#### ARTICLES

# African American Males' Student Engagement: A Comparison of Good Practices by Institutional Type

Terrell Lamont Strayhorn · James Michael DeVita

Published online: 11 December 2009

© Springer Science+Business Media, LLC 2009

**Abstract** Previous college impact studies attempt to estimate the impact of college on African American collegians as a whole. That is, most researchers study Black students as if they represent a monolithic group with similar inputs, experiences, and outcomes. Yet, a growing body of research provides compelling evidence that there are significant within group differences. Using three principles of good practices in undergraduate education defined by Chickering and Gamson (AAHE Bulletin 39:3–7, 1987), this study examined differences in African American males' (*N*=149) engagement by institutional type. A single significant predictor was found; Black men attending master's institutions have a significant advantage over their counterparts at liberal arts colleges with respect to cooperation among students, controlling for an array of confounding factors. This study provides empirical support for the use of good practices in undergraduate education, particularly among African American men, and has important implications for future practice, policy, and research.

Keywords Good practices · African American · Male · Engagement

Startling national statistics indicate the scope and direction of the Black male crisis. For instance, less than 50% of Black men graduate from high school and even fewer

The University of Tennessee, Knoxville, 1122 Volunteer Boulevard, 316 Bailey Education Complex, Knoxville, TN 37996, USA

e-mail: strayhorn@utk.edu

J. M. DeVita

e-mail: jdevita@utk.edu



T. L. Strayhorn ( ) · J. M. DeVita

enroll in college (Cuyjet 2006a, b). When they do enroll, Black male undergraduates tend to be concentrated at historically Black colleges and universities (HBCUs), 2-year community colleges, and less-selective 4-year colleges (Baum and Payea 2004), especially those who hail from low-income families (Walpole 2003). Once in college, Black men face additional challenges that, without support, may compromise their academic success: difficulty seeking help, becoming involved in clubs and organizations, and establishing supportive relationships with faculty members, administrators, and peers (Strayhorn 2008c).

Under these circumstances, Black men are less likely to become academically and socially integrated into college life, which, in turn, increases the chances of dropping out (Tinto 1993). More than two-thirds of all Black men who enter college depart before earning their college degree—the lowest degree completion rate among all races and both sexes (U.S. Department of Education 2006). Given their precarious situation in American higher education, more information is needed about the factors that influence the collegiate experiences of Black men. The present study was designed to fill this important gap in the literature.

## **Student Engagement**

Calls for accountability of student learning and efforts to retain students in college have generated a large body of research during the last few decades (Braxton 2000; Braxton et al. 2004; Tinto 1993). Much of this work focuses on how college affects students and whether students' experiences during their undergraduate years are influenced by specific individual or institutional characteristics. As Pascarella (1991) noted, "The impact of college on students forms, perhaps, the single largest base of empirical investigations in higher education" (p. 455). Researchers have demonstrated that college has a significant effect on myriad variables ranging from cognitive (e.g. Seifert et al. 2005; Terenzini et al. 1996) to economic (e.g. Paulsen 1998; Perna 2005) outcomes, among many others.

Recent attention has been given to increasing student engagement in college. In short, student engagement (Kuh 2001) is defined as "the time and energy that students devote to educationally purposeful activities and the extent to which the institution gets students to participate in activities that lead to student success" (Kezar and Kinzie 2006, p. 150). Student engagement involves students in meaningful activities and experiences including in-class discussions, faculty-student collaborations, peer interactions, and deep active learning to name a few.

One stream of research highlights criticisms of American higher education with respect to whether campuses create supportive, engaging environments conducive to student learning and development (Bloom 1987; Hersch and Merrow 2005; Kezar and Kinzie 2006). Another line of inquiry demonstrates that the more energy students invest in their academic lives, the more engaged they become in their studies and the campus, the greater the likelihood of having a positive college experience overall (Astin 1984; Davis and Murrell 1993; Kuh 1995). Student engagement has been linked to robust educational gains (Kuh et al. 1991) and outcomes such as critical thinking (Cruce et al. 2006); intellectual development (Anaya 1996; Baxter-Magolda 1992; Kuh 1995; Pike 2000); diversity competence



(Hu and Kuh 2003); adjustment to college (Cabrera et al. 1999); psychosocial development (Bandura et al. 2000; Chickering and Reisser 1993; Pascarella et al. 1987; Pike 2006); and persistence (Berger and Milem 1999; Braxton et al. 2004; Milem and Berger 1997; Tinto 1993).

## **Good Practices in Undergraduate Education**

Student engagement has also been conceptualized as a good practice in undergraduate education (Chickering and Gamson 1987). Specifically, the authors identified seven principles including: student-faculty contact, cooperation among students, active learning, academic effort or time on task, prompt feedback to students, high expectations, and diversity experiences. Although the authors identified seven good practice principles, three—student-faculty contact, cooperation among students, and active learning—have been studied in prior college impact studies (e.g., Cruce et al. 2006). Prior work on these principles of "good practice" can be conceptualized into two categories: studies that support their predictive validity and studies that explore the influence of institutional context. This organization of the literature has been cited in other studies as well (Cruce et al. 2006; Pascarella et al. 2004).

The predictive validity of good practices on educational outcomes is well supported in the literature. Using National Study of Student Learning (NSSL) data for students attending 2- and 4-year institutions, Cruce et al. (2006) estimated the effects of good practices on cognitive development, advanced degree plans, and learning orientations in the first year of college. They found that the frequency of students' experiences with good practices varies by institutional context and can impact student learning outcomes. For instance, student-faculty contact had a significant effect on graduate degree aspirations for students only at research universities, whereas cooperation among students had a positive effect on math knowledge at community colleges. Others have found supporting empirical evidence for the ability of good practice measures to explain changes in student learning and development (Koljatic 2000; Kuh et al. 1997a).

