have been critiques of this approach (DesJardins et al., 1999, 2002a), and indeed a smaller set of studies has examined the effects of student financial aid on persistence as measured by the amount awarded (e.g., St. John et al., 2005; Singell and Stater, 2006; Somers et al., 2004). A notable thread of studies incorporates measures of both receipt and amount into their models (see, for example, Alon, 2005; DesJardins et al., 2002a; Paulsen and St. John, 2002). As an interesting extension of the dichotomous measures, a few studies examine aspects of delivery by looking at packaging. St. John et al. (2000b), for example, consider types of aid included in packages, examining the effects of grant-only packages separately from the effects of loans alone or of packages that combine grants and loans together. Citing St. John's approach, Braunstein et al. also look at packages combining grants, loans, and work-study in different configurations (2000, p. 196). More recently, Chen (2008) has argued that greater differentiation of aid by type is necessary, for example, distinguishing Perkins and Stafford loans from parent or private loans, because students have differing liquidity constraints, price elasticity, and debt aversion and therefore are likely to respond differently to different forms of aid.

Categories of Aid

Studies using federal or state databases often use categories of aid defined as grants, loans, or work-study. While simple consideration of these categories characterizes a great proportion of the work in this area (e.g., Cofer and Somers, 1999; Dowd and Coury, 2006; Gladieux and Perna, 2005; St. John et al., 2005), variations on the theme highlight some interesting points. Bresciani and Carson (2002), for example, consider all categories of "gift aid" – all grants and (presumably merit-based)

scholarships – together. However, this raises the question of whether these subcategories of gift aid can meaningfully be measured together. A smaller set of studies is focused on merit- versus need-based aid. In comparing merit- versus need-based aid and focusing on student characteristics in the process, some studies (e.g., Singell and Stater, 2006) implicitly emphasize as the most salient categorization for study the ways and mechanisms by which policy categorizes students as "deserving" or "not deserving" aid. This underlying categorization may tap into problematic philosophical ramifications for equity, but may offer insights regarding the broader political support for financial aid programs. Still other studies frame their inquiry by looking at specific programs (Dynarski, 2002, 2003; Herzog, 2005; St. John, 2004a), and others (as an extension of this) look at the relevant aid policy arena – federal (Cofer and Somers, 1999; DuBrock and Fenske, 2000; Wei and Horn, 2002), state (e.g., Long, 2002; St. John, 2004a; St. John et al., 2001), or institutional (e.g., DesJardins, 2001; Lichtenstein, 2002; Singell, 2004). Just as many studies consider merit- and need-based grants as subcategories of grants, so too do several studies examine subsidized and unsubsidized loans as separate subcategories (e.g., St. John, 2004b).

A few studies look beyond the presence and amount of financial aid in an attempt to capture effects of aid that authors term "indirect" and/or "intangible" (Cabrera et al., 1992; St. John et al., 2000a). These studies build from the assumption that students' experience of financial aid includes both an objective component (i.e., the availability of resources) and a subjective component (encompassing students' perceptions of expenses, resources, and ability to pay). In this way, the authors incorporate finances into the range of students' positive and negative college experiences, which in turn influence their persistence decisions. Specifically, St. John et al. (2000a) concluded that these intangible effects of financial aid bear on institutional commitment; they also explore (tentatively) how students' perceptions of, and experiences with, financial aid play into academic and social integration – drawing students toward, or away from, campus activities and courses.

Conceiving the objects of study in multiple different ways reflects the underlying assumptions and goals of the researchers. At the same time, it also reflects the conventions and data limitations that shape persistence research as a whole. A multiplicity of frames is likely a sign of healthy diversity in this line of thought. However, if researchers rarely reach outside their own disciplines or fields of study, they reinforce the existing dispersion of threads within this research and lose opportunities for meaningful advances in our understandings of these complex phenomena.

Theoretical and Methodological Frames

The Limitations of Data and Data Sets

One of the most vexing problems researchers confront in studying aid is associated with lack of variability in aid awards and problems with comparability across states. For example, at the federal level, Pell Grants are so pervasive among full-time,

low-income students that it is impossible to conduct a rigorous study of the effects of Pell Grants on enrollment and reenrollment decisions. As we note later in this chapter, one of the advantages of using state or institutional data sets is that they often contain more detailed information than national data sets about students and the range of financial aid awards they receive. This enables researchers to explore the effects of aid more systematically. When a state, for example, has enacted a major aid program such as the HOPE Scholarship in Georgia or the Twenty-first Century Scholarship in Indiana, researchers can examine the program's impact on students in the state. A major limitation with these examples, however, is that we cannot compare the effects of such aid programs across states. We encounter the same problem when trying to study the effects of institutional financial aid programs.

The Endogeneity of Aid Eligibility and Loans

Another key problem financial aid researchers working in this area have identified is the question of whether aid eligibility and receipt of aid are independent of factors that may also influence college persistence – factors such as (a) race/ethnicity, (b) willingness to incur debt, or (c) familial, cultural, and social values. These questions surrounding the independence of aid as an explanatory variable and the direction of causality – known also as endogeneity and self-selection bias – make it difficult to disentangle the true effects of aid on persistence. Moreover, what variables – such as motivation or systemic discrimination – are we unable to account for if we include aid as an independent variable when modeling persistence? A basic assumption of financial aid research is often that aid eligibility is determined independently of other explanatory variables *and* that we have not omitted key variables from the model. This problem of the inherent endogeneity of aid eligibility – and the related one of self-selection – can mask the true effects of aid on student persistence.

Alon treats this question most explicitly in her 2005 study, in which she attempts to assess the net effect of aid dollars on college graduation and to explain mis-specification in prior research as rooted in endogeneity bias. Using instrumental variable probit models, she finds the dollar amounts of aid in each category to significantly increase the likelihood of graduating from college. Conversely, simple probit models (those not including instrumental variables for aid eligibility) show that dollar amounts of each kind of aid are significantly and negatively related to graduation from college. While Alon takes an exceptionally visible position on this question, perhaps, researchers in other threads engage with the issue implicitly at the same time. Studies that employ single-stage logistic regression, for example, and that incorporate dichotomous variables signifying eligibility or receipt of aid intentionally or implicitly take the position that receipt of aid does not introduce endogeneity bias to a damaging degree.

Another difficult problem when studying the effects of our current financial aid system is that students and their families are unlikely to exercise much discretion regarding grant aid – either in accepting the grant or in the amount of the award – but there is the opportunity for a great deal of discretion in both of these areas when

making decisions about loans. This raises the question of whether behavior surrounding loans correlates with student persistence outside the model used in the analysis – i.e., whether loans are exogenous to the study of financial aid. To date, little advancement has been made on this topic. DesJardins et al. (2006) note that "less progress has been made in another key area: the assumption, explicit or implicit, that financial aid is exogenous" (p. 384). Because of the complex interplay of privilege, opportunity, and conditioned action in society, the question of endogeneity bias becomes an inherent controversy in the study of financial aid and persistence in college.

The Problems with Aggregating Across Institutional Types

Some studies (Bettinger, 2004; Kaltenbaugh et al., 1999; St. John et al., 2005) look at the effects of financial aid across institutional types; however, we think this is risky. Scholars have established that students who enroll in community colleges are more price-sensitive (Dynarski, 2000) and often enroll in community colleges because they are less expensive (Dougherty, 1992; Kearney et al., 1995; Townsend, 2001). Comparing the effects of financial aid among some populations known to be more or less price-sensitive is likely to produce unreliable results. There may be times when researchers and policymakers are interested in exploring how opportunities differ, for example by gender or ethnicity, across 2- and 4-year institutions. However, unless there is a clear purpose, there is good reason to be cautious about combining data on students who are enrolled in these two sectors. We are likely to learn more about the effects of financial aid when scholars carefully consider the known characteristics of different student populations.

The Limited Time Perspective of Aid Effects and Student Persistence

The temporal nature of persistence is implicitly recognized in the extant literature on educational attainment (e.g., Bean, 1980; Braxton and Lien, 2000; Pascarella and Terenzini, 1980; St. John, 1992; St. John et al., 1996; Tinto, 1975, 1982, 1988). Yet despite acknowledging the longitudinal nature of persistence, most researchers continue to approach analysis of the effects of financial aid in cross-sectional fashion. In fact, relatively few persistence studies employ methods that incorporate temporal aspects into their conceptual and analytic models (DesJardins et al., 2002b). Moreover, cross-sectional approaches to modeling longitudinal processes artificially constrict variables – such as financial aid – that change over time. St. John et al. draw attention to the time-varying nature of explanatory factors of student persistence, noting that "changes over time in financial aid packages can influence students' academic and social integration processes, as well as their subsequent persistence decisions" (St. John et al., 2000a, p. 41). To address this

need education scholars have begun applying event history analysis techniques developed in other fields to the study of persistence (Chen, 2008; DesJardins et al., 1994, 2002a, b, 2003; Doyle, 2006).

Talking Across Disciplines

One final observation on this body of research centers on the wide range of disciplinary frameworks employed to study the effects of financial aid on persistence. Addressing this problem in a recent essay in the Educational Policy Institute's *Weekly Review*, Usher (2007) notes that economists and sociologists, as well as scholars from education, and policy analysts all approach the study of financial aid from different perspectives and with different methodologies that "often talk past one another and miss opportunities for mutual enlightenment" (p. 1). For example, Singell and Stater (2006), in a two-stage analysis of the effects of financial aid on matriculation and persistence, indicate that financial aid has no impact on persistence and posit that both merit- and need-based aid attract students with unobservable characteristics that make them more likely to persist. It is possible, however, that once students are enrolled, financial aid has an indirect effect on their integration, which in turn exerts a positive influence on their persistence. All three of the institutions in the Singell and Stater study are residential, a type of institution known to be more likely to foster student integration.

   The tendency of many researchers to read little outside their discipline is unfortunate. Taking stock of findings across studies often reveals consistent but varied patterns, and researchers' richer and more nuanced familiarity with other studies could strengthen their contributions to this important topic. As Usher (2007) suggests, researchers looking at financial aid should broaden their perspectives in order to advance our study of student financial aid. Perhaps more important, from the vantage point of an effort to improve student financial aid policy, we owe it to students and their families to develop a rich and nuanced understanding of financial aid programs. This can best be done by reaching across the boundaries between disciplines and applied fields of study. Undertakings like the Rethinking Student Aid Study Group and this chapter can contribute to this broader view.

A Synthetic View of the Impact of Aid on Persistence

Our discussion of the effects of student financial aid on persistence begins with some broad general observations about the effects of aid. We then provide a fuller, more detailed of the effects of grants, student loans, and college work-study. As we have already noted, one of the major obstacles to reaching definitive conclusions is the wide variation in the databases and methods employed to examine the effects of financial aid. There have been no studies that attempt to systematically replicate

previous investigations. Edward St. John and Patricia Somers and their colleagues stand out in this area of inquiry as researchers who to examine the effects of financial aid on persistence have employed many of the same methods consistently over time. In addition, it is only in the last 5 or 6 years that more advanced econometric techniques have been applied to this line of inquiry. So few studies of this recently emerging type have been conducted that it is premature to draw many firm conclusions from them as a group. Therefore, in the remainder of this section we outline the effects of financial aid on persistence and identify the key findings and limitations of studies of aid and persistence. As we consider the effects of financial aid broadly throughout this section, we also pay attention to differential effects of aid depending on the following characteristics of the studies:

1. Whether the measures of student aid were based on a dichotomous coding of any forms of aid (i.e., was financial aid received or not?) or whether varying amounts of aid were coded as a continuous variable
2. Whether the analyses drew on national, state, or institutional databases

We also considered tracking differences by type of institution (2-year or 4-year, or residential, or commuter) but found that there is an insufficient number of studies that make these distinctions.

Across our central group of highly relevant, high-quality studies (Alon, 2005; Bettinger, 2004; Braunstein et al., 2000; Bresciani and Carson, 2002; Cabrera et al., 1992; Cofer and Somers, 1999, 2000; Cuccaro-Alamin and Choy, 1998; DesJardins et al., 2002a; Dowd and Coury, 2006; DuBrock and Fenske, 2000; Gladieux and Perna, 2005; Henry et al., 2004; Herzog, 2005; Hu and St. John, 2001; Ishitani and DesJardins, 2002; Lam, 1999; Lichtenstein, 2002; Perna, 1998; St. John, 1998; St. John et al., 1991, 1994, 2000b, 2001, 2005; Singell, 2004; Singell and Stater, 2006; Somers, 1995; Somers et al., 1999, 2004; Turley, 2005), results suggest that student financial aid – defined as receipt and/or amount of aid (without distinguishing between types of aid) – has a positive impact on student persistence. Drawing on the same set of studies, we found that one or more forms of financial aid has a positive impact on student persistence. However, we also noted that in most instances the amount of student financial aid accounts for relatively small amounts of the variance in student persistence. We did not find distinctive differences in findings based on financial aid being treated as a dichotomous or continuous variable or based on differences across the types of databases used in these analyses.

After reporting the *simple* summative evidence of our review of the impact of financial aid on persistence, our analysis quickly becomes more complex. For example, various authors forward different interpretations of positive, negative, or nonsignificant results. Finding a positive relationship between some form of financial aid and persistence is intuitive – and its interpretation is straightforward. Often, however, authors also interpret a nonsignificant finding as an indication that financial aid has a positive effect on persistence. In these analyses, nonrecipients of aid are seen as being ineligible for need-based financial aid and as not needing loans. Because aid recipients are compared with nonrecipients of aid, these studies interpret nonsignificant results as indicating that financial aid has equalized the opportunity

to persist among needy and no-need students (see, for example, St. John et al., 1994). St. John and colleagues have argued that this is an appropriate reading, and multiple scholars have agreed with their work. More recently, however, other researchers have offered different interpretations of nonsignificant findings (see, for example, Alon, 2005; DesJardins et al., 2002a; Dowd and Coury, 2006). Complicating the situation further, there are differences in the data sets and the analytical techniques employed in these studies, making it difficult to offer a definitive judgment on this issue.

However, other studies' results have found some forms of financial aid actually negatively associated with persistence. For example, St. John et al. (1994, 2005) report negative relationships between financial aid and persistence and interpret this finding as evidence that financial aid was insufficient and, thus, was an important factor in determining persistence. We were not fully persuaded by this argument – that increasing financial aid effectively increases the odds that students will drop out. After reviewing the full results of the analysis we posit that other factors could influence these counterintuitive findings. The interpretation of the authors may indeed be correct, but with few examples of such findings we are cautious and suggest this line of interpretation needs further examination.

Grants

In considering the effects of grants on student persistence, we do not differentiate the effects of merit- or need-based aid or federal, state, and institutional forms of grants. Because of widely noted and consequential increases in the use of merit aid, we devote a separate section later in this chapter to comparing the effects of merit- and need-based student financial aid. Several studies that consider the impact of grant aid aggregate all forms of grants in their analyses. Looking across this set of highly relevant, high-quality studies, we find that most report either positive or nonsignificant findings, suggesting that grants have an impact on the propensity of students to persist (e.g., Alon, 2005; Bettinger, 2004; DesJardins et al., 2002a; Dowd and Coury, 2006; DuBrock and Fenske, 2000; Herzog, 2005; St. John et al., 1991, 2005; Singell and Stater, 2006). Looking at the variables and data sources analyzed in these studies, we detected no patterns based on the measurement of financial aid (dichotomous or continuous) or by the type of database employed, confirming the conclusion of Pascarella and Terenzini (2005) that empirical results are similar whether measured as (dichotomous) receipt of a grant or as dollar amount.