Another second line of inquiry explores the impact of institutional context on students' experiences of good practices. For example, experiences of good practice were found to be more prevalent at liberal arts colleges than regional universities, controlling for other potentially confounding effects (Pascarella et al. 2004). Pascarella and his colleagues observed the most pronounced effects during the first year of college. Others have studied this relationship and found similar results (Kuh and Hu 1999, 2001; Umbach and Kuh 2003). Still others have studied the impact that institutional type plays on Black students' experiences with good practices. Harper et al. (2004) found that Black men and women who attend historically Black colleges do not differ on their level of engagement via good practice experiences.

A more recent study by Seifert et al. (2006) examines the good practice experiences of African American students at 18 four-year institutions using data from the *National Study of Student Learning* (NSSL). Results point to the influence of institutional context on the educational outcomes of Black collegians. For example, the authors found that students attending historically Black colleges



reported significantly higher levels of good practice experiences than their counterparts at regional and research institutions, despite controls for confounding factors.

## African Americans in Higher Education

Indeed, a large body of research focuses on the experiences of Black students in college (e.g., Fleming 1984; Watson and Kuh 1996; Watson et al. 2002) and some studies explore the impact of inputs on educational outcomes for African American college students (DeSousa and King 1992; DeSousa and Kuh 1996; Flowers 2003, 2006; Perna 2000; Strayhorn 2008a; Watson and Kuh 1996). Several conclusions can be drawn from the existing literature: (a) although Black students tend to perform academically at lower levels than their White and Asian counterparts, Black student engagement matters and is positively linked to academic performance (DeSousa & Kuh); (b) despite their relatively low academic performance on college entrance exams and college-level courses, Black undergraduates tend to have educational aspirations that are equal to, if not higher than, their non-Black peers, although findings are somewhat inconsistent across studies (e.g., Carter 2001); and (c) demographic variables are related to undergraduates' engagement including sex and socioeconomic status ([SES]; Strayhorn 2008b; Walpole 2003). Walpole used longitudinal data to examine the college experiences of students by SES; she found that low SES students engaged in few activities, spent less time studying, and reported lower GPAs than their high SES peers.

Far fewer studies measure the influence of institutional contexts on the experiences of Black collegians (Strayhorn 2008a; Thomas 2000). For instance, Strayhorn analyzed longitudinal survey data from a national sample of African American college graduates and found that attending a historically Black college or university (HBCU) was associated with lower annual earnings, higher occupational status, but had no effect on job satisfaction. Overall, scholars tend to agree that the research on the effects of college on African American student learning and development is conflicting and perhaps inconclusive (Pascarella and Terenzini 2005).

Surprisingly, most research in this area consists of studies that investigate the impact of college on African American students as a whole. That is, these studies combine male and female students as if they represent a monolithic group with similar inputs, similar experiences, and similar outcomes. Yet, one segment of college impact research describes extensively that Black men and women experience college differently (Allen 1992; Allen and Haniff 1991; Astin 1990; Cuyjet 2006a; Fleming 1984; Gilligan 1982; Polite and Davis 1999). For example, Black women report spending more time on academic behaviors and active learning tasks such as studying (Astin, Cuyjet) and less time watching television (e.g., Winfield and Lee 1986) compared to Black men. Fleming also found that Black men at predominantly White colleges feel unfairly treated by faculty members, on average, which leads to a lack of motivation and less confidence in their abilities; Black women, on the other hand, face many of the same problems as do Black men, yet they "are able to get more out of the White college experience than Black men" (p. 74). More information is needed about the unique experiences of African American male undergraduates



with good practices in undergraduate education. This is the gap addressed by this study.

## **Purpose**

The purpose of this study was to compare the educational experiences of African American men in- and out- of the college classroom with faculty members and peers along the dimensions of good practices in undergraduate education (Chickering and Gamson 1987) by institutional type. The key question guiding this study was: To what extent, if any, does institutional type affect African American male students' experiences of good practices in undergraduate education? Or, said differently, do Black men at liberal arts colleges have an advantage over their counterparts at doctoral and master's institutions with respect to their experiences of good practices in undergraduate education, controlling for a battery of student-level background factors and other potentially confounding variables?

# Significance of the Study

This study is based on a prima facie assumption that students who attend liberal arts colleges differ significantly from their peers at doctoral (or research) and master's (or regional) institutions with respect to good practice experiences. This hypothesis is borne out of prior research that has shown liberal arts colleges to be superior to other institutions in promoting environments conducive to good practices due to their specialized mission, size, and emphasis on undergraduate teaching (Hirt 2006; Seifert et al. 2006; Pascarella et al. 2004).

Similar to the study by Seifert et al. (2006), this study focuses on the experiences of African American college students. Yet, this study differs from Seifert et al.'s study in at least three ways. First, Seifert et al. used *National Study of Student Learning* (NSSL) data while this study uses data from the *College Student Experiences Questionnaire* (CSEQ). Second, Siefert and her colleagues focused on the experiences of all African American students while the present study explores the unique experiences of Black men in college only. Analyzing data from Black men only has several advantages: (a) reduces potentially confounding sex effects and (b) measures the relationship between institutional type and good practice engagement for Black men without comparing them to other groups such as White men or Black women (Strayhorn 2009). The latter is another appropriate design; it is not without criticism, however, as it tends to use such groups as the standard by which all Black men are judged, an imperialist, normative perspective that seems to value differences across groups more than individual experiences (Hooks 1990). Third, Siefert et al. operationalized variables differently. These differences will be discussed below.

The present study represents an important contribution to research about the impact of college on Black students. For example, recent work by Cuyjet and his colleagues (2006) highlights the experiences of Black men in college but fails to address the extent to which they experience good practices as defined by Chickering and Gamson (1987). By focusing solely on the experiences of African American



men in college, the current study responds to calls for expanding our knowledge about Black males (Cuyjet 2006b) and recent contributions that call attention to the "crisis" facing African American males in schools and society (Carter 2005; Cuyjet et al. 2006; Davis 2002; Dawson-Threat 1997; Polite and Davis 1999; Strayhorn 2008b, 2008c).

#### Method

### Instrument/Data Source

This study represents a secondary analysis of data from the *College Student Experiences Questionnaire* (CSEQ) (4th ed.) (Kuh and Siegel 2000; Pace 1987). Data were obtained from the national sample and provided to the researcher on a computer disk by the CSEQ Research Program. The CSEQ consists of 191-items designed to elicit information about the quality and quantity of students' experiences in college. The CSEQ was developed based on the notion that "the more effort students expend in using the resources and opportunities an institution provides for their learning and development, the more they benefit" (Gonyea et al. 2003, p. 14). At present, the national questionnaire is used by more than 500 colleges and universities.

The CSEQ collects information about students' experiences in three areas: college activities, college environment, and estimates of gains (Kuh and Siegel 2000). In addition, some items measure time spent reading, writing, and on other academic activities. These variables have been shown to contribute positively to college students' learning and development (Astin 1984, 1993, 1999; Kuh et al. 1997a; Pace 1990).

It is understood that valid instruments measure accurately what they purport to measure (Neuman 1994; Suskie 1996) and, indeed, the validity of the CSEQ is well substantiated. Validity of the CSEQ is demonstrated in at least three ways. First, the instrument has been used extensively in educational contexts to study college impact and has high predictive validity with future aspirations, college grades, and drop-out decisions (Flowers 2003; Pike 1993; Pike 2000; Pike and Kuh 2005; Strayhorn 2008c). Second, CSEQ self-reported gain scores have high concurrent validity with criterion-based achievement results (Pascarella 2001; Pike 1995, 1996). Third, the National Center for Education Statistics and others (Ewell and Jones 1996) commend the CSEQ for having excellent psychometric properties as a measure of one's college experience, demonstrating content validity.

Reliability, on the other hand, refers to freedom from measurement error (Neuman 1994). In other words, reliability concerns center on the consistency and stability of a measure over time. Researchers calculate internal consistency indices (e.g., Cronbach alpha) to establish reliability. Kuh et al. (1997a) report that Cronbach alpha values for the 14 college activity scales, which are central to the present study, are high, ranging from 0.81 to 0.91. Thus, the CSEQ is regarded as a reliable instrument as well.

### Sample/Participants

The student sample for the current study consisted of African American males who completed the CSEQ in 2004. The sample was restricted to first and second year



students only, who were unmarried, full-time, lived on campus, and attended 4-year institutions of all campus types, including both HBCUs and PWIs. This sampling strategy, in effect, controlled for potentially confounding demographic (e.g., race, gender, marital status) and institutional differences that, if ignored, could bias the estimates of effects upward, thereby increasing the chances of statistical error (Cruce et al. 2006). In addition, this approach made the sample relatively comparable to other student samples used in prior research on good practices or Black male collegians (Kuh et al. 1997a; Kuh and Vesper 1997; Seifert et al. 2006; Strayhorn 2008c). The final sample consisted of 149 Black men. Seventy-eight percent were 19 years old or younger, 17% were 20–23 years old, and approximately 5% were 24 years or older. A large majority (79%) reported having advanced degree plans.

#### Variables

The dependent variables used in this study were based on the principles of good practice in undergraduate education noted by Chickering and Gamson (1987). Prior studies have shown that the *College Student Experiences Questionnaire* has psychometric qualities that are consistent with 3 of the seven principles (Kuh et al. 1997a; Kuh and Vesper 1997): faculty-student contact, student-student cooperation, and active learning. All three indices of good practices served as outcome measures in the present study.

Following recommendations made by Gonyea et al. (2003), composite variables were calculated for the three principles of good practice measured by the CSEQ. For example, a new variable was calculated to represent the good practice of student-faculty contact. This variable is a sum of selected items from three scales that have psychometric properties consistent with good practices: experiences with faculty, clubs and organizations, and experiences in writing. A sample item asked students to indicate the frequency with which they have "worked with a faculty member on a research project;" response options ranged from 1 ("never") to 4 ("very often"). This same procedure was followed to compute dependent variables for cooperation among students and active learning. The student-faculty contact factor (13 items, Cronbach's alpha = 0.89) accounted for 26% of the item variance, the active learning factor (21 items, Cronbach's alpha = 0.86) accounted for 6% of the item variance, and the cooperation among students factor (9 items, Cronbach's alpha = 0.79) accounted for 5% of the item variance. Correlation information is available from the author upon request.

Several independent variables constituted a battery of confounding effects including background traits and pre-college measures. First, it is important to reiterate that the sampling method used in this study served to control for differences by race, gender, marital status, and institutional type (i.e., 4-year institutions only) by eliminating variance on these items. Other background controls included age, educational aspirations, grades, and socioeconomic status based on previous research. Socioeconomic status tends to be an important predictor of outcomes for economically and educationally disadvantaged students (Strayhorn 2008b; Walpole 2003) and was deemed an appropriate control for this investigation as African Americans are disproportionately represented among low-income families in the United States (Kahlenberg 2004). This composite variable was calculated by the sum



of expenses paid by parents/family, parent's level of education, and number of hours worked on-campus for pay. Precedent for using this procedure was set by Kuh and his colleagues (Kuh et al. 1997a; Kuh and Vesper 1997).

One set of independent measures, reflecting institutional type, served as the focus of this study. Two dummy variables were created that represented (a) students at liberal arts colleges versus those at research universities and (b) students at liberal arts colleges versus those at masters or comprehensive universities.

## Data Analysis

Data analysis for the current study proceeded in three stages. During the first stage, data from the CSEQ Research Program were prepared for analysis using data reduction techniques such as factor analysis and recoding of original variables. Next, the clustering effects of individual students nested within institutions were considered. Using a combination of chi-square tests and intraclass correlations, I determined whether ordinary least squares regression (OLS) or multilevel modeling techniques would provide more accurate estimates of standard error. Based on criteria posited by Raudenbush and Bryk (2002), OLS regression analysis was deemed appropriate for this study.