College Work-Study

Among the highly relevant, high-quality studies, 14 find the effects of college work-study to be either positive or nonsignificant (Alon, 2005; Braunstein et al., 2000; Cofer and Somers, 1999, 2000; DesJardins et al., 2002a; Dowd and Coury,

2006; DuBrock and Fenske, 2000; Hu and St. John, 2001; Perna, 1998; St. John et al., 1991, 1994, 2001; Somers, 1995; Somers et al., 1999, 2004) and, thus, these studies interpret college work-study as enhancing the odds of recipients' persistence. In some examples, work-study has the largest effect – or one of the largest effects – compared with any of the financial aid variables (Alon, 2005; Cofer and Somers, 1999; DesJardins et al., 2002a). In his review of research on the effects of college work-study on persistence, St. John (2004b) notes that recent research has shown a decline in the effects of college work-study and posits that this is because college work-study wages have not kept up with cost-of-living increases.

For researchers, college work-study is an intriguing form of financial aid. Astin (1975) reports that students working on campus were more likely to persist. Since that time, several scholars studying financial aid – St. John et al. (2001), for example – have suggested that one of the positive effects of college work-study might be that it helps students "socially integrate into higher education communities and further help[s] increase student persistence" (p. 423). In addition, DesJardins et al. (2002a) find that the positive effects of work-study on student persistence – like those of grants and loans – diminish after the first 2 years. Overall, the evidence suggests that college work-study exerts a positive influence on student persistence, but the relative strength of the effects of work-study remains unclear. Nevertheless, because of its potential positive impact on student integration, this form of student financial aid deserves more consideration.

Integration Variables

Relatively few studies that examine the effects of financial aid on persistence also include measures of variables that are typically employed to examine the interplay of student characteristics, their aspirations, and their interactions with the campus environment to influence student withdrawal. Theoretical models and empirical studies advanced by Tinto (1975, 1993), Bean (1983), Pascarella and Terenzini (1980, 1983, 1994, 2005), and Braxton (2000, 2004) are representative of these lines of inquiry. Although Bean's model (1983) posits that financial factors can influence persistence, these two lines of research are seldom brought together, in part because few data sets have robust indicators of student integration variables and financial aid variables. However, there are a small number of studies that include solid measures of students' collegiate experiences and robust measures of student financial aid. Analyzing an institutional data set, Cabrera et al. (1992) use structural equation modeling to explore the joint effects of student integration variables and student financial aid. They report that student integration variables have stronger direct effects on persistence, but that financial aid has an indirect effect on student integration constructs and, thus, on student persistence. More recently, Herzog (2005) has used institutional data to examine the effects of a new large state scholarship program. He finds that college experiences improve the odds of persisting, while financial aid variables incorporated in the same model show nonsignificant results (p. 906). In addition, Lichtenstein (2002) also reports that

student integration variables exert the strongest impact on student persistence. These studies demonstrate the importance of considering the subtle and indirect effects of financial aid. In addition to Cabrera et al., St. John et al. (2001) and Braxton and colleagues (Berger and Braxton, 1998; Braxton, 2000; Braxton et al., 1997) have noted that financial aid has indirect effects on many student integration constructs found in both the Tinto (1975, 1993) and Bean (1983) models. Thus, the direct effects of aid may be less robust and the indirect effects may be more robust than reported in studies lacking measures of student integration. This would also help to explain why the effects of college work-study could be stronger than the dollar value of awards alone might suggest.

In support of this kind of thinking, a similar line of research is emerging that may demonstrate that the amount of financial aid students receive has a small, positive, indirect effect on student engagement (St. John, March 25, 2007, personal conversation). Rather than looking at the traditional student integration variables used in persistence research, efforts are being made to determine the impact of financial aid on many of the standard measures of student engagement used in instruments like the National Survey of Student Engagement. Thus, new and emergent lines of inquiry suggest that – while the effects of financial aid on college outcomes may be positive – accounting for the extent of student interactions with the institutions they attend shows effects to be even smaller, and likely also indirect.

Research on Aid and Persistence: Conclusions

As we noted in our introduction, study limitations sometimes stem from data limitations. Potentially more troubling, however, is the finding that some studies apply the same analyses to the same data sets but report different results. Using NPSAS:87 data, Paulsen and St. John (2002) report that grants have no effect on within-year persistence, while Cofer and Somers (2000) find that grants have a strong positive effect on persistence (Alon, 2005). Dowd and Coury (2006) have provided a thoughtful critique of many financial aid studies, noting that previous research had arrived at inconsistent results and that some critics have attributed these inconsistencies to a lack of self-selection controls and to endogeneity bias in cross-sectional studies of aid and persistence (pp. 37–38). In addition, Alon (2005) raises the possibility that aid recipients (both need-based and merit aid recipients) are not identical even when all observable background characteristics are controlled for – and recommends the use of an instrumental variable technique to address this potential problem.

Researchers have only recently started to address these central questions and controversies more systematically in studies of financial aid and student persistence. DesJardins et al. (2002a) use an institutional data set and control for more student characteristics to model the longitudinal effects of financial aid. Alon (2005) uses instrumental variable probit models in her analyses. In a study that is another case in point, Singell and Stater (2006) use a combined data set from three residential

state flagship institutions and employ a two-stage analytic approach to examine the effects of financial aid, first on enrollment and then on persistence. With results showing no independent effects of financial aid on persistence, they conclude that institutional merit aid attracts students with characteristics that make them more likely to persist. Using a data set from a single campus, Braunstein et al. (2000) have modeled enrollment and retention separately and find, similarly, that financial aid has an impact on the enrollment decision, but not on subsequent reenrollment decisions. As noted earlier in this chapter, Singell and Stater (2006) do not identify specific student attributes that could explain the persistence rates of students who receive need-based aid. Rather, they suggest that need-based aid attracts students with unobservable traits associated with a propensity to persist. We focus on this study because we think it might be linked to both new analytical approaches to examining student financial aid and to research that includes student integration variables. It is possible that one of the explanations for both of these studies is that both merit- and need-based aid have an indirect effect on student persistence through student integration constructs, especially since all four campuses in these two studies are residential institutions. However, it is also possible that, as Alon (2005) suggests, recipients of financial aid are not identical to nonrecipients, even when all observed background characteristics are accounted for in the model.

In summary, our review of research on (a) total aid received, (b) the effects of grants (undifferentiated by need or merit), and (c) college work-study suggests that each of these has a small positive impact on persistence. We also found important contradictions and shortcomings in the research. In the course of this project, we found that the studies on this question use a variety of data sets, many different analytic techniques, and different definitions of variables (sometimes even when they have used the same data sets). Because we found no efforts to replicate studies we cannot be confident that any differences in findings across studies were the results of shifts in financial aid policies and practices – as opposed to differences in the definitions of variables or in the use of dissimilar analytic techniques. At times authors of studies also interpret similar results in dissimilar ways. In addition to these primary concerns, we found, looking across the extant research, that there are very few studies that focus on student persistence at community colleges or at commuter institutions. Moreover, despite notable exceptions (Lichtenstein, 2002; St. John et al., 2005), not many studies focus on the effects of financial aid on the persistence of students of color. As Chen (2008) notes, there is ample reason and growing evidence to support the assertion that the effects of aid differ by race/ethnicity and income. After considering the recent methodological advances in the study of the effects of financial aid on persistence, we leave this section with the following conclusions:

1. The global effects of financial aid in most instances are (taking into consideration the differential effects of student interactions with the environments at individual campuses) small, positive, and probably indirect.
2. Not surprisingly, we conclude that more student financial aid has a larger impact on student persistence than less aid. Some investigations not only look at the

effect of individual financial aid programs (grants, loans, college work-study) but also at the effects of combining one or more other aid programs. These results are more likely to report positive effects for financial aid. St. John et al. (2001), for example, using a database from the State of Indiana, note that the receipt of any two forms of scholarship has a larger effect on persistence than only one form of aid. Herzog (2005) finds that the receipt of a large state scholarship has a greater effect on persistence than any other form of financial aid. Larger amounts of financial aid are likely to reduce unmet need. (With merit aid it is possible that financial aid packages can even exceed student need.) Thus, it is not surprising that larger amounts of aid increase student persistence.

3. Among the types of financial aid we examined, college work-study has a consistently strong impact on student persistence.
4. Unobserved student characteristics may often play a role in determining the likelihood that a student will persist until graduation. Thus, these unobserved effects need to be accounted for through instrumental variable analytic techniques.

Special Topics of Note: Merit Aid, Loans, and Programmatic Elements

The Special Case of Merit Aid

In an effort to extend our work on the effects of financial aid on persistence, we looked closer at the unique effects of merit- and need-based aid. As evinced in the high levels of attention currently focused on merit aid (e.g., Mathews, 2005; Farrell, 2007), this is an important topic of consideration. Our efforts to examine the effects of merit- and need-based aid are limited by a number of factors. First, it is difficult to tease out the full differences between merit- and need-based aid. Avery and Hoxby (2004), for example, report that named scholarships have an impact over and above the actual dollar value of a merit scholarship. Some studies look at the effects of state programs, such as Georgia's HOPE Scholarship program, while others look at the effects of institutional merit aid. As we have already noted, the design of many of the data sources employed in this work does not allow researchers to differentiate between merit- and need-based aid. Furthermore, given our comments about student integration variables, we also note that no studies that isolate the unique effects of need- or merit-based aid include measures of student integration variables. With these introductory caveats, we consider the differential effects of merit- and need-based aid.

Interestingly, although we have reported that some studies find nonsignificant or even negative results on grants in general (i.e., without distinguishing between need-based and merit-based aid), our review of the distinctive effects of merit- and need-based aid reveals primarily positive relationships between either form of aid and persistence (Battaglini, 2004; DesJardins et al., 2002a; St. John, 1998, 2004a; St. John et al., 2005; Singell, 2004; Singell and Stater, 2006; Somers, 1995, 1996;

Turner, 2001). Only three of these studies, those by Somers (1995, 1996) and Singell and Stater (2006), report other than positive relationships of both merit- and need-based aid with persistence. Before continuing with an explanation of these collective findings, we note that unlike the group of studies we reviewed for other sections of this chapter, most of these studies are based on institutional databases rather than state or national databases. Institutional databases often provide a more robust set of measures for (a) student characteristics and (b) forms of financial aid than other available databases. This pattern alone deserves further consideration. Also interesting are Somer's findings that merit aid at urban commuter institutions is negatively associated with persistence. Somers posits that this negative relationship is possibly the result of top students with merit aid electing to transfer because they have a low number of "high-ability" classmates. This finding suggests that individual institutions' use of merit aid can result in attracting high-scoring students who may not ultimately fit in with a lower-scoring student body, and that the resources and opportunities of more prestigious institutions may be too attractive for these higher-scoring students to ignore.

Introducing a more nuanced understanding of the effects of grants, Herzog (2005) looked at a large state grant program and determines that the effects on student persistence disappear by the end of the first year. Similarly, two recent studies shed further light on the longer-term workings of merit aid. In a single-institution study, DesJardins et al. (2002) report that merit aid has one of the largest effects on student persistence but that the effects diminish after the first 2 years. Singell and Stater (2006) conclude that: "[a]verage merit-based aid was positively associated with graduation. Merit aid has no effect on graduation in the absence of selection controls, but its coefficient rises from nearly zero to approximately 6 p.p. and becomes significant in the selection model" (p. 394). They also report that need-based aid does not show an impact on persistence after its effects on enrollment are taken into consideration. More research on the effects of state merit aid programs is clearly needed. In total, without regard to methods, these studies' findings suggest that both merit- and need-based aid exert a positive influence on persistence and that the impact of merit aid appears to be stronger. However, Singell and Stater's (2006) work raises the possibility that merit aid's most important contribution to persistence may be to attract students who are more likely to persist.

Overall, these studies draw us toward some interesting conclusions that extend beyond just merit- and need-based aid. Perhaps most important, the finding that institutional studies include better indicators of all student aid programs suggests that our understandings of the effects of aid on persistence might be different if we had more robust indicators for all forms of financial aid. Pursuing this line of reasoning, the institutional studies that do not follow cohorts of students over time also tend to report that student loans have an impact on persistence, whereas longitudinal studies do not find a relationship between financial aid and reenrollment rates. This raises the possibility that the effects of loans dissipate over time as the result of student integration variables. The problems associated with studying the effects of student aid already identified may also explain why the effects of student loans are so varied in our review.

The Effects of Loans on Student Persistence

In our review of the extant literature, we found mixed signals on the effects of loans on college student persistence. As in all areas of this research, studies are defined by many pivotal choices: whether financial aid variables are treated as dichotomized or continuous variables, whether authors aggregate or disaggregate subsidized and unsubsidized loans and various forms of aid packages, and whether studies include aid thresholds. All of these distinctions lead naturally to differential findings and interpretations across the studies we considered. As a result, even a conventional approach to interpreting the empirical findings limits our ability to generalize the results. Inconclusive findings about the role of loans in the student persistence process make us more cautious in assessing the effectiveness of the federal loan system. In this section, we first report on the studies that use receipt of financial aid as a dichotomous variable, and then we report the results from investigations that are able to construct a continuous variable around the receipt of financial aid.

The dichotomized handling of loan variables is more likely to indicate that loans have negative or nonsignificant effects on student persistence. Examining whether students actually accept loans or not allows us to better understand how borrowers differ from nonborrowers in their persistence decisions. In general, loans appear not to predict persistence. Li and Killian (1999), in their analysis of a Midwestern research institution, indicate that educational loans negatively influence student persistence rate. Dowd and Coury (2006), using BPS:90–94 data, demonstrate that among students attending public community colleges, borrowers (students receiving loans) are less likely than nonborrowers to persist into their second year and that taking out loans is not related to attaining an associate's degree. Perna (1998), investigating full-time undergraduate students with the same data source (BPS:90–94), finds that borrowing does not significantly promote persistence behavior; neither (a) aid packages consisting of predominantly loans nor (b) aid packages combining loans with grants has a significant impact on persistence relative to no aid.

Since many college students rely on multiple sources of aid, a number of studies have attempted to examine the role of aid with each type of aid package. A longitudinal analysis of the High School and Beyond (HS&B) 1980 senior cohort show the positive impact of loans on year-to-year persistence (St. John et al., 1991). Relying on loans only or receiving loans with other types of aid promote student persistence in some measure. However, aid packages including loans appear not to be effective in many instances. St. John and associates find, in a study based on NPSAS:87, a neutral effect of loans on within-year persistence. As in some of the research on grants, they conclude that a finding that the impact of loans is nonsignificant means that the persistence rates of students relying on loans alone or of students who have aid packages including loans with other types of aid does not differ from the persistence rates of those who have no aid packages (St. John et al., 1994). In addition, the authors examine possible interaction effects between tuition and loans as a sole source of aid. When tuition is included in the model, loans show a neutral effect on persistence, while in models that do not incorporate tuition, loans

as sole source of aid have exerted a negative impact. In this instance, St. John and colleagues conclude that "when students at high-price colleges received loans as their only form of aid, they were less likely to persist" (p. 473).