To measure the relationship between institutional type and African American males' experiences with the three principles of good practice, controlling for background differences, hierarchical linear regression techniques were used. Hierarchical regression is "a method of regression analysis in which independent variables are entered into the regression equation in a sequence specified by the researcher in advance" (Vogt 1999, p. 129). The hierarchy is determined by the researcher's theoretical or conceptual understanding of the relationships that exist among the variables. In this way, three measures of good practice in undergraduate education were regressed on a battery of potentially intervening variables and dichotomous measures that compare and contrast institutional types. Table 1 specifies the final model and Table 2 presents descriptive statistics for the dependent variables.

#### Results

## Preliminary Analyses

Prior to analyzing the data in light of the research questions, the structure and internal consistencies of the study's measures were tested. The dimensionality of items from the three good practice measures, as measured by the CSEQ, was analyzed using principal components factor analysis. Given that prior research studies suggest that the CSEQ can be used to operationalize 3 of the seven principles of good practice, this test served as a confirmatory factor analysis (CFA). CFA techniques allow researchers to test for hypothesized factors among scales of survey items and to test or validate the structure of data (DeVellis 2003). Three criteria were used to determine the number of factors to rotate: the a priori hypothesis that the data contained three factors, the scree test, and the interpretability of the factor solution.



Table 1 Good practices model specification

Variable	Variable name	Coding values	
Age	AGE	1=9 or younger	
		2=20-23	
		3=24-29	
		4=30-39	
		5=40-55	
		6=over 55	
Grades	GRADE	1=C, C- or lower	
		2=B-, C+	
		3=B	
		4=A-, B+	
		5=A	
SES	SES	Continuous; high scores indicate high SES	
Aspirations	ASPIRE	1=aspire to advanced degree	
		0=no advanced degree aspiration	
LA v. MA	MA2LA	1=LA	
		0=MA	
LA v. RU	RU2LA	1=LA	
		0=RU	

SES socioeconomic status, LA liberal arts colleges, MA master's institutions, RU research university

All tests confirmed that the original hypothesis was correct. Based on the scree plot, three factors were rotated using a varimax rotation procedure. The rotated solution yielded three interpretable factors: student-faculty contact, cooperation among students, and active learning.

Table 2 Descriptive statistics for three measures of good practice, by institutional type

Good Practice/Institution Type	Range	M	SD
Student-Faculty Contact	13–52		
Research Universities		31.12	8.62
Master's Institutions		32.02	8.60
Liberal Arts Colleges		29.07	6.80
Cooperation among Students	9–36		
Research Universities		24.69	5.80
Master's Institutions		24.50	5.70
Liberal Arts Colleges		21.52	5.52
Active Learning	21-84		
Research Universities		55.25	10.76
Master's Institutions		55.17	11.15
Liberal Arts Colleges		51.36	9.16



## Hierarchical Regression Analyses

To test the relationship between institutional type indicators and three measures of good practice, controlling for student-level differences, hierarchical multiple regression analyses were conducted. Separate hierarchical multiple regression analyses were conducted to evaluate the relationship between each institutional type indicator and the three measures of good practice, controlling for a battery of student background and other potentially confounding influences. First, the cooperation among students index was regressed on an indicator of institution type that compared liberal arts colleges to master's universities. Control variables included age, grades, SES, and educational aspirations. Hierarchical regression results suggest that the model was significant, F (5,143)=2.35, p<0.05. The sample multiple correlation coefficient was 0.28, indicating that approximately 8% of the variance in the cooperation among students index can be accounted for by the factors in the final model. Specifically, Black men who attend liberal arts institutions report less frequent experiences that involve cooperation among students compared to their counterparts attending master's institutions.

Second, the cooperation among students good practice measure was regressed on the institutional type index that compared liberal arts colleges to research or doctoral institutions. Holding constant a battery of control variables, regression results suggest a statistically non-significant relationship among the variables, F(5,143)= 2.15, p=0.06. The sample multiple correlation coefficient was 0.26, indicating that approximately 7% of the variance in the good practice measure can be accounted for by the independent factors. Since this overall test was non-significant, these findings will not be explicated further.

Third, hierarchical multiple regression results suggest that no significant relationship exists between the student-faculty contact good practice and institutional type indicators, controlling for a set of student level variables. For example, the test of model significance indicates no significant difference between African American men attending liberal arts colleges compared to research/doctoral universities, F(5,143)=1.65, p=0.15. Similar results were found for liberal arts versus master's institutions, F(5,143)=1.99, p=0.08. Thus, these results are not discussed further.

Finally, hierarchical regression results suggest that no significant relationship exists between the active learning good practice measure and institutional type indicators, controlling for other variables in the model. For example, the test of model significance for active learning regressed on the variable indicating liberal arts versus research institutions was *not* significant, F(5,143)=1.65, p=0.15. Similar findings were calculated for liberal arts colleges versus master's institutions, F(5,143)=1.78, p=0.12. As such, these findings are reported here and explained no further.

Surprisingly, only one significant difference was found to be due to the institutional type comparisons and, therefore, provides the focus of the discussion that follows. Findings suggest that African American males' engagement (i.e., cooperation among students) is significantly lower at liberal arts colleges compared to master's institutions, after controlling for important differences. Another finding was that age is related to cooperation among students. Regression results for this model are presented in Table 3.



Variables	Step 1		Step 2	
	В	p	В	p
Constant	23.890	.000	25.078	.000
Age	- 1.305	.051*	- 1.272	.054*
Grades	0.461	.283	0.423	.319
SES	- 0.001	.997	- 0.020	.923
Aspirations	0.717	.559	0.453	.709
LA v. MA			-2.719	.030*
R	0.212		0.275	
$R^2$	0.045		0.076	
Adj. $R^2$	0.018		0.043	

Table 3 Regression results of cooperation among students regressed on institutional type indicator, controlling for student-level variables

F change value was 4.794. Overall F(5,143)=2.35

SES socioeconomic status, LA liberal arts, MA master's

#### Discussion

The purpose of this study was to measure the influence of institutional type on African American males' experiences with good practices in undergraduate education. Said differently, the study was designed to measure the extent to which institutional type plays a role in the African American male students' engagement with good practices in undergraduate education. The results of this analysis suggest several important conclusions.

First, results suggest that Black men who attend liberal arts colleges, compared to their counterparts at master's institutions, experience cooperation among students less frequently. In other words, Black men attending liberal arts colleges are less likely than Black men at master's institutions to engage in activities that involve peer cooperation (e.g., work on class project with other students, work on a campus committee). This is an important and rather provocative finding when interpreted in light of previous research; prior studies have shown that liberal arts colleges, which tend to be smaller, are superior to other institutions in terms of the frequency with which students engage in good practices at the undergraduate level (e.g., Kuh et al. 1991; Pascarella et al. 2004). Results from the present study contradict such claims and may provide evidence that the general conclusion does not apply to this specific subgroup, African American males. Cooperation among students may be less for Black men at liberal arts colleges due to the cultural incongruity that likely exists for Black men on such campuses, which may not be true at other campuses. For instance, Kuh, Schuh, Whitt, and Associates identified certain values (e.g., competition, absence of anonymity) at involving colleges (including liberal arts colleges) that may not resonate with the cultural backgrounds of some Black men who may place a premium on collectivism, deference, and being heard but not seen. The take-home point here is



p < 0.05

that, "one size generally does not fit all and certain students face unique challenges in college that require special attention and tailored assistance" (Strayhorn 2008b, p. 81). And while future researchers should continue to test the viability of these results to see if they stand across different samples, institutions, or vary with time, college student educators might consider these notes when working with Black men at liberal arts colleges. Structured experiences that encourage their engagement with peers, such as learning communities and peer mentoring programs, should be considered for implementation, as they may reduce, if not eliminate, gaps in experiences of good practices.

Second, the fact that most effects persist in the presence of a battery of controls provides clear and rather compelling evidence that attending a liberal arts college may not offer a significant advantage to Black men, despite prior conclusions about White students and women (Cruce et al. 2006; Pascarella et al. 2004). Instead, Black men at master's institutions are more likely than their peers at other institutions to encounter collaboration among students. On the other hand, the current study's findings indicate that Black men encounter two other good practices-studentfaculty contact and active learning-at nearly equal levels despite the type of institution attended. Prior research (e.g., Fleming 1984) would lead us to believe that the frequency of African American males' experiences with faculty members, for example, is influenced by institutional variables (e.g., those at research institutions would have greater contact with faculty). This study extends our knowledge, however, by demonstrating that Black males' contact with faculty is independent of institutional type and may be influenced by other factors. Working together, educators from various campus types might use this information to design and implement programs and practices that engender African American males' engagement in good practice activities. For instance, educators might brainstorm ways of increasing faculty/staff contact with Black males in higher education. Having faculty serve as advisors to minority student organizations, supervisors of independent research, and mentors to African American men may prove effective in facilitating student-faculty contact. National conferences, staff meetings, and other professional development opportunities are venues through which student affairs professionals can share promising practices with their colleagues who work with such students at other institutions.

That Black men reported more experiences with cooperation among students at master's institutions than liberal arts colleges suggests that master's institutions may be better at creating environments that facilitate student-student interactions with African American males, although causal claims cannot be made given the study's design. Still, prior research suggests that Black men thrive in environments that are supportive and nurturing (Flowers 2003; Harvey and Williams 1996; Watson and Kuh 1996). This may explain the study's finding; master's institutions, by way of their missions, policies, and programs, may engender a warm, supportive environment that promotes Black male students' success. As Pascarella and Terenzini (1991) stated, institutional type alone rarely impacts student learning and development. Rather, institutional type typically acts as a proxy for the sociopsychological context or ethos characterized by the institution. In this way, future researchers might plan qualitative studies (e.g., ethnographies) to examine closely the "lived experiences" of Black men at master's institutions and judge why this



campus environment may better facilitate cooperation among Black male peers. Since part of the goal in educational research is to describe how institutional factors and conditions work together in different colleges and universities to promote student engagement (Kuh et al. 1991), the present study makes a significant, albeit incremental, contribution to the literature as it points to one campus setting that we may need to study more closely in terms of the factors that facilitate Black male involvement and, subsequently, the benefits that accrue to Black men at master's institutions.

The results make clear that we cannot assume that student engagement in good practices for undergraduate education is simply a function of institutional type. Such assumptions based on prior research would lead one to believe that liberal arts colleges yield a significant influence on Black male students' engagement with good practices. Results from the present study suggest that this is not the case. Instead, master's institutions exert a positive influence or "press" on engagement of Black men in at least one good practice (i.e., student-student cooperation), net of a battery of confounding influences. If nothing else, the present study opens new questions about engagement with good practices among specific student subpopulations and the role that institution-level factors and conditions play in mediating that relationship. Future research should build upon the present study to pursue additional directions; future work should include multiple institution-level predictors as well as examine other subpopulations (e.g., Asian Pacific Islanders, Latinas).