Most of the institutional studies based on cohort analyses also report that aid packages including loans do not increase likelihood of persistence. St. John (1998) examines two cohorts consisting of sophomores and juniors at a private university in Washington State. All aid packages are nonsignificant in the 1992 cohort. Among the 1993 cohort of students, students with loan-plus-work aid packages are less likely to persist than their counterparts with no aid package. Braunstein et al. (2000) investigate year-to-year persistence using two cohorts, 1991/92 and 1993/94, at Iona College. Relative to students who do not receive any financial aid, recipients of all aid packages show nonsignificant effects on their persistence decisions from aid. Bresciani and Carson (2002) also report the neutral effect of loans as a component of aid packages. Their empirical investigation of four cohorts of freshmen at North Carolina State University shows that the percentage of loans included in aid packages is not associated with persistence decisions. Focusing on a public urban university, St. John et al. (2000b) compare students with various types of aid packages with students who receive no aid at four different points in time. Receiving loans only, or having aid packages including loans with grants, promoted within-year persistence in 1990/91. Aid packages consisting of loans and grants had a positive effect on persistence in 1993/94. However, aid packages including loans did not significantly improve persistence rates in 1996/97 and 1997/98. Herzog (2005) also reports from his analyses on multiyear cohorts of freshmen at University of Nevada that aid packages including loans do not contribute to retaining students.

When we reviewed studies that measure the amount of financial aid, the results were mixed. In balance, however, more papers report that loans have a positive effect on student persistence. Studies that used national databases (e.g., NPSAS) were more likely to utilize the continuous measure of financial aid. Studies based on NPSAS:87 data led by St. John and associates indicate that loans do not play a role in retaining students. An examination of traditional college-age students in 4-year institutions demonstrates that as students borrow more money for college, they are less likely to persist to the second semester (St. John et al., 1994). Based on BPS:90–94 data, Dowd and Coury's study (2006) focuses on community college students, and concludes that as the amount of loans increases, students are less likely to persist to the second year. Interestingly, they find that loans have no significant impact, positive or negative, on attaining associate degrees.

Follow-up studies based on NPSAS data show that the effects of loans vary by income and race. As poor students rely on more loans, they are less likely to persist. The negative effect of loans remain even after controlling for living costs like food and housing. For students from working-class families, loans are negatively associated with within-year persistence. But, when living costs are considered, loans exert no influence on the students' persistence decisions. Loans have neutral effects on middle-income and high-income students, whether or not living costs are considered (Paulsen and St. John, 2002).

According to studies based on NPSAS:87 data, loans do not exert significant influence on African American students (Kaltenbaugh et al., 1999; St. John et al., 2005). The amount of loans was negatively associated with persistence decisions for White students. When living costs are held constant, loans are not influential for this group (Kaltenbaugh et al., 1997; St. John et al., 2005). In contrast, Somers and colleagues find that loans help African American students to persist (Somer et al., 1999). Using NPSAS:96 data, they compare within-year persistence behaviors between two racial groups. For African American students, loans are found to promote persistence, whereas White students' persistence decisions are not responsive to changes in the amount of loans.

Somers and Cofer use NPSAS:87, 93, and 96 data for their persistence work and find that loans have a positive impact on student retention (Cofer and Somers, 1999, 2000; Somers et al., 1999, 2004). Based on St. John's theoretical framework, Somers and Cofer developed a persistence model they employ to study the effects of debt burden on persistence. Overall, they demonstrate that all types of financial aid are effective. Loans appear to promote persistence behavior across the subpopulations. The positive influences of loans apply to all student populations, except White students, including African Americans, first- and continuing-generation students, as well as students enrolled at 2-year and 4-year institutions, and public and private institutions. Alon's study (2005), based on data from 22 institutions, incorporates the use of a simple probit model which produces significant and positive results on the role of loans (measured as dollar amount) in increasing college students' graduation rate. However, in subsequent analyses using instrumental variable probit models, she finds that applying for and receiving loans decreases the probability of graduation. As a direction for future research, she suggests separating the effect of aid eligibility from the impact of aid money received on academic outcomes.

Many institutional studies also use continuous variables to study the effects of loans, and likewise provide mixed findings. Somers (1995, 1996) conducted her research at an urban, commuter institution. Her results indicate that loans promote within-year persistence but do not affect year-to-year persistence. Lam (1999) investigates factors affecting time-to-degree among students in a large urban public university. Students relying on loans alone take the least time to complete their programs, relative to students with other types of aid. Braunstein et al. (2000) finds that increases in the amount of loans do not influence student persistence at Iona College. In her analysis of the 1998 cohort of full-time Hispanic students at the University of New Mexico, Lichtenstein (2002) concludes that loans have no direct effect on persistence and negatively influence college grades. In contrast, DesJardins et al. (2002a), in one of their studies on freshmen at the University of Minnesota, find that loans reduce the risk of dropping out during the first year. However, the effect of loans relative to other types of financial aid appear to be very modest. It is worth noting that the loan measure used in this study consists of predominantly unsubsidized loans. The researchers expect that the positive impact of subsidized loans is likely to be larger than that of unsubsidized ones.

Regarding the mixed findings of the impact of loans, Dowd and Coury (2006) suggest that the effects of loans be disaggregated into four components: (1) the economic and academic characteristics associated with eligibility, (2) the risk of loan repayments or default, (3) self-selection into loan-taking, and (4) cost subsidies. Recent empirical studies show that subsidized loans and unsubsidized loans have differential effects on student persistence. Singell (2004) demonstrates that subsidized loans increase both enrollment and reenrollment decisions among applicants and enrollees, respectively, at the University of Oregon. Alternatively, the amounts of unsubsidized loans negatively affect enrollment decisions among the admitted applicants, and do not influence reenrollment decisions among enrollees. Herzog (2005), in his study based on multiple cohorts of freshmen enrolled at a public research university in Nevada, finds that the first-semester or second-semester amount of unsubsidized loans increases dropout risk (decreasing the probability of persisting), whereas the amount of subsidized loans received does not significantly influence persistence decisions.

Reviews of research in this area consistently note a lack of consensus about how student financial aid affects persistence across racial/ethnic groups. Baker and Vélez (1996) state that most types of aid contribute to the persistence of students of color but single out loans in particular as an exception. While research on this question remains scant, several recent studies support this conclusion (Lichtenstein, 2002; Somers et al., 1999; St. John et al., 2000b). Conclusions on the question of how loans – and aid in general – affect student persistence across race and ethnicity are further confounded by the relatively higher concentrations of students of color in institutions with lower retention rates overall.

Because loans have to be repaid, the possibility of self-selection bias influencing any analysis of the impact of student loans is great. In addition, researchers who aggregate unsubsidized and subsidized loans introduce additional sources of error because the characteristics of the recipients of each form of loan can be quite different. Moreover, studies that analyze data on students enrolled in 2-year and in 4-year institutions jointly risk introducing similar problems into their analyses because these two groups of students are likely to show systematic differences in price-sensitivity and aversiveness to loans.

As we have noted, the evidence on the effects of loans is more mottled than the cumulative record on other topics. In studies that use dichotomous measures of aid and in those that employ continuous measures of the amount of aid, some studies report that loans either have no effect or a negative impact, and others report that loans have a positive effect. If we assert that treating aid as a continuous variable provides a more rigorous measure of the effects of loans on persistence, the tenuous evidence seems to suggest that loans *may* have a positive impact on persistence. However, given the number of studies with competing findings, a more conservative conclusion may be warranted: student loans appear to have a small or negligible effect on persistence. In addition, our findings indicate that debt has a negative effect on student persistence. Moreover, given the range of databases, and differences in how loans have been measured (dichotomous or continuous; unsubsidized,

subsidized, or aggregating both forms of loans), this is an area where more work is needed in order to reach a strong conclusion.

Program Design Elements: What Makes a Difference?

In recent months, public policymakers have called considerable attention to the need to simplify the process of applying for financial aid. Secretary Spellings' unfavorable comparison of the Free Application for Federal Student Aid (FAFSA) form to the standard 1040 income tax form is by now famous (U.S. Department of Education, 2006). In addition, Senator Kennedy has recently called for simplification of the federal application process: "Today, 1.5 million lower-income students who are likely eligible for Pell Grants are not receiving them because these students don't apply for federal student aid. It's clear that the difficulty of filling out the FAFSA is a major cause" (2007). If simplifications and design improvements of financial aid forms can help make college more accessible, it is logical that such changes might also help increase student persistence. For this reason, we made an effort to see if there are studies that examine the effects of program design elements on student persistence.

Not surprisingly, given the requirements of such an undertaking, very little research has been done on how design elements of aid programs affect student persistence. What research there is focuses primarily on enrollment (e.g., see Kane's (1999) simulations). St. John (2004b) includes a review of design elements among other things, but his primary focus is not on the effects of design elements on student persistence.

Because there are so few studies that examine this question, the evidence is meager, though intriguing. DesJardins et al. (2002a), using an institutional data set, model the effects of front-loading and financial aid strategies that eliminate all loans. Simulating the "Princeton" approach, they find that eliminating loans has a modest positive effect on reenrollment. Ultimately, however, they report that a "modified" form of front-loading – one that provides loans equal to the value of scholarships originally awarded in the third, fourth, and fifth years of enrollment, while front-loading all scholarship aid to the first 2 years – is most effective of the three scenarios tested. The authors' simulation of "pure" front-loading of scholarships to the first 2 years of enrollment also produces a modest, though smaller, positive effect.

One of the most interesting findings among these studies shows empirical support for the conclusion that large, visible programs that are easy to understand and that incorporate extensive information and early commitments of aid have a small, positive effect on persistence. Programs such as Georgia's HOPE, Indiana's Twenty-first Century Scholars, Social Security Tuition Benefits, and Nevada's Millennium Scholarship compare favorably with programs that provide similar amounts of money but through multiple sources (multiple forms of grants, subsidized and unsubsidized loans, and college work-study). Herzog (2005), writing on the Millennium Scholarship program, supports this point:

> [A]fter re-enrolling in spring, freshmen who depend solely on the state funded Millennium Scholarship are twice as likely to return compared to students with combined aid packages. Being able to count on one, comparatively reliable source of support, which covers the entire tuition, may be a distinct advantage to students who like to avoid having to rely on multiple, less certain funding sources that involve a greater amount of application paperwork. (p. 917)

Overall there is little evidence on this topic, thus, it is impossible to make conclusive statements. However, given the level of current interest, more simulation work like that of DesJardins et al. (2002a) should be encouraged and funded. In addition, research results indicate that the expansion and replication of programs that combine early commitment of aid with a far-reaching but simple structure would likely enhance student persistence.

Debt – Does It Matter?

Most of the reviewed literature on debt load reveals that as the amount of debt increases, the probability of persisting at a 4-year college decreases (Cofer and Somers, 1999; Dowd and Coury, 2006; DuBrock and Fenske 2000; Somers et al., 1999, 2004; Somers and Cofer, 1997). However, when we reviewed the evidence in more detail, exceptions and mixed results became noticeable. While some studies look directly at the effects of debt for further study and graduate degree attainment, such studies were not reviewed because the main focus of this report centers on undergraduate persistence. Other studies provide moderate to weak empirical evidence in relation to persistence and loan debt.

Cofer and Somers (1999) looked at the loan programs and their effects on within-year persistence in general. Their study reveals that for 2-year institutions high debt is negatively associated with persistence for the NPSAS:93 cohort. However, it is positively associated with persistence for the NPSAS:96 cohort for 2-year institutions. This increased effect for 2-year institutions is attributed to the broadened availability of unsubsidized loan programs. For the NPSAS:96 cohort low debt is negatively associated with persistence and the authors speculate that students might be leaving because of academic problems or to reduce cost and debt accumulation. Debt burden at all levels is significantly and negatively associated with persistence decisions of students attending 4-year colleges.

Dowd and Coury (2006) also note that, ceteris paribus, loans received in the first year have a negative impact on persistence to the second year. However, loan-taking or the amount of loans show no significant influence in associate degree attainment. DuBrock and Fenske (2000) find that about 46% of all enrolled students borrow at some time during college and that the average accumulated debt load of borrowers has risen from US$5,187 in the first year to $16,640 in the fourth year. They also note that total debt load increases the probability of persistence in the first, second, and third years. Although the amount of debt has a positive impact on graduating or reenrolling for the fifth year, it is not statistically significant. The amount of unsubsidized debt is negatively associated with persistence for any year, but the results are not statistically significant.

Somers et al. (1999) claim that African American students and their families view student loan debt as the "price of admission" to the middle class. The situation is different for White students, for whom all levels of accumulated debt load are significantly and negatively associated with persistence decisions. Somers et al. (2004) reveal the same results indicating that all levels of accumulated debt load (high, medium, low) are significantly and negatively related to persistence decisions. In Somers and Cofer's (1997) qualitative study of undergraduate and graduate students, all participating students report the view that their debt would affect their financial decisions after graduation. Students also report feeling considerable pressure to earn more income in order to pay back their loans. Summarizing the literature on debt load and persistence, Turley (2005) also notes that debt load negatively influences persistence decisions of students who attend 2-year colleges.

Foreshadowing the findings on loans' effects on persistence (DesJardins et al., 2002a; Hu and St. John, 2001; St. John et al., 2000b, 2001; Singell, 2004), Simpson (1987) argues that broad use of equitable student loans will help use public resources efficiently. However, he suggests this be done while placing realistic limits on individual debt burden and the number of years for loan repayment.

In total, the preponderance of evidence reported in this section suggests that loan debt has a negative impact on persistence. However, there are too few studies on this topic for us to offer definitive conclusions.

Summing Up

Overview

In this chapter, we have examined the extant research published on the effects of financial aid on student persistence. As a mechanism for controlling for quality, we reviewed only articles published in the most highly respected professional journals, and because financial aid policies have changed so much over time we limited our review to studies published after 1990. Many of our findings are consistent with other reviews of the impact of aid on student persistence (see, for example, St. John, 2004b; Pascarella and Terenzini, 2005). However, this review sheds new light on the effects of financial aid for many reasons. We have looked with particular care at how the types of data sets and the analytical tools employed influence the outcomes of studies of financial aid and persistence. We have also tried to tease out important distinctions – between the effects of need- and merit-based financial aid, for example, as well as the effects of loans and college work-study. In addition, we have searched for evidence that program design features and the amount of student debt might independently influence the effects of financial aid on persistence. These additional dimensions in our approach have enabled us to identify some of the nuances of this line of inquiry that to date have not been fully revealed or explored.

In summing up we discuss the effects of student financial aid on student persistence. We qualify our conclusions with words like "it appears," "in most cases," or "the preponderance of evidence" because not all studies report similar findings and we cannot be certain of how data limitations, types of analyses, or even the time frame of the studies may account for some of these findings.

The evidence from our review demonstrates that all forms of grants, in most instances, have a positive influence on student persistence. This conclusion, however, would require more research in order to state this with certainty. The cumulative evidence suggests that both grants and college work-study have a greater positive impact on persistence than loans. There are fewer studies that examine the unique effects of work-study but it is possible that college work-study has an even greater impact on persistence than grants. When we isolate the unique effects of merit- and need-based grants, both types of aid appear to have a more positive impact than shown in studies that treat all forms of grant as a single variable. The studies that look separately at both forms of grants primarily use institutional data sets as opposed to state or national data sets, and this may at least in part explain why we found these differences. It is important to state explicitly our finding that the receipt of larger amounts of financial aid has a greater positive impact on persistence than smaller amounts of aid. This finding sets the stage for a subsequent conclusion we advance later in this summary.

Some of the differences we found between national and state studies, in comparison to institutional studies, raise the possibility that richer understandings of the full range of financial aid to which students have access lead to different results. It suggests that future efforts to use national or state databases need to focus on developing detailed understandings of the nature of the awards that students receive.

When we turn our attention to the effects of loans and debt, an interesting pattern emerges. First, our review suggests that loans do not have a pronounced effect on student persistence. When considered in tandem with the conclusion that debt has a negative impact on persistence, our findings suggest that loans, at least as currently structured, are not a good financial aid tool for enhancing student persistence.