Given that Seifert et al. (2006) found that African American students attending HBCUs experience good practices at a significantly higher level than did their counterparts at non-HBCU institutions, findings from this analysis expand on their conclusions to some extent. Specifically, Seifert and her colleagues uncovered good practice advantages for African American students at HBCUs including quality of interaction with other students. This investigation uncovered an advantage for Black men at master's institutions in terms of cooperation among students only. It is interesting to note that the majority of HBCUs in America could be classified as master's institutions, as very few are research universities (Harvey and Williams 1996). Thus, results from this study suggest that Black men at master's institutions come in contact with cooperation among students more often than Black men at liberal arts colleges, which may reflect, to some degree, the documented notion that HBCUs provide welcoming, affirming environments that engender Black student success (Palmer and Gasman 2008; Palmer and Strayhorn 2008). The current analysis, however, focused on institutional type and did not explore campus type (e.g., HBCU), which are two different constructs (Pascarella and Terenzini 2005). Since HBCU was not included as a predictor in the present study as HBCUs may be liberal arts, master's, and doctoral-granting colleges (Gasman et al. 2008), only the above conjecture could be proffered at this point and future work that takes up the issue of campus type is warranted. Another possible explanation that deserves exploration through future research is the role that racism plays in reducing the frequency of peer interactions at some institutions. An analysis that included campus type, institutional type, as well as perceptions of racism, or an in-depth qualitative study, may provide insight into this thorny, yet important, issue.

Indeed, this work should prove useful to a number of higher education constituents, notably educators and policymakers charged with promoting student



learning and ensuring student success. Cruce et al. (2006) pointed to the need for this study as their results suggested "that good practice may be particularly important for those students who enter postsecondary education with the least educational capital" (p. 379). Since Black men tend to be disproportionately and highly represented among those with the least educational capital (Cuyjet 2006a; Strayhorn 2008b), the current study's findings are cause for action to develop new ways of ensuring, improving, and enhancing Black men's experiences with good practices at liberal arts and research universities. Results from the current study lend support to prior conclusions.

The results of this study also provide evidence of the impact of institutional contexts or cultures on student learning and development as well as recommendations for enriching students' experiences on campus. Descriptively speaking, Black men at master's institutions in this study reported higher levels of engagement in cooperation with students than their counterparts at research universities and liberal arts colleges. Administrators at research universities and liberal arts colleges, especially student affairs administrators whose purview is the out-of-classroom and social environment of campus, should consider these findings when designing programs and services such as learning communities, student activities, and peer advising programs that are geared toward student cooperation. In addition, this may mean that administrators at all three institutional types should adopt new strategies for accentuating those efforts that put Black men in contact with faculty members. Such strategies include undergraduate student research opportunities, faculty-student mentoring programs, and programs specifically designed for Black men like Student African American Brotherhood ([SAAB], Bledsoe and Rome 2006).

There are a number of promising directions for future research. The current study provided evidence that Black men who attend master's institutions have an advantage over those who attend liberal arts colleges with respect to cooperation among peers in the face of an array of control variables. Future studies might explore this relationship to make comparisons between historically Black and predominantly White institutions. In light of prior research that suggests that HBCUs offer better learning environments for African American undergraduates (Harper et al. 2004; Seifert et al. 2006), future research might make comparisons between various HBCUs based on institutional selectivity, region of the country, or institutional control (i.e., public vs. private). Other work might explore differences by gender among African American college students in their encounters with good practices at various institutional types.

#### Limitations

Several limitations should be discussed. First, the data used in this study were drawn from a purposeful sample of students and institutions within a national database. This sampling technique was appropriate as the goal was to over-sample students of color. To the extent that this adjustment alters statistical relationships, parameter estimates may be biased. Related to this, the study is limited by the small sample size. However, viewed differently, the African American male sample, drawn from the larger database of 5,000 CSEQ respondents, represents 3% of the total. This mirrors their representation among the total undergraduate student population



enrolled in one of America's almost 4,000 colleges and universities (U. S. Department of Education 2006). Still, findings should be interpreted with a degree of caution and generalizations may only be relevant to similar institutions.

Another common limitation of secondary data analyses is missing data (Strayhorn 2009). However, missing data were not problematic for this study. In all cases of the three outcome variables, less than 5% of cases were missing. Several steps were taken to handle missing cases. Missing cases on continuous variables were replaced using the Expectation Maximization (EM) algorithm. When a small proportion of data is missing, the EM algorithm is a highly regarded method for obtaining maximum likelihood estimates (Allison 2001; McLachlan and Krishnan 1997; Strayhorn 2009). Statistical tests of significant differences (i.e., t tests) were conducted on the scores to evaluate whether the adjusted means (derived through EM imputation) were significantly different from the unadjusted means (no imputations). For instance, the sample adjusted mean for faculty-student cooperation (M=27.40, SD=7.48) was not significantly different from the unadjusted value, t (7999) = .000, p > .05; thus, imputed values were used in the present analysis. Similar results were found for the other independent variables and scales. It is important to note that missing case substitutions were not conducted on demographic variables; student who did not answer items related to their gender or race were omitted from the sample in consonance with previous research (Strayhorn 2008a, b, c).

The present study used self-report data and this may be another possible limitation. To the extent that respondents did not know the information being requested or found survey questions to be ambiguous or unclear, the generalizability of these findings may be limited (Pike and Kuh 2005). Yet, a large number of scholars lend support to the merit of self-reported data (Astin 1993; Kuh et al. 2001; Kuh et al. 1997b; Pace 1985; Pascarella and Terenzini 2005; Pike 1995) and selfreported data are widely relied upon in college impact research (Baird 1976; Berdie 1971; Pike 1996; Pohlmann and Beggs 1974). As Gonyea (2005) noted, "In reality, all questionnaire surveys, whether locally produced or nationally published, rely on some type of self-reported information" (p. 74). Prior research has shown that selfreport data are likely to be valid under these five conditions, which were likely met by participants in the present study: (a) the information requested is known to the respondents; (b) the questions are phrased clearly and unambiguously; (c) the questions refer to recent activities; (d) the respondents think the questions merit a serious and thoughtful response; and (e) answering the question does not threaten, embarrass, or violate the privacy of the respondent or encourage the respondent to respond in socially desirable ways (Kuh et al. 2001, p. 9).

In addition, the student sample consisted of individuals who volunteered or agreed to take the *CSEQ*. Therefore, results should be interpreted with this limitation in mind as those who agree to take the *CSEQ* may be different from students who do not participate in the survey (Pascarella and Terenzini 1991, 2005). Thus, results may not be generalizable to all African American male students and similar subgroups.

Although useful, these limitations do not reduce the study's ability to contribute to our understanding of African American males' experiences of good practices and how such experiences differ by institutional type. Specifically, the analysis provided information about the association between institutional type and three measures of good practice in undergraduate education (Chickering and Gamson 1987).



In sum, this study responds to new information about the experiences of Black men in college. Findings underscore the importance of college impact researchers focusing on the conditional net effects of college and the within-group differences that may exist among racial and ethnic minority groups. The present study provides additional insights into the role that institutional type plays on African American males' experiences with good practices. Armed with this information, college student educators and policymakers can improve the educational experiences of Black college men.

#### References

- Allen, W. R. (1992). The color of success: African American college students outcomes at predominately white and historically black public colleges and universities. *Harvard Educational Review*, 62(1), 26– 44
- Allen, W. R., & Haniff, N. Z. (1991). Race, gender, and academic performance in US higher education. In W. R. Allen, E. G. Epps & N. Z. Haniff (Eds.), College in black and white: African American students in predominately white and in historically black public universities (pp. 95–109). Albany: State University of New York Press.
- Allison, P. D. (2001). Missing data. Thousand Oaks: Sage.
- Anaya, G. (1996). College experiences and student learning: the influence of active learning, college environments and cocurricular activities. *Journal of College Student Development*, 37, 611–622.
- Astin, A. W. (1984). Student involvement: a developmental theory for higher education. *Journal of College Student Personnel*, 25, 297–308.
- Astin, A. W. (1990). The Black undergraduate: Current status and trends in the characteristics of freshmen. Los Angeles: Higher Education Research Institute.
- Astin, A. W. (1993). What matters in college: Four critical years revisited. San Francisco: Jossey-Bass. Astin, A. W. (1999). Student involvement: a developmental theory for higher education. Journal of College Student Development, 40(5), 518–529.
- Baird, L. (1976). Using self-reports to predict student performance. New York: The College Board.
- Bandura, A., Peluso, E. A., Ortman, N., & Millard, M. (2000). Effects of peer education training on peer educators: leadership, self-esteem, health knowledge, and health behavior. *Journal of College Student Development*, 41, 471–478.
- Baum, S., & Payea, K. (2004). Education pays 2004. New York: The College Board.
- Baxter-Magolda, M. B. (1992). Knowing and reasoning in college: Gender-related patterns in students' intellectual development. San Francisco: Jossey-Bass.
- Berdie, R. (1971). Self-claimed and tested knowledge. Educational and Psychological Measurement, 31, 629–636.
- Berger, J. B., & Milem, J. F. (1999). The role of student involvement and perceptions of integration in a causal model of student persistence. *Research in Higher Education*, 40(6), 641–664.
- Bledsoe, T., & Rome, K. D., Sr. (2006). Student African American brotherhood. In M. J. Cuyjet, et al. (Eds.), *African American men in college* (pp. 257–264). San Francisco: Jossey-Bass.
- Bloom, A. (1987). The closing of the American mind. New York: Simon & Schuster.
- Braxton, J. M. (ed). (2000). Reworking the student departure puzzle. Nashville: Vanderbilt University Press.
- Braxton, J. M., Hirschy, A. S., & McClendon, S. A. (2004). Understanding and reducing college student departure (ASHE-ERIC Higher Education Report 30 No. 3). San Francisco: Jossey-Bass.
- Cabrera, A. F., Nora, A., Terenzini, P. T., Pascarella, E. T., & Hagedorn, L. S. (1999). Campus racial climate and the adjustment of students to college. *Journal of Higher Education*, 70(2), 134–160.
- Carter, D. F. (2001). A dream deferred? Examining the degree aspirations of African American and White college students. New York: RoutledgeFalmer.
- Carter, P. L. (2005). Keepin' it real: School success beyond black and white. New York: Oxford University Press.
- Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, 39(7), 3–7.