Digging Deeper and Thinking More Broadly

As we probed deeper into the literature, other patterns emerged to inform our understanding of the impacts of student financial aid on student persistence. Some of the investigations undertaken in the last 7 years have employed more complex analytical techniques such as two-stage models, time series analyses, or the use of instrumental variable techniques which appear to reveal more intricate relationships. There are too few of these studies, however, to make definitive statements based on them. Collectively, they suggest that financial aid may have its greatest impact on the initial enrollment decisions of students. To the extent that aid has an impact on

persistence, the effects are more pronounced in the first and second years of college. These newer studies lead to two possible, more nuanced explanations of the effects of financial aid. When we add measures of student integration, the effects of financial aid may be more indirect than direct; that is to say, adequate financial aid may enable students to be more engaged in activities that lead to greater academic or social integration. Alternatively, the results may reveal that financial aid simply attracts students that possess unobservable characteristics that make them more likely to persist. It is also possible that both of these explanations are to some extent accurate. One suggestion we offer is for scholars to make more specific note of the limitations of their analyses. Given the potential effects of student integration variables and the need to better account for self-selection, both scholars and consumers of these studies need to resist sidestepping more complicated explanations for how financial aid impacts persistence.

Our investigation also raises many questions about the definitions of persistence, the construction of financial aid variables, and the use of a wide range of analytical techniques. We found no studies that are direct attempts to replicate previous studies. We found studies in which authors use the same data and very similar analytical techniques, but arrive at significantly different results because of seemingly slight differences in the treatment of variables. We also found instances in several studies in which a failure to be more inclusive in examining previous research on the effects of aid results in unnecessarily limiting insights into the strengths and limitations of these investigations.

We searched for evidence that design features of financial aid might exert an influence on persistence. There are few studies that examine this question, so the evidence is meager, but intriguing. As we note earlier in this chapter, DesJardins et al. (2002a) find that replacing loans with scholarships in the same amount does have a modest positive effect on reenrollment. But this single study conducted at a public flagship institution is not representative of the types of institutions where the majority of students are currently enrolled. Thus, without a great deal more research, policymakers lack sufficient information about the potential benefits of front-loading.

Though the record is limited, we found evidence that points to the conclusion that large, visible, and easy to understand financial aid programs have a small positive effect on student persistence when compared with programs that provide similar amounts of money but through multiple sources (multiple forms of grants, subsidized and unsubsidized loans, and college work-study). Although not enough research has been conducted on the persistence effects of programs like those mentioned in our review, each of these programs (HOPE, Millennium, and Twenty-first Century Scholars) combine elements of aid programs that have been found to influence student persistence. However, it is unlikely that the federal government will be able to find the resources necessary to launch a large-scale, national, single-source grant program. Although it is beyond the warrant of this chapter to explore this in detail, we posit that income-contingent repayment and loan forgiveness programs may be viable alternatives to a large-scale national grant program. This future-oriented approach could offer income-contingent repayment plans or loan forgiveness

programs that help reduce the risk aversion resulting from uncertain future repayment abilities and financial capabilities (Kane, 1999). Under this approach, individual students would have more discretion and self-efficacy in financing their college education, which could enhance their educational motivation and attainment. Such a program could help to offset some of the problems that undermine the effectiveness of loans as a form of financial aid and could be viewed as a large single-source financial aid program.

Final Policy Recommendations

Our review of the impact of financial aid on persistence leads us finally to some policy considerations:

1. However large or small the effects of financial aid on persistence, grants have a more positive impact than loans.
2. Although more research should be done on college work-study, there is sufficient evidence to indicate that it may be a promising tool for enhancing persistence and that it deserves more institutional and public policy attention.
3. Although we have few studies in this area, there is an intriguing pattern of findings suggesting that large single-aid-source programs may have more impact than the myriad federal programs that currently exist.
4. As currently structured, loan programs have a small or negligible impact on persistence from year to year and debt has a negative effect on persistence. If one of the policy goals of financial aid is to enhance student persistence, loans are a poor vehicle for achieving this objective. Our review leads us to propose, furthermore, that income-contingent repayment and loan forgiveness programs would help to offset some of the problems that undermine the effectiveness of loans as a form of financial aid.
5. Overall, financial aid has a positive effect on persistence. However, the effect sizes seem most likely to be small and indirect. In addition, because there are so few studies that deal with issues of self-selection and problems with the endogeneity of some forms of financial aid, we acknowledge that it is likely that there is a sizable number of students who would not have enrolled in postsecondary education without assurances of financial aid and that, once enrolled, many of these students persist and graduate.

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Enter the Dragon? China's Higher Education Returns to the World Community: The Case of the Peking University Personnel Reforms

Rui Yang

Introduction

Peking University , colloquially known in Chinese as *Beida*, is usually seen as the best and most prestigious university in China. It is also viewed by many as the first modern university in China. The university has always been closely linked to China's modernization. Aiming to rank among the world's best universities in the coming decades, its leadership places great emphasis on internationalization as a strategy to move toward this goal. At the celebration of the university's 100th anniversary, the then Chinese President and the General Secretary of the Chinese Communist Party elaborated the government's policy of "education and science to revitalize the nation," and called for China to establish world-class universities. He urged Peking University to lead the way.

Against such a policy backdrop, the university planned a radical overhaul of its faculty appointment and promotion policies in 2004. The reforms go far beyond the sphere of personnel itself, touching upon the crux of China's university education since the early twentieth century: a successful adaptation of European–American education systems has not been matched by continuity with the traditional Chinese spirit of higher learning. Despite the fact that there has been no shortage of an awareness of the need for such a match, the practice has always been particularly tortuous. The development of Peking University is a vivid portrayal of the issues in China's modern higher education (Hayhoe, 2005; Weston, 2004).

In today's China, discussions of university reforms necessarily involve tensions between short-term targets and fundamental educational goals, the ideal and the reality, the Chinese and the Western, the individual and the society. This chapter seeks to use the most recent personnel reforms at Peking University as an example to assess the costs and benefits of China's higher education reform in a context of globalization. A key question concerns the interfaces between the local, the national, and the international within the changing context (Marginson and Rhoades, 2002). China, as the largest country in the world with a sufficient center of gravity to operate with relative autonomy, is a particularly instructive case for analysis. Its repositioning in the global context is of major importance for the world. The reentry of Chinese higher education into the world community is an increasingly important event to both sides (Yang, 2002). The experience of proposed reforms at Peking

University is enlightening in helping to identify directions and dynamics for the present Chinese university reforms. This chapter, unlike many studies of modern Chinese higher education reforms that focus almost exclusively on the post-1949 era, represents a deliberate attempt to trace current practices to their historical roots. It tries to break through the 1949 barrier to embrace the entire century. It reviews the remarkable historical achievements of Peking University and delves deep into the current reform endeavors.

History and Impact of Peking University

The subject of Peking University's early history is of wider interest than a purely historical one (Hayhoe, 2005). This is because the university was where Western and Chinese educational, cultural, and intellectual traditions met and were debated with a sustained depth and intensity by scholars steeped in China's own knowledge traditions, yet also holding doctoral degrees in philosophy, education, political science, and sociology from top universities in Europe and North America. Many prominent scholars including John Dewey, Bertrand Russell, and Rabindranath Tagore visited and gave lectures at the university in the early decades of the twentieth century. It was a place for Chinese intellectuals to craft a new base of authority to enable them to increase their influence in national affairs after the demise of the imperial examinations in 1905 and the collapse of the Qing dynasty in 1911 (Weston, 2004).

The predecessor of Peking University, the Capital College of the Qing Dynasty, was founded on June 11, 1898 (Wang and Guo, 2000), according to an order by Emperor Guang Xu. The College did not operate until December 30 due to the abortion of the One Hundred Days of Reform. It was then both the most prestigious institution of higher learning and the highest administrative organization of education in China. Yan Fu (1854–1921) was appointed to preside over it after the Qing dynasty perished in February 1912. In May 1912, the Capital College was renamed Peking University, and Yan Fu became the first president. By 1919, it had developed into the country's largest institution of higher learning, with 14 departments and an enrollment of more than 2,000 students. After the outbreak of the Second Sino-Japanese War in 1937, and the resulting expansion of Japanese territorial control in east China, the university moved to Changsha and formed the Changsha Temporary University along with Tsinghua University and Nankai University. In 1938, the three institutions moved to Kunming and formed the National Southwestern United University. In 1946, after World War II, the university moved back to Beijing, with faculties of arts, science, law, medicine, engineering, and agriculture; a research institute for humanities; and a total of 3,000 students.

After the People's Republic of China (PRC) was established in 1949, Yenching University was merged into the university and the university lost its "national" appellation to reflect the fact that all universities under the new socialist state would be public. In the early 1950s, the government carried out a nationwide readjustment of colleges and universities with the aim of promoting higher education and quickening the training of personnel with specialized knowledge and skills, by pooling the

country's workforce and material resources. The university lost its engineering, medical, and agricultural faculties and was forced into the Soviet mould of "comprehensive university," with departments only in the pure sciences and arts. Its graduates typically became researchers, writers, and university teachers. In 1952, the university moved from downtown Beijing to the former Yenching campus. By 1962, the total enrollment had grown to 10,671 undergraduate and 280 graduate students. In 2000, Beijing Medical University was merged into the university and became the university's health science campus.

The university is now a comprehensive and national institution, consisting of 30 colleges and 12 departments, with 93 specialties for undergraduates, two specialties for the second Bachelor's degree, 199 Master's programs, 173 Doctoral programs, 216 research institutes or centers, including two national engineering research centers, 81 key national disciplines, and 12 national key laboratories. Traditionally strong in basic sciences, the university now pays increasing attention to the applied sciences. Its library is the largest of its kind in Asia.

The prominence of Peking University owes much to the charismatic chancellor, Cai Yuanpei (1868–1940), who formed the fundamental character of the university. Cai's exceptional scholarly standing as a Hanlin academician, his intellectual experience with German thinkers, his translation of Oswald Kulpe's synthesis of Hegel, Kant, and Hartmann into Chinese before his first visit to Germany, his two extended stays at the University of Leipzig, studying under psychologist Wilhelm Wundt, his major translation of philosopher Friederich Paulsen's System of Ethics, and his interest in Wilhelm von Humboldt's model of the university, combined to create a transcendental approach to knowledge, making it possible for him to be even-handed with respect to both Chinese and Western learning (Lin, 2005). These factors together positioned him perfectly for leading the university. His momentous years transformed the university from an official institution of the Qing dynasty, already rotten in thought and action despite the fact it had been established only recently, into a modern institution independent from government.

The university developed frameworks to enable Chinese and Western knowledge to coexist, particularly the humanities and social sciences. This was achieved under the guidance of a series of presidents including Yan Fu, Cai Yuanpei, and Hu Shi, who were either educated in Western fields of knowledge or specialists in Chinese learning, all thinking about the classical heritage in new ways, and who consciously fashioned the university as a center of cultural transformation. Under such leadership, the academic achievements were remarkable. Among them were the syntheses of Chinese and Western learning created by philosophers Liang Shuming and Xiong Shili. Liang developed his prototypes of the Chinese, the Indian, and the Western cultures as successive stages in human civilization, and saw the uniquely balanced blend of materialism and spirituality of Confucianism as a vital direction in the long-term future of world philosophical trends. Xiong developed a philosophical system to integrate elements of Buddhism, Confucianism, and Bergsonian vitalism. He saw the material world as in constant flux and envisioned a continuum between spiritual and material forms. Both theories have become increasingly relevant in today's discussions of the human future and thus internationally influential. Another example is the intellectuals from Peking University who led the New

Culture Movement and the May Fourth Movement. They combined traditional prerogatives with their calls for Western-style republican rights.

Compared with its reputation within the Chinese system, the university's standing in the world community is more disputable. In 2004, the World University Rankings conducted by the UK-based *Times Higher Education Supplement* listed Peking University as 17th in the world. The *Times* rankings have continued to rank Peking University highly: 14th in 2006 and 36th in 2007. In contrast, the annual Academic Ranking of World Universities by the Graduate School of Education (previously the Institute of Higher Education) at Shanghai Jiaotong University (2007) shows convincingly that in terms of research strength, Peking is ranked within the top 203–304. In the most recent 2007 rankings, Peking University was the 228th in the world.

The story would be completely different if academic reputation and actual influence were counted. In its 110 years of history, Peking University has trained numerous students and postgraduates, who are now scattered all over China. The bulk of them have become pillars of all aspects of society. Some have developed into statesmen, social activists, scholars, professors, scientists, writers, and managers of enterprises. The following comments made by Professor Chen Pingyuan from the Chinese Department during the centenary celebrations are illustrative:

> Universities have their own contributions to their societies. In terms of teaching and research, Peking University is not world-class yet. Where Peking University excelled was its impact on China's ideological and cultural developments throughout the 20th century. Its role in China's modernization process could well be beyond the reach of many world-class universities. … With regard to contributions to human civilization, very few universities in the world can compete with Peking University. This is because at this crucial moment when an old eastern giant country is rising, a university that can function as profoundly as Peking University does is extremely rare. (Chen, 2006, p. 114)

Contextual Factors of Peking University Personnel Reforms

The personnel reforms at Peking University did not operate in isolation. A number of contextual factors have exerted strong and direct influence on the reforms. They include the international situation of globalization and the changing higher education governance, the domestic social and policy context, and China's most recent move to build up world-class universities.

Globalization and the Changing Governance in Higher Education

Globalization, with its characteristic compression of time and space, is seen as the most fundamental challenge confronting higher education in its history (Scott, 2000). In response, higher education systems have undergone significant restructuring. Similar pressures, procedures, and organizational patterns increasingly govern higher education in nations with different social, historical, and economic

characteristics (Schugurensky, 1999). While the actual dynamics and pace of change has varied across national systems, recent policy changes implemented by governments in many countries are shifting from social democratic to neoliberal orientations. This shift is manifest most clearly in privatization policies, which assume that reliance on market dynamics is the most appropriate way of responding to the various crises facing states responsible for governing education. At the core of the changes is a redefinition of relationships between the university, the state, and the market. Neoliberal policies advocate a paradoxical mixture of deregulation and regulation of higher education and put the whole idea of autonomy for universities and academics into question in many countries across the globe (Ordorika, 2003). Modern universities have been subjected to intense pressure to change, from government authorities, students, employers, professional associations, and other external stakeholders. New requirements of policy and governance have emerged, resulting in the corporatization and marketization of higher education and greater demand for accountability.

There has been a global ascendance of market thinking and a growing emphasis on increasing the role of the private sector in higher education. Policies of neoliberal restructuring have become a core component of a new discourse of development, driven largely by market principles (Rizvi, 2004). This challenges the traditional condition of higher education as a *public good* and replaces it with the idea that higher education should be thought of as customer-focused business enterprises and "self-seeking corporations responsible for their own outcomes" (Marginson, 2006a, p. 12). The pursuit of economic benefits becomes the essential and prioritized goal for higher education, threatening the status of the original educational purpose that higher education should strive for, but also, to a certain extent, reducing the university's autonomy and academic freedom.

Neoliberal globalization promotes a distinct new world order which has revamped the role of governments and cut back the scope of their work. There is a fundamental change in the philosophy of higher education governance and the way universities are managed. The questioning of the state's ability to continue monopolizing the provision of higher education has led to the transformation of the state from "big government, small individual" to "small government, big individual" (Flynn, 1997, pp. 19–20). Different approaches have been adopted to improve the efficiency and effectiveness of higher education provision. Universities encounter far more challenges, are subjected to an unprecedented level of external scrutiny, and are much more governed by market ideologies and the corporate discourse of efficiency and effectiveness (Slaughter and Leslie, 1997). Market ideologies have burgeoned in the Chinese higher education sector, especially since China's entry into the World Trade Organization (WTO). The influence of supranational organizations is increasing. Over the last 2 decades, China has shared with many other countries the opening of universities to much greater public scrutiny and an expansion of expectations by both governments and societies, as the sector itself expands toward mass higher education (Yang, 2004). Greater accountability to external constituencies means that some of the traditional values of universities are being challenged (Kennedy, 2003).

Commodification of Education in China

Closely related to the neoliberal globalization is commodification. These terms share the belief in market ideologies; the attempt to introduce the language, logic, and principles of private market exchange into public institutions; and the control of corporate culture over every aspect of life. "Capital is in command of the world order as never before" (McLaren, 2005, p. 27). Economism comes to define the purpose and potential of education. The objective is to make public universities into commodity-producing enterprises – a process Rikowski (2003) referred to as "capitalization."

Commodification happens at administrative and instrumental levels. The administrative level requires running the institution like an enterprise, focusing on budgetary cost–effect, seeking resources, product evaluation, and corresponding adjustment, instituting new hiring policies, and forging a new relationship between teachers and students. The instrumental level treats the whole process of teaching and learning as cost–effect-driven, focusing on learning/teaching as a necessary step for producing a product, readjusting the purposes of learning and teaching, enforcing depersonalization in the whole process of learning/teaching, and creating utility-oriented curricular objectives. China's education policy, management, and governance are pressured to improve service delivery and better governance (Kaufmann et al., 2005). Chinese universities once relied entirely on government funding and their management was highly centralized by the state. Now they have been pushed by the government to change their governance paradigm to adopt a doctrine characterized by freedom and markets (Apple, 2000). The universities are also encouraged by government to engage in non-state sectors, including the market, the community, the third sector, and civil society (Meyer and Boyd, 2001).

It is now politically correct in China to advocate market-driven reforms in education. Good public schools are being sold to private owners in the name of economic reforms. The dominant view underlying China's policymaking is that it respects the laws of a market economy including business-style management, market-oriented operations, and commercially viable products. Such a view is favored by mainstream Chinese economists, who argue that it is correct to run education as an industry in order to lead China's education onto the right path. Issues involving supply and demand must be handled according to market rules, and education is no exception. They also stress that *user pays* educational development is an effective way to stimulate consumption and investment and hence economic growth (Lao, 2003).

The most prominent theme of China's education reforms has been building close links between education and the market. The 1985 Decision on the Reform of the Educational Structure reinforced this trend. As the market gained more significance in China, especially in the more developed costal and urban areas, more substantial reform policies were introduced to make structural changes in education, including the Program for Education Reform and Development in China (1993) and the Education Act of the People's Republic of China (1995). China's education policies are produced by economists to "meet the needs of a socialist economy." In 1992,

the Decision on the Development of Tertiary Industry stated clearly that education was part of tertiary industry and those who owned it and invested in it would benefit. The government raised the idea of education as a stimulus for economic growth in the Decision on Further Educational Reform to Promote Quality Education in 1999. Private investment on education was strongly encouraged. The Decision on Reform and Development of Basic Education in 2001 and the Decision on Further Reform of Basic Education in Rural Areas in 2002 provided further basis for the transfer of ownership from public to private.

The dramatic trend toward commercialization of education in China has mainly materialized in the mushrooming for-profit educational institutions, from primary schools to universities. As commercialization of education is an initiative of the Chinese government, education fees are a logical consequence of state policies. Universities are seen and managed differently. The commodification of education also involves changes in the meaning and experience of education: what it means to be a teacher and a learner.

Chinese Quest for World-Class Status Universities

Mohrman (2008) rightly points out that China's bid for world-class universities is similar to its accession to the WTO and its hosting of the 2008 Olympics. China is seeking the respect of others. What she does not elaborate is that the move is also a sign of the rise in Chinese nationalism. To gain international recognition in higher education would enable Chinese people to feel proud. It would help to wipe out the humiliation brought about by Western powers in the nineteenth and twentieth centuries. The drive to create world-class universities indicates a change in the frame of reference in higher education policy; a fervent embrace of international norms, especially in the top layer of universities. Chinese universities once competed between themselves without looking out at their international peers. Only in the last decade have the top universities embraced a larger international sense of themselves (Marginson, 2006a).

The quest for world-class universities also reflects the larger changes in Chinese society, as China moves to engage with the outside world and reforms its economy to adopt market principles. To strive for world-class universities has been designated as one of China's key policy positions. Believing that first-class universities increasingly reflect a nation's overall power, the Chinese government is now committed to strategically promoting a group of Chinese universities with the potential to enter the world-class league within a decade and is investing heavily in them. It wants to attract the world's best scholars to build first-class research institutions and is eyeing particularly the Chinese knowledge diaspora. The desire to have internationally competitive universities provides impetus for China's best institutions to follow the lead of European and North American universities, from curriculum to financial practices to new governance structures. However, as observed by Mohrman (2005), the notion of world-class status within China seems largely

imitative rather than creative. In striving for international standing, top Chinese universities compare themselves with Oxford and Yale, although they lack the centuries-long history and financial resources of Western universities.

The Evolution of, and Contention over, the Personnel Reforms

On May 12, 2003, the drafting committee of the personnel reform working team at Peking University approved the first draft of its reform proposal, *Peking University Teacher Recruitment and Promotion Reform Plan (Draft for Soliciting Comments)*. Peking University then released the draft throughout its campus for comment. The reform proposal generated a great deal of controversy. It was listed as one of the most influential events of 2003 at the university (Wang and Zhou, 2005). Indeed, it was hotly debated in the academic circles nationwide, and even attracted international attention, especially among the Chinese diaspora around the world. The responses were far beyond Peking University managers' expectations, as was acknowledged by Min (2004b). Min Weifang was the University Communist Party Secretary, the university's executive vice president and also the Chairman of its Council, with a Ph.D. in the economics of education from Stanford University.

The Evolution of the Reforms

The winter vacation work meeting of Peking University senior managers in late January 2003 identified personnel policy as a primary target for educational reform. It made decisions on a few general principles, including removal of the long-standing de facto tenure of *iron rice bowl* (a Chinese term used to refer to an occupation with guaranteed job security, as well as steady income and benefits), avoiding academic inbreeding, and setting a limit to faculty members. After the meeting, a panel for personnel reform was established. It was headed by president Xu Zhihong. Vice President Lin Jiuxiang was deputy leader, and it included vice presidents Wu Zhipan and Lin Jianhua, director of Personnel Department Zhou Yueming, assistant to the president and executive associate director of Guanghua Institute of Management Zhang Weiying, and vice director Ke Yang of the Department of Medicine. An implementation panel headed by Zhang Weiying was set up, with designated responsibility for drafting the reform proposal (Shu, 2004).

The first draft was finally approved by the drafting committee after amending nine previous drafts and the university released it in May 2003. According to Zhang (2003), the rationales for the proposed reform were multidimensional. First, in order to achieve Peking University's goal of becoming an institution of world-class status by 2015, the university must have a world-class teaching and research force. There was a mismatch between the selectivity of students and their teachers: while Peking University always enrolled the best students nationwide, faculty members were only second class. Secondly, the achievement of the university was perceived

as low by the national and Beijing municipal governments, and probably by the wider society (Wang and Zhou, 2005).

The Plan consisted of two parts: fundamental principles and suggestions for implementation. The eight fundamental principles were:

1. Faculty recruitment and promotion reforms should introduce competition. Faculty recruitment should be on a merit basis and open to national and international candidates.
2. Faculty recruitment must be open, fair, and transparent, with term contracts.
3. Academic ranks include assistant lecturer, lecturer, associate professor, and professor.
4. To encourage the participation of professors in recruitment and promotion, the university will set up professorial boards for academic assessment. All professors in a department/school will be involved in recruiting new members and promoting current members. The external role in peer review will be strengthened, according to international practice.
5. To energize teaching and research staff, and lift the academic level and competitiveness, the university will regulate the number and timing of promotion applications from lecturers and associate professors. Further, there will be a merit-based competition for the positions, with one third lecturers and one fourth associate professors facing dismissal.
6. In principle, Peking University graduates from the same academic unit will not be directly recruited as faculty members upon their graduation. Continuing efforts are needed to improve the level of faculty qualifications. Newly recruited members must have a doctoral degree (or the highest degree in their fields).
7. Regular evaluation of the teaching and research performances of all relevant units will be conducted to improve academic achievement and academics themselves, and uplift the overall efficiency of the university. Those repeatedly failing to meet requirements will be given a specified time to improve their performance, restructured, or possibly eliminated.
8. The university will strengthen assessment of faculty members, and their work ethic.

There were 38 implementation suggestions in four groups: administration of academic positions, policies of recruitment and promotion, criteria for recruitment and promotion, and the organization and procedures for recruitment and promotion:

The Administration of Academic Positions

(a) Peking University manages faculty members differently based on the nature of the posts.
(b) There are two types of faculty members: teaching and research, and teaching only.
(c) Full professors hold tenure until retirement.
(d) The assessment and promotion of teaching-only faculty members is mainly based on their teaching performance.

Policies of Recruitment and Promotion

(a) Peking University adopts open recruitment for all academic posts. The precondition for new recruitment is vacancies. For departments/schools already with a full quota of full professors, recruitment should be approved by the university. In order to optimize resources and fully utilize faculty, the university encourages joint recruitment between departments/schools.

(b) Posts for lecturers are open nationally. Vacancies at associate and full professor levels are open externally and internally. Starting from 2003, half of the vacancies at full professor level are open to external applicants. Such vacancies must not be used for internal promotion.

(c) From 2003, academic units should no longer recruit new members from their own graduates of that year. Those that cannot achieve this immediately should report to the university the proportion of new recruits who are their own graduates. They should only proceed after approval is granted, and should gradually reduce the proportion to zero.

(d) Newly appointed faculty members must hold doctoral degrees (or the highest degree in their fields). New doctoral graduates should be appointed as lecturers in principle. Associate professors aged 40 and below and professors aged 45 and below currently working at Peking University have to obtain their doctorates before applying for promotion.

(e) Appointments at lecturer and associate professor levels after 2003 are on a fixed-term contract basis. Each term is 3 years. Lecturers can have at most two terms (6 years) at the level. Associate professors in science and medicine can at most have three terms (9 years); Associate professors in humanities and social sciences at most four terms (12 years).

(f) Newly appointed lecturers, after 2 years, have two opportunities for promotion to associate professor level within the contract period. Newly appointed associate professors, after 5 years, have two opportunities to be promoted to full professor within the contract period. The second application must be at least 1 year after an unsuccessful first application. If the second application is unsuccessful, whether the original contract has expired or not the contract terminates 1 year later. No continuing contract is offered. If the application for promotion is successful, a new contract is granted based on the new post.

(g) Each academic unit should assess their faculty members half a year before their contracts expire, and based on the assessment decide whether or not to continue the contracts. They should report their recommendation to the university's human resources department.

(h) Current faculty members (those with Peking University by 2003) are appointed by their academic units at their current levels, transferring into the new series of posts.

(i) Of current faculty, of those with bachelor degrees who have worked at that level for 6 years, and those with Master's who have worked at that level for 3 years, if they fail promotion to lecturer their contracts are terminated. For those assistant lecturers who have already reached the maximum length, they can have 1 extra year before required to leave their posts.

(j) Current lecturers working at Peking University for less than 2 years can, at most, apply for promotion to associate professor level twice within their service period of 2–7 years. Those who have been working at Peking University for 3–5 years can, at most, apply for promotion to associate professor level twice within their service period of 8 years. Those who have been working at Peking University for 6 and more years can apply for promotion to associate professor level once within 3 years starting from 2003. For all current lecturers with 0–5 years working experience at the level, their second promotion application must be 1 year after their unsuccessful first application. If they fail to obtain their promotion, they are required to leave their posts 1 year after the date of notice from the university.

(k) Starting from 2003, current associate professors working at Peking University have at most two opportunities to be promoted to full professor level based on the following:

- In science, medicine and engineering, those with 2 years or less experience within their 5–10 years service period; those with 3–5 years experience within their 5–12 years service period; those with 6 years and more experience within their 13 years service period.
- In the humanities and social sciences, those with 2 years or less experience within their 5–13 years service period; those with 3–5 years experience within their 5–14 years service period; those with 6 years and more experience within their 15 years service period.
- If the first application for promotion fails, the second promotion application must be 1 year after their unsuccessful first application. Those who had applied twice for promotion to full professor level and failed before 2003 can only apply once after 2003. Those who fail to be promoted to full professor level within the above service periods are required to leave their posts 1 year after the date of notice from the university.

(l) Faculty members obtain tenure after being promoted to full professor level and continue to work at Peking University until the retirement age set by the university. The university assesses their performance on a regular basis. Those failing to meet the criteria consecutively for 3 years will be required to leave their posts. The university allows them to apply for position at other levels. They are assessed against the requirements for such positions and if successful, sign new contracts. They can also leave the university.

(m) Teaching and research staff can apply for teaching only posts.

(n) Under two circumstances the university can dismiss the concerned faculty members including those with tenure: behaviors that break teachers' regulations or involve illegal activities; and those whose academic units have been disbanded.

(o) All full-time faculty appointed by Peking University must complete their tasks during work hours. Without the permission of the university, they must not hold substantial positions elsewhere, unrelated to university duties. Otherwise, they will be dismissed.

Criteria for Recruitment and Promotion

(a) Both recruitment and promotion must adhere to the principle that the main focus is on scholarship, with some attention also to teaching performance and social service. The maintenance of academic standards relies on a competitive mechanism, strict checks by the academic committees at all levels, and an ever-increasing requirement for quality.

(b) The university is guided by the principle that newly appointed associate professors and professors must have higher academic achievements than existing associate professors and professors, with the aim of progressively lifting the teaching contingent to world-class levels.

(c) Newly recruited lecturers and assistant lecturers should have solid knowledge of the theories in their academic fields. Their doctoral dissertations should make a significant contribution to new knowledge. They are expected to become excellent scholars in their fields.

(d) Newly promoted and/or appointed associate professors should publish major scholarly articles and books with significant impact. They are expected to be outstanding young scholars in their fields nationally, leading among their corresponding age groups.

(e) Newly appointed professors must be widely recognized as nationally or internationally leading scholars in their fields. Except for some special cases, newly appointed professors are expected to be able to teach in at least one foreign language.

(f) Good academic ethics have always been important in recruitment at Peking University. Academic ethics could be the sole reason to fail a recruitment and/or promotion.

(g) The academic committee of each academic unit should maintain detailed regulations regarding academic promotion, based on the general spirit of the university's reforms.

Organization and Procedures for Recruitment and Promotion

(a) The recruitment and promotion of existing faculty members should be based strictly on the procedures set by the university. It should be open, transparent, and on the basis of merit.

(b) Peking University adopts a system of administrative assessment and academic assessment in the recruitment of new faculty and promotion of existing faculty. Administrative assessment is at two levels: department/school and university. Academic assessment is at three levels: disciplines, disciplinary clusters, and university academic committee.

(c) Each academic unit should create committees responsible for recruitment.

(d) To maximize the role of professors in academic recruitment and promotion, all departments/school should set up professorial boards to provide their work units with a democratic assessment of questions of recruitment and promotion.

- Professorial boards assess the academic achievement, teaching effectiveness, potentialities and prospects of the applicant, the academic need for the applicant, and how the applicant compares with existing members in the unit at the relevant level.
- Associate professors are not qualified to be on the board for the assessment of applications for promotion to full professor level. Lecturers are not qualified to be on the board for assessment of applications for promotion to associate professor level.
- Departments/schools with more than 40 full professors can have more than one professorial board in their disciplinary areas. The department/school decides whether or not to have more than one board. If there is more than one, each board should have no fewer than 20 professors. Professors are entitled to be on any of the boards within their academic units. Each department/school can also invite professors from other departments/schools to participate in their recruitment and/or promotion assessment.

(e) Recruitment of new faculty members includes: advertising the post internationally and nationally, accepting applications, and initial selection by department/school academic committee or recruitment team. Finalists then come to Peking University for interview. This includes an academic seminar by the candidate delivered to the academic committee and other members of the interview panel, interactions between candidate and core faculty members in the department/school, solicitation of opinions widely from relevant faculty, and the opinion of the professorial board if recruitment is at associate or full professor level. The department/school academic committee or recruitment committee should decide whether the candidate is recruited. The university's human resources department provides final approval.

(f) The procedures for promoting existing faculty members include: submission of the application by the applicant (includes a summary of research work together with evidence in articles and books of the applicant's highest achievement); review reports from peers; a report on academic achievement by the applicant to the professorial board, consisting of all professors of the work unit, followed by discussion of whether the applicant has met the requirements and a vote by all board members. The department/school academic committee or recruitment committee decides whether the candidate should be recruited. The university human resources department provides final approval.

(g) Applications for new posts at full professor level, and for promotion to full professor, are assessed by peers. This is organized by each academic unit. There should be at least five peer review reports, including one to three from renowned overseas scholars.

(h) Applications should include the applicant's curriculum vitae, three references, and two to five publications by the applicant to demonstrate his or her academic achievements.

(i) Applications for promotion should be received 3 months before the academic committee members meet. The university announces the date of the

academic committee meeting and the deadlines for departments/school to submit applications, but does not provide specific timelines for applicants to apply or for the assessment at department/school level.

Composition of Academic Committees

(a) The Peking University academic committee consists of the academic committees at the department/school, disciplinary clusters, and university levels. The committees exercise their power by assessing applications for appointment and promotion. The committees at specific disciplines and disciplinary clusters are the basic assessors of the applicants' quality for appointment and/or recruitment. The university academic committee mainly makes decisions about institutional arrangements, and some major academic issues.

(b) At least one third of the academic committees at department/school level should be tenured professors from renowned universities overseas. Decisions made by the committee in the absence of overseas members are valid, except for promotions.

(c) The chairpersons and composition of the academic committees at department/school levels should be approved by the President.

The essence of Peking University's first personnel reform plan was to open up academic positions. This included a schedule to eliminate a proportion of teachers within a certain time frame, hoping the competitive mechanism of the market (especially the international academic market) would lead to improvement in the quality of teachers. The pressures for change came mainly from the government, wanting to transform Peking University into a first-class institution and providing extra financial support. The reforms were pushed forward at the highest level of the university. The approach was top-down, designed and orchestrated by economists who had completed their doctorates in major English-speaking countries (Wang and Zhou, 2005).

Although the first reform plan stirred up nationwide debate, the university's central administration was undeterred. Confronted with strong criticism and suggestions from within the university and from the wider society, and on the basis of constructive suggestions, the leading and implementation panels produced a second version of the reform plan for discussion. The university authorities also asked Zhang Weiying to post a painstaking explanation of the reasons for the six chief principles on the university's Web site. As the central administrators saw it, these were typical practices in foreign universities whether first or third class. But Peking University aimed to be first class. The reform was a crucial step toward that goal. It aimed to nurture national talent, especially world-rated innovative personnel in science and technology. The university was responsible for cultivating scientists, social activists, thinkers, and statesmen.

However, the second draft plan showed evident revisions and substantial compromises in comparison with the first version. There was an additional explanation of the legality and the legitimacy of the reform plan. It was stated that the reform would be based on the Education Act of the People's Republic of China, and the Higher Education Law. The references to the proportion for mandatory dismissal,

that is, one third of lecturers and one fourth of associate professors, were removed. In relation to the stipulation that, in principle, Peking University graduates from the same academic unit will not be directly recruited as staff members, the words "except for some special academic fields" were added. There was an additional clause stating that "those with twenty-five years of service at Peking University and within ten years of the retirement age set by the government could work at the university until their retirement." It was stated that the university planned to offer tenure to some associate professors, and accelerated promotion to some outstanding young performers. The statement that "half of the vacancies at full professor level are open to external applicants. Such vacancies must not be used as internal promotion" was deleted. The stipulation that "except for some special cases, newly appointed professors are expected to be able to teach in at least one foreign language" was eliminated. The requirement "At least one-third of the members of the academic committees at department/school level should be the tenured professors from renowned universities overseas" was replaced by "If conditions allow, departments/schools are encouraged to invite tenured professors from other renowned universities to become members of academic committees."

In sharp contrast to the responses to the first version, little attention was paid to the changes made in the second version of the personnel reform plan. The second draft represented a readjustment of interests among different groups. It aimed to stabilize the existing teaching force at the university. But the original objective, to use the market mechanism to reform teacher appointment and promotion, and through the substitution of teachers to obtain a domino effect that would restructure the academic system, ended largely in failure. As it was put by some at a meeting organized by the China Centre for Economic Research at Peking University on June 29, 2003, the "edges and corners" of reform had been worn away due to the deletion of stipulations on elimination ratios. The plan was likely to end up achieving nothing definite (Shu, 2004).

Between September and October, a third draft of the reform plan was produced and discussed at a meeting held to discuss academic staff personnel issues. According to the Peking University news network, unified understanding was reached at the meeting. Decisions were made to proceed with the reform. The university then officially issued the third draft and all academic units were required to form opinions with regard to implementation. The university's Eleventh Party Congress held on December 18–20 discussed the reform plan. However, the university authorities adopted a different strategy to that used during discussion of the first and second drafts. There was little publicity. Explanation of the plan was rare. Outside the university, it was difficult to access the text of the third version, and it remains so.

Peking University officially endorsed the Peking University Teacher Recruitment and Promotion Reform Plan on February 10, 2004, marking the official launching of the personnel reforms. According to Wang and Zhou (2005), there were many changes, especially compared with the second draft. The university adhered to the principle that talent resources are of primary importance. It was stated that faculty vacancies would be based on both overall control of staff numbers and needs at the academic unit level. It was stated that the relationship between Peking University and the appointees should be on an equal, voluntary, consultative, and unanimous

basis; and the right and duties of the university and its appointees were defined. It was stated that the university provides its faculty members with professional development opportunities. The official plan also stated that Peking University was to establish a specific committee to deal with appeals and complaints regarding academic recruitment and promotion.

In addition, full-time research positions were added into the category of academic staff. A mechanism to combine academic assessment, administrative supervision, and verification especially between different academic units was emphasized. The requirement that lecturers should be able to "make outstanding academic contributions" was dropped. There was a further classification of the requirement for associate professors with tenure, making it clear their performance should be clearly better than that of associate professors with fixed-term contracts. The stipulation that a doctoral degree was needed for promotion to full professor was eliminated. Departments/schools were granted autonomy in the setting of standards for appointing assistant lecturers and lecturers and for promotion from assistant lecturer level to lecturer level. More flexibility was granted for academics to move between academic posts of different categories (teaching only, research only, teaching and research). Departmental heads were required to be chairperson of professorial boards within the department. It was specified that the professorial board should consist of full professors and tenured associates only. The requirement in promotion applications for three to four references from renowned scholars was dropped. Current staff members who were with Peking University before the reform were given longer fixed terms.

Overall, while the final version of the reform plan managed to adhere to the basic principle of the original reform design, it was much more moderate. It made a number of concessions, and it incorporated some suggestions and criticisms, for example in relation to the rights and interests of faculty members, equality issues, and the duties and responsibilities of both university and appointees. The final reform plan left people with the impression that it started with great strength and impetus but in the end turned out to only scratch the surface.

In April 2004, implementation of the personnel reforms finally began. On April 6, the university's personnel department issued a notice on the university's Web site announcing that the university was calling for applications from scholars both within China and from overseas to fill 95 open professorial posts in the university's 28 departments and research institutes, apart from the medical school (Yuan, 2005). The recruitment was the largest, in terms of scale, in the university's history. While it was on almost all the major media, there was little reaction (Wang and Zhou, 2005, p. 32). The reforms had been set in motion and the effects remained to be seen.

The Contention Over the Reforms

Shortly after the draft plan was launched, the Beida Billboard Bulletin System was inundated with notes from both opponents and supporters. Almost all the six major

moves proposed in the draft plan were heavily criticized, and also strongly defended. The responses were fierce. Letters of complaint or support piled up on the desks of the panel members and jammed the e-mail box of President Xu Zhihong. Chinese media including the Internet, television, newspapers, and magazines carried reports and opened up special columns on this topic. Some international media carried reports and discussions of the issue. Academics from China and overseas participated in discussions organized by academic journals and professional magazines (Wang and Zhou, 2005). How could one institution's personnel reform plan, which may seem commonplace to many in Western universities, especially in the major English-speaking countries, arouse such strong concerns? First, Peking University is seen as a weather vane for higher education reform in China. It "is always linked with a sort of fervor, a moral behavior" (Shu, 2004, p. 60). Secondly, changes to personnel policy are an integral (and arguably the crucial) part of China's higher education reforms which are an important part of China's overall reform process. Thirdly, a teaching post at a Chinese higher education institution has traditionally been seen as lifelong employment, unless the employee resigns or seriously violates relevant laws or regulations.

Interestingly, the proposed reforms received strong support from other university leaders, such as Zhu (2004), president of the University of Science and Technology of China. They saw Peking University's policy as pioneering work and wanted to follow suit. The reform proposal was also well received by higher education experts including Professor Pan Maoyuan from Xiamen University and Professor Yang Dongping from Beijing University of Science and Technology. Ji Baocheng, president of Renmin University, stated that Beida's personnel system reform was an important step forward as China's higher education reform reached a critical time. He insisted that reform of the personnel system was the primary reform needed. A similar viewpoint was expressed by Hou Zixin, president of Nankai University (Yang et al., 2005).

In contrast, the most concentrated opposition came mainly from humanists and a few social scientists, especially within Peking University, or among its alumni (Chen, 2006, p. 1). The sharpest critics asked whether it was intended to reform or castrate Peking University. The issue was seen as a question of life or death concerning China's traditional culture, one of importance to the entire Chinese nation. This criticism raised the matter to the level of principles, and even accused the reform plan of breaking the law. The critics consisted mainly of young and middle-aged faculty members who were expected to be most affected. The proposed reforms would have substantially impacted the career of almost all of them. Their life tenure would have ended and up to one third of them may have had to leave their positions when the changes took effect.

President Xu Zhihong insisted that successful reforms do not have, and should not be expected to have, 100% support (Long, 2004). It would be enough if the majority of Peking University people supported them. In fact, the reforms did not lack strong supporters who connected to the passion, and the strong sense of mission and obligation, in the plan.

The Premise of the Reforms

To people at Peking University and those in Chinese higher education, the reform did not come as a surprise. Widespread dissatisfaction with how Chinese higher education institutions were performing both domestically and globally provided a clear motive for reform. In the case of Peking University, nearly all people on campus, both supporters and critics of the reforms, were critical of the current state of affairs at the university. The university's performance was seen as poor even by domestic standards. For example, in 2001 Tsinghua University produced at least 200 more publications indexed by the Science Citation Index than Peking University. The difference increased to more than 500 in 2002. About 80% of Peking University's research was produced by 20% of its academics (Zhang, 2003, p. 35). This judgment was shared by many. One established scholar and director of a major research institute at Peking University even said privately that by the standards of many research-intensive universities, only 30% of the university's full professors were up to par, let alone of world-class quality. This view summarizes the common understanding among the leaders of Peking University.

As put by Professor Chen Ping, a firm supporter of the plan, personnel reform was designed to attract people of academic excellence to accelerate the process of Peking University becoming a first-class university (Shu, 2004). The university needed "a first class teaching contingent" (Min, 2004a, p. 11). The ultimate goal was to establish a fair, just, and open platform for competition and draw talented personnel from the world over to the cultivation of talent for China. The reform also aimed to end some of the old practices of appointment and promotion in which the corrupt aspect of the Chinese *guanxi* and seniority were the main factors. After the second reform proposal was issued, President Xu Zhihong mentioned that one direct motive was the need for a mechanism for getting rid of poor-performing faculty. He stated that "the intended effect of the reform, to put it simply, is to do away with the current situation where everyone expects a lifelong tenure at the moment s/he enters Beida" (Shu, 2004, p. 64). This has been a knotty issue for higher education in China. Since the founding of the PRC, the university has maintained a personnel system that recruits faculty members mostly from its own graduates. Once graduates join the faculty, they have virtually secured positions with the university until their retirement. The proposed program borrows from the up-or-out rule observed by many universities in the United States. Its aims to attack the *iron rice bowl*. American universities give their faculty one chance whereas Peking University offers two. As explained by Zhang (2003), in most cases 6 years is long enough for a newly graduated doctorate holder to demonstrate capability. A small number of gifted people need a longer time to show their talent. They should be exempted from the rule if the recommendation to do so is sufficiently convincing. This is seen as reasonable both in practical and theoretical terms. For example, Professor Pan Maoyuan endorsed it in an interview soon after the first reform draft was issued.

Many people who criticized the reform proposal never denied the need for reform. As stated by Gan (2005a), one of the strongest critics: "It is as though the entire debate today were about whether Beida should or should not reform, but this

never was an issue in the reform! From the very outset, the debates surrounding the Beida reform were about 'how to reform,' and never about 'whether or not to reform'" (p. 62). However, since reference was often made to so-called world-class universities, especially American research universities, many related issues emerged. For example, what is a first class university? How should one judge and protect a great university's character, its history, and the spirit that goes into the very marrow of its bones? Is it possible for the university spirit to refrain from entering the market when all is led by market competition? These issues are more fundamental (Shu, 2004, p. 61). Based on different understandings of them, people formulated their rationales for the reform.

The Legitimacy of the Reforms

Of the six proposed moves, the one eliciting the most violent controversy was the regulation about eliminating unqualified faculty members. Young academics were the group least impressed by the reform plan. Compared to their colleagues at the university, this group, for a long time, had been most eager for reforms. They were also the main force both in teaching and in research work (Shu, 2004, p. 65). They questioned whether or not the university had the legal right to dismiss them. As employees of a Chinese national university, they were Chinese civil servants, belonging to the Chinese cadre system. In their daily work within the university, their treatment, including promotion, housing allowances, and medical care, were all aligned strictly with the corresponding administrative ranks of the Chinese civil service. For those with administrative roles, this was even more the case. This civil service system has been weakened and is now less emphasized. The market is being introduced into most aspects of society. In actual fact the cadre system is one of the most difficult aspects for the Chinese to reform. It is also the part that China is most keen to reform. The possible dismissal of some faculty at Peking University drew its legitimacy from a general ideology of reform, rather than specific state laws and decrees. It is worth asking the question of whether the proposed move is sufficiently grounded, in theory and in a strict legal sense.

There were not many people who asked this question, partially because years of reform rhetoric had legitimated the personnel plan, and partially because of the aforementioned widespread dissatisfaction with the current situation and especially personnel policies. However, it remains a serious issue for reformers to consider. Gan (2003, 2005a) raised this issue and questioned the Peking University authorizers, using evidence and examples from foreign countries and other Chinese universities. He cited the passing of the Education Reform Bill by the British Parliament in 1988 to illustrate the necessity for legislation by the state before actual university reforms. The intension of the British bill was to ensure that all British universities would have the power to dismiss any university professor on the ground of redundancy. He saw much similarity between the British experience and the proposed reform at Peking University, and called for

China to formulate university reform law to avoid violations of the basic rights and dignity of Chinese university teachers. He concluded that the proposed move to replace permanent appointments with fixed-term contracts did not have any legal grounds. The reform would be, according to him, illegal and therefore immature. Based on his comparison between Peking University's proposal and the British experience, he noted that it was irrational to link terms of appointment to promotion in the reform plan.

It is correct to base university reforms on a sufficient legal ground and ensure teachers' rights are well protected. However, in China's contemporary history, reforms have always been one step ahead of lawmaking. This is well acknowledged. Given such national conditions, Gan Yang sounded too idealistic. Even much needed modifications to the Education Act of the People's Republic of China and the Compulsory Education Act have just been put on the agenda. If university reforms had to wait for a law of university reforms, it might take another decade.

Another concern was about whether or not fair competition, a prerequisite for the reforms to succeed, would be guaranteed. The worry is well based given academic corruption in China (Yang, 2005). Performance assessment and promotion in Chinese universities are full of human manipulations and few are objective, honest evaluations. Often those adept in manipulation gain promotion quickly and easily. To minimize such cases, the reform plan amended the statute in two ways. It required the disbanding of any branch institute in the university if its rank in China fell out of the top ten (in some areas top five) and it introduced a board of professors as an auxiliary force to evaluate applicants for promotion. Only when an application achieved support from half the professors could the application be sent to the university academic board. This was widely welcomed, although some people questioned whether it was feasible.

The issue of the legality of the proposed personnel reform took the reformers by surprise. Due to Gan Yang's personal influence in Chinese academic circles, the question was a timely reminder. The second draft of the reform plan took the issue seriously and clearly explained the legal basis of the proposed reform. Zhang Weiying responded to Gan Yang's questioning directly. In his explanations, he wrote that "the reform was formulated with reference to the State Personnel Ministry's 'Opinions Concerning the Trial Implementation of Personnel Appointment in Public Institutions' promulgated on July 6, 2002, and in line with the actuality of Peking University" (Zhang, 2003, p. 37). The debate over the legality and legitimacy of the proposed reform was thus an important contribution to the Peking University personnel reform plan.

The Orientation of the Reforms

Some Chinese scholars outside the mainland supported the proposed personnel reform at Peking University. The strongest support came from a group at the Hong Kong University of Science and Technology (HKUST). The group consisted

of Kong Xianze, former vice president of the HKUST, Ting Pang-Hsin, Dean of the Humanities and Social Sciences Division of the HKUST, and Ding Xueliang, professor of China Studies at the Humanities and Social Sciences Division. They paid much attention to how Peking University would open up to the recruitment of overseas Chinese scholars. They emphasized the possible role of the Chinese knowledge diaspora in bringing China to the world and the world into China. They stressed the importance of external assessment especially by Chinese scholars overseas, and focused much attention on how Peking University planned to achieve this. They suggested that Peking University should connect to the international standard. Only thus could the university become the bellwether of progress toward first-rate world standards by mainland universities. Ding Xueliang (2003) remarked that the absence of overseas assessment was the weakest link in the proposed reform.

Their emphasis on conformity with international practice was challenged by others including Gan (2004, 2005b), Chen (2003a, b), Li L. (2003), and Li M. (2003). Citing Charles W. Eliot, who served as president of Harvard University for 40 years, Shu Kewen (2004), argued that a university worthy of the name must originate from native seeds and cannot be transplanted from one country to another in flourishing maturity. The development of China's universities could only, and should, be rooted in Chinese culture and society. Just as American universities are not replicas of foreign systems, Chinese universities should grow naturally in the Chinese social and political environments and manifest the aims and ambitions of the Chinese people. The questions asked included: What *are* first-rate universities? How do we foster and protect the unique history and spirit of a great university? Is it still possible to prevent erosion of the university spirit by the market? How?

Gan (2004) objects to the argument that Chinese academics must publish in English in the West to receive validation for their work. In the influential article "The Chinese Idea of Universities and the Beida Reform" he warns that because of the specious understanding of what is a world-class university, reform proposals designed to create world-class universities often ape American research universities at every step. By moving in this direction, China's universities are doomed to become "dependent fiefdoms" of American universities (p. 87). He continues:

> The fundamental problem of universities operated by Chinese is that basically there can be no mention of cultural self-confidence or cultural consciousness. In other words, they have far from established a Chinese idea of the university. (p. 86)

> The objective of reforming China's universities is to end as quickly as possible studying abroad in China and make PhDs trained in China itself the principal body of Chinese higher education – not to replace China's university teachers with American PhDs. (p. 95)

While some acclaimed the attempt to exploit the remarkable Chinese knowledge diaspora as strategic and timely in relation to the crucial next stage of knowledge economy development, Gan Yang saw it differently. In another article, he described Peking University's incentive to attract top quality academics of Chinese origin from abroad as "picking peaches" instead of "planting peach trees." He maintained that it would be almost impossible for the plan to achieve

its goal simply because there were very few scholars of Chinese descent overseas whose research standards were at the world's forefront (Gan, 2005b). Chen (2003b) disagreed with the reform plan's emphasis on English language proficiency and commented that what people who discuss university reform today lack is not an "international outlook, but an understanding of and a respect for 'traditional China' and 'modern China'" (p. 109). In a context of the neoliberal imaginary of globalization, with higher education policies seemingly converging toward a particular concatenation of neoliberal ideas (Rizvi, 2004), Chen noted there is no readymade reform system for China's universities to imitate. The European and American experiences need to undergo innovative modifications in order to be operable in China. In his view, the most crucial issue for university reform was that of the idea of the university (Chen, 2003a).

The most detailed critique of Peking University was from Li M. (2003). He argued that in the plan the attention to the differences between business and the university was superficial. The plan was based on a business logic. It treated Peking University as a state-owned enterprise, setting out to improve efficiency by introducing a mechanism of reward and punishment. The plan had little understanding of, and respect for, academic work. In Zhang's (2003) explanations of the reform plan, Peking University's glory and pride were largely set aside and Harvard University was referred to more than ten times. Li M.'s (2003) conclusion was that adoption of the economic logic could only harm Peking University's ambition to become a first-class university. Some scholars from other institutions also argued that the economic logic of the reform plan might drive faculty to work toward short-term goals and discourage those who would otherwise have concentrated undisturbed on teaching and research. One research fellow from the Chinese Academy of Social Sciences argued that under the new policy the university would not tolerate intellectuals like Cao Xueqin (1715–1763), who silently developed the masterpiece *Dream of Red Mansions* over a 10-year period. This was especially worrying to scholars in the humanities, who were concerned that the reform used the standards of American commercial, legal, and other professional institutions to measure all disciplines. This raised questions about the kind of university Peking University would become, and about the future of subjects such as literature, history, and philosophy where Peking University had enjoyed special prestige.

It was argued by Professor Sun (2005), and confirmed by Rosen (2004), that most of the supporters of the reform plan were somewhat distant from or completely unrelated to Peking University while most of those with reservations about the reform plan were directly related to the university. He stated that although the personnel system was important, it was not the highest priority for reform. What should be on the top of the agenda was the establishment of a fair and effective academic evaluation mechanism, and an attack on Chinese universities as a system in which appointment and promotion were based on rank and official authority.

The most enlightening, meaningful part of the debate was the notion of the Chinese idea of the university. The argument here is that the fundamental mission of the Chinese university is a judicious combination of learning from Western university traditions and the ideological, intellectual, cultural, and educational independence of the Chinese.

The orientation of Chinese university reforms should be toward developing such a mission. There was support for this notion on both sides of the debate. Zhang (2004) responded to it in his *The Logic of the University*, pointing out that indigenization and internationalization are two sides of the same coin, but he also warned against "narrow-minded indigenization" (p. 100). The warning was not entirely baseless. For example, Gan (2004) expressed strong academic nationalism in his discussion of the Chinese idea of the university. He ended his remarks with the following:

> Beida! Raise your proud head and throw out your noble chest! You must not follow others so abjectly and subserviently! You should walk your path with self-respect and self-confidence for the sake of the Chinese idea of university. (p. 97)

This reflected a miscalculation of global dominance. It failed to acknowledge that the global–local nexus is a twofold process of give and take: a dynamic interaction between global trends and local responses, and an exchange whereby global trends are reshaped to local ends.

Looking retrospectively, the difference between the two sides is smaller than it first looked. No one was against international exchange or learning from foreign experience. No one advocated wholesale Westernization or colonization. The difference was in practical priorities.

Issues and Observations

Peking University's draft personnel reform plan became a hot point of discussion within the campus; and after it was made public, aroused widespread attention with recriminations, encomiums, and doubts, not simply because it was arbitrary, arrogant, and irresponsible as Gan (2005a) suggested. The responses to the plan demonstrate the complexity of China's university reforms. As an import from another culture, the notion of world-class universities must be adapted to meet the specific needs of higher education and society in China. At the same time, China is transforming from a command-and-control society to a market economy. In this context the adoption of foreign models readily becomes overly simplistic.

A number of issues emerged during the process of personnel reform at Peking University that illustrate China's long-standing struggle to strike a balance between dominant Western models and the carrying forward of its own rich cultural and educational traditions. These issues will now be discussed from a historical and comparative education perspective.

The European–North American University Model

The major expansion of universities from their European and North American heartland occurred after the mid-nineteenth century, mainly through colonialism. Countries that escaped colonial domination and that established universities during

this period adopted Western (European–North American) models, in some cases jettisoning indigenous institutions, as exemplified in China (Altbach, 2001). Chinese universities have looked to their most elite American counterparts for standards, policy innovation, and solutions to their own development problems.

The proposed personnel reforms at Peking University were based almost entirely on the perceived US experience, demonstrating an acceptance of American policies and practices. In the grafting of American policies onto Chinese university structures, thought is not always given to the cultural differences involved (Mohrman, 2008). Here Gan's (2005a) double point is relevant, that Zhang Weiying exhibited on one hand a lack of experience of US higher education, and on the other hand almost total reliance on an idealized American model. Today's university reforms in China are a combination of externally imposed standards that force China to adopt international (usually Western, and often American) modes of education and administration, with voluntary and often enthusiastic acceptance of foreign standards of academic excellence. Most of the international models for reform used by Chinese universities are based on the American experience and gained through educational exchange. This is particularly the case for the most prestigious universities such as Peking. Reformers at Peking University such as Min (2004a) cited Harvard and Stanford universities almost exclusively in legitimizing their policy, stating repeatedly that American research universities were the best in the world. When Zhang (2004) enumerated the reasons for granting tenure to full professors and some outstanding associate professors, he referred to foreign experience, especially American practice – for example, his arguments that tenure of this kind would provide established professors with security so they can concentrate on long-term basic research rather than work for quick success and instant benefits, and it would give young junior academics hope and encourage them to work harder and better.

However, in the process of borrowing, the foreign tenure policy lost its meaning. According to Chen (2000) the tenure policy promoted by the American Association of University Professors created in 1915 and the UK Association of University Teachers set up in 1919 was motivated neither by the desire for economic benefits nor lifelong employment. It was designed to protect ideological and academic freedom. It was a natural part of the long-standing idea of the university and shared the same roots as the modern university. It was not a favor from university authorities or a useful tool for them. Gan (2003) offered a similar criticism of the failure of the reform plan to express a serious interest in protecting academic freedom. This failure was not accidental: it showed that the advocates of the reform lacked knowledge of the policies practiced in the United States and the United Kingdom, which ironically had been used to legitimize the reform plan. Like Chen Pingyuan, Gan Yang insisted that the tenure systems in the United States and United Kingdom were designed to protect academic freedom not advance market competition. He found that the reforms at Peking University had failed to seriously consider neither the clear and rational American system nor the sensible British system.

The wholesale adoption of US plans may not be totally appropriate for a country with a very different history and cultural traditions. At a minimum, Chinese universities could benefit from studying the problems that have plagued American universities,

learning from examples of what not to do (Mohrman, 2005). There is an urgent need for critical examination of the long-term consequences of grafting American academic practices onto a Chinese base. US higher education is rooted in its own history, culture, and needs to serve American society.

The Chinese need to look at knowledge and its production outside China more critically. Will Chinese academics continue to look outside their borders for standards of excellence, implying that Western educational norms are superior and that Chinese universities remain inferior? This practice links to the long-standing issue in Chinese education that indigenous Chinese wisdom and imported Western knowledge have never been on an equal footing. It reminds us that real knowledge is only produced by certain particular countries in particular ways (Appadurai, 2001). Currently, China is insufficiently critical of the phenomenon of Western educational systems and structures that continue to define education for the rest of the world, and by extension, define what knowledge is and who may claim competence in it.

Cai Yuanpei's Legacy

Chinese universities generally lack unique institutional features. In this respect, however, Peking University has differed from others. Cai Yuanpei advocated free-thinking principles and an all-embracing approach, now seen as the most fundamental characteristics of the university. It was Cai Yuanpei who enabled Peking University to typify the transformation of Chinese education from ancient to modern form, giving vivid expression to conflicts and integration between traditional and modern. Remolded by Cai, the university has become a Western-model university established by the government while tied in many ways to the traditional system represented by Chinese academies (Hayhoe, 1996). Cai Yuanpei wanted to combine the Chinese educational spirit, especially Confucian and Mohist character building, with Western systems. His most dramatic reform initiative was to hire leading scholars with many different views and perspectives, under the argument that "all ideas grounded in reason deserve a hearing" (Weston, 2004, p. 123). By so doing, he attracted many dynamic personalities to the university and created conditions for lively academic debates. He placed philosophy, or epistemology, at the core of the university curriculum and sought to integrate all areas of theoretical knowledge in the arts and sciences, both Chinese and Western, on a transcendental plane. Of particular importance was the way in which this approach fostered an autonomous moral stance, whereby the university could serve national development yet avoid subservience to shifting political forces.

By challenging the status quo, Cai Yuanpei was able to synthesize valuable thoughts and ideas from China and the West, making Peking University a center for free and open scholarly thinking in the early twentieth century. As the contemporary Peking University senior managers saw it, the personnel reforms were designed to carry on this legacy of challenging the status quo.

Cai's impact has been everlasting and profound. The Peking University president involved in the reforms, Professor Xu Zhihong, stated that he respected Cai Yuanpei the most of all presidents in China and abroad, as a bold and decisive education reformer:

> President Cai was indeed a great man. Doing a good job of managing Beida under those circumstances was no simple matter. In fact, quite a number of professors in those days were very bad. But he instituted bold reforms after coming to Beida and brought in from abroad many conceptions of school operation that for those days were quite advanced. He brought in a large number of professors with new thinking and genuine learning. He completely changed the face of Beida. He instituted many innovations. For instance, Professor Cai was the first person to recruit female students. We advocate education for comprehensive qualities today, but President Cai long ago advocated [all-round development of] morality, intelligence, physique, and beauty. He was quite advanced for his time, but he himself was not satisfied because his conceptions were constrained in many aspects in those times. However, his conceptions and measures laid a very good foundation for Beida's subsequent development. (Long, 2004, p. 49)

Cai Yuanpei influenced many others both around and after him. Xu's assessment has been shared by others. One was Mei Yiqi who presided over Tsinghua University from December 1931 to August 1937, and built a solid base for the university's later development. He made the following remarks about university management and Cai Yuanpei:

> In terms of managing a university, I believe I should follow Mr. Cai Yuanpei's attitude of "all-embracing" (*Jianrongbinbao*) so that we can fulfill our mission of academic freedom. The so-called "new" and "old" in the past, and today's "left" and "right", should all be explored equally and freely in universities. This was why the old Peking University became today's Peking University. This should be the focal point for Tsinghua to become a great Tsinghua University in the future. (Huang, 1995, p. 331)

Another was John Dewey, the great American educational thinker. In an essay he wrote after working at Peking University for 2 years, Dewey compared Cai Yuanpei with the then presidents of Oxford, Cambridge, Harvard, and Columbia. Dewey concluded that in terms of professional knowledge, Cai was no match for the presidents of Oxford and Cambridge universities. But in terms of education, the British presidents were no match for Cai Yuanpei. The latter had remade Peking University and turned it into China's first university in a truly modern sense. This pushed forward reform and progress in the entire society (Feng, 1992).

When asked to list the most significant reason for Cai Yuanpei's success in implementing educational reforms at Peking University, Min (2004a) focused on Cai's international perspective and understanding. He stated that Cai Yuanpei was able to play a particularly significant role in Peking University's development because he had a broad world vision and a deep understanding of other countries. Others have paid more attention to Cai Yuanpei's learning and personality. Chen (2000) noted that Cai Yuanpei's reforms at Peking University were mainly in the humanities. Historians have argued that this was because most of the people in the humanities were incorrigibly obstinate and hindering Peking University's progress (Xiao, 1986). Chen argues that this interpretation is far-fetched. Even before Cai's arrival, some humanities scholars supported reforms and even participated proactively.

Cai's circumspection and farsightedness lay in other areas. First, Peking University planned to center itself on the arts (including social sciences and the humanities) and science. Its science started late while social sciences and the humanities had been particularly strong for some time. Secondly, it was much more expensive to focus on building the sciences as opposed to the social sciences and the humanities, especially when Peking University was still experiencing financial difficulty. Thirdly, the social sciences and the humanities could influence the ideological trends and social tendencies of the times more directly and effectively. Peking University would not have taken on an entirely new look and become the leader of the trend of the times within 2–3 years if Cai Yuanpei had chosen to deal with science first. Last, and perhaps more importantly, the remolding of social sciences and the humanities fell squarely into the interests and expertise of the president himself.

Chen (2000) points out emphatically that Cai had read widely in almost all the major areas of social sciences and the humanities. He had a well-thought-out plan for the reforms in these subjects. It would be hard to imagine that a scientist or an engineer by training, or even a social scientist or a humanist without a broad knowledge base and profound understanding like Cai's, could accurately seize the opportunity, hit out in many directions at once, and quickly lay a solid foundation for Peking University's development in the succeeding decades. Broad intellectual interests are a huge advantage for a university president. Cai Yuanpei was not seen as the best mind in China's academic circles in literature, history, philosophy, and ethics. His works in these areas were not necessarily regarded as irreplaceable. This, however, did not affect his eminent position in China's history of modern thought. His success reminds us that a scholar with a broad knowledge base is often more suitable as leader of a university than a highly specialized expert. This is a timely warning given that contemporary scholarship has become highly specialized and the knowledge base of individuals is becoming narrower and narrower.

Self-Examination and Global Positioning

At the celebrations of Peking University's centenary, many people wondered whether the university would be as glorious in another 100 years as it had been throughout its first 100. Indeed, its achievement has been the result of many special conditions. As the only university during the May Fourth Movement, it could lead the entire nation. More universities were established later and Peking University can no longer always outshine others. Peking University's humanities and sciences were once unmatched nationwide because of the amalgamation of the best programs into it during the national higher education adjustment of the 1950s. This glorious past is most unlikely be repeated. With other universities developing quickly, Peking University is under pressure. Today's Peking University is challenged by both its previous history of national achievement and the goal of becoming world-class (Chen, 2000, p. 213). While it is hard to predict what Peking University will become,

its future rests on how people understand the university and its environs, and how it is positioned strategically based on that understanding.

The first self-examination of Peking University is how it locates itself historically. Although many people had suggested dating its birthday back to much earlier times, Peking University decided to officially recognize the establishment date of the Capital College (1898). Its modesty, however, is underlined by its sophisticated ambition, which is to be a dynamic force in China's modernization. In contrast with the views of those historians and philosophers who criticized the mismatch between Peking University's relatively short history and China as an ancient civilization, its self-restraint was profoundly meaningful. From Peking University's perspective, it would be much more meaningful to be a pioneer in the introduction of Western learning than to be a genuine successor of the traditional Chinese *Taixue*. In this regard, to recognize modern Chinese universities as a concept borrowed from the West does not negate the rich history of Chinese higher learning. This was clearly noted by Cai Yuanpei in his preface to the *Autograph Album of Peking University's 20th Anniversary* in 1918 (Cai, 1984, p. 158). Twenty-three years later, Mei Yiqi (1941) made similar remarks.

The second self-examination of Peking University is how its people have viewed the university's achievements. As early as in the 1930s, Peking University enjoyed a good reputation. Its reputation was partially due to the underdevelopment of China's modern higher education, and partially to the influence of the May Fourth Movement. However, reputation was not always well perceived. Hu Shi (1922), for example, expressed his worry about "too much fame." He thought that the university would become weighed down by overcommitment to various social demands with the possible loss of its long-term goals. Further, a reputation easily obtained would make it more difficult for Peking University to realize the actuality of high achievement. He urged his colleagues at Peking University to "forget the undeserved reputation gained within recent years" (Chen, 2000, p. 13). While it is not an easy task to forget the reputation while carrying on the traditions, Hu's reminder is more relevant today. Lu Xun was approached to write something positive for Peking University's 27th anniversary in December 1925. He noted that "Peking University is always new, reformative, and pioneering." These remarks have since been favored by people at the university. But a few years later, in a letter to a friend, Lu Xun said "I cannot stop heaving a sigh when I see Peking University is now so corrupt" (Lu, 1981, p. 158). Compared with Lu Xun's sharp comments, his brother talked more calmly:

> I want to reiterate that Peking University should go her own way, do what others do not do, instead of what others have done. Peking University's style of study would rather to be simple and unadorned, than to be flashy but without substance and superficially clever. Too many things happened in the past two years in education circles in Beijing. They were always about overthrowing or supporting politicians. Thank God, Peking University has not been involved. It is to be hoped that it is not so in the future. However, this is only the passive side. There remains a positive work to do, to open up wasteland courageously and focus on unique research. Peking University has done some in this aspect. More needs to be done in future. I never think Peking University is superior. I just feel Peking University should maintain her own spirit, not to imitate others or copy other universities. (Zhou, 1936)

Zhou's early remarks were echoed by Chen (2006) 70 years later:

> While the academic achievements of Peking University could be questioned, its deep and profound embedding into China's modernization should never be a target for ridicule. … If someday in the future, Peking University is transformed into an institution well received by the West, with Nobel laureates, yet little relevant to contemporary developments of China's politics, economy, culture and ideologies, we then have little to celebrate. (p. 3)

Chen not only assessed Peking University's achievement, but its future development. The incumbent president of Peking University has made even more explicit comments:

> Establishing a world-class university is a lengthy process. Beida has already formulated a plan, which will require 17 years and consists of two phases, to attain the objective of becoming a world-class university. However, whether this objective will be attained in 17 years is constrained by many internal and external factors. We are very clear in our minds on this. The aims of the current reform are to make Beida more competitive, enable it to better attract the best teachers, attract the best students in the country and give them the best education, and make more contributions to society. Beida's objectives are based in first class international standards. (Long, 2004, p. 52)

A scrutiny of the history of self-assessments at Peking University shows interesting differences. Unlike the earlier reflections which paid close attention to intellectual inquiry and ethos, the present positioning is much more pragmatic and short term. This is partly due to the forces from outside China, and partly derives from contemporary social and cultural discourses within China. Since the late Qing dynasty, practical learning has always been prioritized by both high officials and intellectuals, in the discussions of China's path to prosperity. Another difference lies in the priorities given to traditional Chinese elements and imported Western elements. There appears to be an urgent need for today's university reformers to build up a good understanding of, and a respect for, both the contemporary and the traditional China.

Chinese Contributions to the Idea of the University

The century-old transformation of traditional Chinese academies into modern universities has aimed at conforming Chinese education with "international practice" (Chen, 2002, p. 80). The central purpose of China's modern higher education has been to combine Chinese and Western elements at all levels including institutional arrangements, research methodologies, educational ideals, and cultural spirit. That there are strong grounds for such a combination is well based. As argued by Hayhoe (2005), Confucian culture is both supportive of China's reforms and in line with the global trends toward a knowledge society. It has a remarkable capacity to accommodate other cultures and absorb some of their best elements into itself, integrating diverse streams of thought into an organic whole, as demonstrated by the introduction of Buddhism to China from India and its integration into Chinese cultural and educational development over a long period.

China has much to contribute to the world community, especially culturally. This has become more important at a time when the human society is confronted with serious issues of sustainable development, and cultural conflicts. Higher education has a critical role to play here. In its internationalization China's higher education should aim for this level of contribution. In this regard Peking University is particularly well positioned. As Confucianism responds to a range of problems and issues facing Western societies with increasing subtlety and persuasiveness (Tu, 1998), there is a possibility of a deep-level foundation for creative thinking about a global human future that brings together aspects of the Chinese and Western philosophical heritages; an approach to human persons, knowledge, and democratic development that is fundamentally different from those of Enlightenment thought (Hall and Ames, 1999), the neorealism of Samuel Huntington (1993), and rights-based liberalism (Hayhoe, 2005).

Such ideas open up hopes for genuine and profound forms of understanding and cooperation that embrace the spiritual, cultural, intellectual, and scientific aspects of knowledge and human life. They could enable us to move beyond the concepts of deterrence and the balance of power in neorealism, and the overriding emphasis on the free market in neoliberalism, to a dialogue on how to create a better world open to cultural and epistemological inputs from diverse regions and civilizations (Hayhoe, 2005). The passage of Chinese culture and epistemological traditions into mainstream thought, contributing broadly to global debates about the future of the human community, can facilitate a reassessment of the moral and spiritual responsibility of the university as a knowledge institution (Schwehn, 1993; Wilshire, 1990), and contribute to readdressing the under-theorization of the university (Marginson, 2006b). However, close scrutiny of China's current bid for world-class universities indicates that these goals are not uppermost. It would be unsurprising if future Chinese world-class universities lack substance.

Chinese scholars such as Gan Yang and Chen Pingyuan invest much hope in the potential contribution of Peking University to the materialization of the contribution of Chinese civilization to human society. Likewise Hayhoe (2005) remarks that:

> If China is to bring into the global community aspects of its rich educational and cultural heritage, which could open up new pathways through some of the current and potential dead ends, Beida is the place we are likely to encounter these ideas. If China is to create forms of democracy that are distinctive from those of rights-based liberalism in the West, Beida is the place where these are likely to be first conceived and debated. And it is the Beida of the 1920s, where there were relatively few constraints on academic freedom, that laid the foundation for all that has followed. (p. 578)

The present Peking University personnel reforms are part of China's national reform agenda and thus in continuity with reform since the nineteenth century (Chen, 2000). During the early years under the Qing dynasty, from establishment in 1898 to the 1911 Revolution, the imperial university experienced many ups and downs in putting into practice the then already popular vision of retaining "Chinese learning as the essence" while systematically incorporating the new knowledge essential to build the nation. The strategy was expressed repeatedly

and beautifully by influential scholar–official Zhang Zhidong, who took a last stand for the preservation of Chinese classical knowledge in its integrity, and for the integration of practical and specialist fields of knowledge from the West into this framework (Hayhoe, 2005).

While there are substantial differences and even conflicts between Chinese and Western approaches to scholarship (Weston, 2004), in the minds of some of China's most renowned intellectuals these conflicts could and should be resolved (Lin, 2005). China's long tradition of scholarship has its strengths and a great potential to contribute to the idea of the university. Wang (2003) views the American research university model as a house with rooms that are not connected to each other, resulting from its close historical links to the industrialization process, which led to the segregation of specialist disciplines, of research and teaching, of knowledge transmission and the cultivation of character, and of university and society. He suggests that basic Confucian philosophical principles are particularly important to achieving increased integration in the next phase of the university's development: the integration of humanity with the universe, balancing individuals, society, and the natural environment; the integration of learning with life, balancing individual goals with national and global goals; the integration of morality with knowledge, ensuring that moral formation is viewed as a core aspect of university education; the integration of knowing and doing, fostering capability for action as well as theoretical understanding; and finally, the integration of teaching and learning through a dialogic approach.

End Remarks

The Peking University personnel reforms illustrate the complexity of the internationalization of Chinese universities and how traditional Chinese academies are being transformed into modern universities. This lively experience illustrates how any discussions of reforms in non-Western universities invokes crucially important and academically fascinating issues of Westernization and indigenization. The reforms extend well beyond the personnel sphere and far beyond the university campus. They take in the fundamental issues underlying Chinese higher education reform. They illustrate tellingly what Chinese higher education is confronted with, and what it can bring to bear, in its process of reentering the world community.

The reform of higher education in China will have enormous impact on its own further development, on the future of universities in other parts of Asia, and on the rest of the world. The sheer size of China's population, its significant role on the world stage, and its rapidly growing economy are major reasons for this. China is increasing investment in its top universities and its leadership recognizes that outstanding universities can be engines of economic growth at a time when many Western countries are reducing investment in flagship universities and Japan is disinclined to increase the scientific capacity of its greatest institutions of higher education.

China's recent efforts are already paying off. China's universities beat India's in almost every international ranking. According to the Academic Ranking of World Universities conducted by the Graduate School of Education, Shanghai Jiaotong University (2007), China has Tsinghua University in the top 200; Nanjing University, Peking University, Shanghai Jiaotong University, the University of Science and Technology of China, and Zhejiang University in the top 300 while India had none. China features 14 times in the top 500 and India only twice. Unlike the situation in China, in India there are few special incentives to attract top-quality academics from abroad. Major universities in Hong Kong, Singapore, and Japan increasingly see China as a competitor in attracting and retaining good faculty. The same does not hold for India. While diasporic Chinese scholars are being lured back to universities in the home country, Indians seem more content to remain abroad (Aiyar, 2006).

Nevertheless, China has a considerable distance to go before its aspirations to create truly world-class universities are fulfilled. Chinese universities are confronted with two major challenges. The first is market-oriented short-term behaviors. In the present great leap forward in Chinese higher education, what has often been missing is attention to institutional establishment. An internationally recognized scholarly ethos may take longer to develop than many academic or political leaders in China are willing to admit. Simply buying state-of-the-art laboratory equipment or pushing for more journal articles will not guarantee the kind of intellectual atmosphere that has developed over centuries on European and American campuses.

The second major challenge for Chinese universities is the Chinese administrative system that is based on official authority and rank. After the 1950s, Chinese universities lost their independence in the political system. They have since been administered just like the other organs of the Chinese administrative machine. The implication of such politicization is that Chinese universities have become part of the Chinese administrative system, deeply embedded in the prevalent political culture. In terms of the way they behave and their accountability, Chinese universities leaders share much more with the other officials in the political system than with their international counterparts. They are more politicians than academic leaders.

China's universities have been able to improve their hardware considerably, while, as is always the case in China, the software building takes much longer. China's drive to build world-class universities should go beyond its current approach to internationalization, featured by seeking joint ventures or acquiring more star professors from overseas. Instead, Chinese universities should be aware of both the strengths and the weaknesses of the American system, and work to overcome its enduring obstacles such as the weakness of liberal arts education and bureaucratic power over academic freedom. China should also try to avoid the problems that have plagued the American educational system (Mohrman, 2005), as it adopts the American model of education. In order to be truly "world-class," Chinese universities need to develop their distinctive "Chineseness" that distinguishes them from others, both at home and abroad.

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