- Chickering, A. W., & Reisser, L. (1993). Education and identity (2nd ed.). San Francisco: Jossey-Bass.
- Cruce, T. M., Wolniak, G. C., Seifert, T. A., & Pascarella, E. T. (2006). Impacts of good practices on cognitive development, learning orientations, and graduate degree plans during the first year of college. *Journal of College Student Development*, 47(4), 365–383.
- Cuyjet, M. J. (2006a). African American college men: Twenty-first century issues and concerns. In M. J. Cuyjet, et al. (Eds.), *African American men in college* (pp. 3–23). San Francisco: Jossey-Bass.
- Cuyjet, M. J. (2006b). Helping African American men matriculate: Ideas and suggestions. In M. J. Cuyjet, et al. (Eds.), *African American men in college* (pp. 237–250). San Francisco: Jossey-Bass.
- Cuyjet, M. J., et al. (eds). (2006). African American men in college. San Francisco: Jossey-Bass.
- Davis, T. L. (2002). Voices of gender role conflict: the social construction of college men's identity. Journal of College Student Development, 43(4), 508–521.
- Davis, T. L., & Murrell, P. (1993). A structural model of perceived academic, personal, and vocational gains related to college student responsibility. *Research in Higher Education*, 34, 267–289.
- Dawson-Threat, J. (1997). Enhancing in-class academic experiences for African American men. In M. J. Cuyjet (Ed.), *Helping African American men succeed in college* (pp. 31–42). San Francisco: Jossey-Bass.
- DeSousa, D. J., & King, P. M. (1992). Are white students really more involved in collegiate experiences than black students? *Journal of College Student Development*, 33, 363–369.
- DeSousa, D. J., & Kuh, G. D. (1996). Does institutional racial composition make a difference in what black students gain from college? *Journal of College Student Development*, 37, 257–267.
- DeVellis, R. F. (2003). Scale development: Theory and applications (2nd ed., Vol. 26). Thousand Oaks: Sage.
- Ewell, P. T., & Jones, D. P. (1996). Indicators of "good practice" in undergraduate education: A handbook for development and implementation. Boulder: National Center for Higher Education Management Systems.
- Fleming, J. (1984). Blacks in college. San Francisco: Jossey-Bass.
- Flowers, L. A. (2003). Effects of college racial composition on African American students' interactions with faculty. *College Student Affairs Journal*, 23, 54–63.
- Flowers, L. A. (2006). Effects of attending a two-year institution on African American males' academic and social integration in the first year of college. *Teachers College Record*, 108(2), 267–286.
- Gasman, M. B., Baez, B., & Turner, C. S. V. (eds.). (2008). Understanding minority-serving institutions. Albany: State University of New York Press.
- Gilligan, C. (1982). In a different voice. Cambridge: Harvard University Press.
- Gonyea, R. M. (2005). Self-reported data in institutional research: Review and recommendations. In P. D. Umbach (Ed.), *Survey research: Emerging issues* (pp. 73–89). San Francisco: Jossey-Bass.
- Gonyea, R. M., Kish, K. A., Kuh, G. D., Muthiah, R. N., & Thomas, A. D. (2003). College student experiences questionnaire: Norms for the fourth edition. Bloomington: Indiana University Center for Postsecondary Research, Policy, and Planning.
- Harper, S. R., Carini, R. M., Bridges, B. K., & Hayek, J. C. (2004). Gender differences in student engagement among African American undergraduates at historically black colleges and universities. *Journal of College Student Development*, 45(3), 271–284.
- Harvey, W. B., & Williams, L. E. (1996). Historically black colleges and universities: models for increasing minority representation. In C. S. Turner, M. Garcia, A. Nora & L. I. Rendon (Eds.), Racial and ethnic diversity in higher education, ASHE reader series (pp. 233–240). Needham Heights: Simon & Schuster.
- Hersch, R., & Merrow, J. (eds). (2005). Declining by degrees. New York: Palgrave MacMillan.
- Hirt, J. B. (2006). Where you work matters: Student affairs administration at different types of institutions. Lanham: University Press of America.
- Hooks, B. (1990). Choosing the margin as a space of radical openness. In B. Hooks (Ed.), *Yearnings: Race, gender, and cultural politics* (pp. 145–153). Boston: South End.
- Hu, S., & Kuh, G. D. (2003). Diversity experiences and college student learning and personal development. *Journal of College Student Development*, 44(3), 320–334.
- Kahlenberg, R. D. (2004). America's untapped resource: Low-income students in higher education. New York: Century Foundations.
- Kezar, A., & Kinzie, J. (2006). Examining the ways institutions create student engagement: the role of mission. *Journal of College Student Development*, 47(2), 149–172.
- Koljatic, M. (2000). A longitudinal assessment of college student perceptions of good practices in undergraduate education. Unpublished doctoral dissertation, Indiana University, Bloomington.
- Kuh, G. D. (1995). The other curriculum: out-of-class experiences associated with student learning and personal development. *Journal of Higher Education*, 66, 123–155.



- Kuh, G. D. (2001). Assessing what really matters to student learning: inside the national survey of student engagement. *Change*, 33(3), 10–17. 66.
- Kuh, G. D., & Hu, S. (1999). Unraveling the complexity of the increase in college grades from the mid-1980s to the mid-1990s. *Educational Evaluation and Policy Analysis*, 21, 1–24.
- Kuh, G. D., & Hu, S. (2001). The effects of student-faculty interaction in the 1990s. The Review of Higher Education. 24, 309–332.
- Kuh, G. D., & Siegel, M. J. (2000). College student experiences questionnaire: Tentative norms for the fourth edition. Bloomington: Indiana University.
- Kuh, G. D., & Vesper, N. (1997). A comparison of student experiences with good practices in undergraduate education between 1990 and 1994. Review of Higher Education, 21, 43–61.
- Kuh, G. D., Schuh, J. H., Whitt, E., et al. (1991). Involving colleges. San Francisco: Jossey-Bass.
- Kuh, G. D., Pace, C. R., & Vesper, N. (1997a). The development of process indicators to estimate student gains associated with good practices in undergraduate education. *Research in Higher Education*, 38, 435–454.
- Kuh, G. D., Vesper, N., Connolly, M. R., & Pace, C. R. (1997b). College student experiences questionnaire: Revised norms for the third edition. Bloomington: Indiana University Center for Postsecondary Research and Planning.
- Kuh, G. D., Hayek, J. C., Carini, R. M., Ouimet, J. A., Gonyea, R. M., & Kennedy, J. (2001). NSSE technical and norms report. Bloomington: Indiana University Center for Postsecondary Research and Planning.
- McLachlan, G. J., & Krishnan, T. (1997). The EM algorithm and extensions. New York: Wiley.
- Milem, J. F., & Berger, J. B. (1997). A modified model of college student persistence: exploring the relationship between Astin's theory of involvement and Tinto's theory of student departure. *Journal of College Student Development*, 38(4), 387–400.
- Neuman, W. L. (1994). Social research methods: Qualitative and quantitative approaches. Needham Heights: Allyn and Bacon.
- Pace, C. R. (1985). The credibility of student self-reports. Los Angeles: University of California Center for the Study of Evaluation.
- Pace, C. R. (1987). *Test manual and norms: College student experiences questionnaire*. Los Angeles: University of California Center for the Study of Evaluation.
- Pace, C. R. (1990). College student experiences questionnaire (3rd ed.). Los Angeles: University of California, Center for the Study of Evaluation, Graduate School of Education.
- Palmer, R., & Gasman, M. (2008). "It takes a village to raise a child": the role of social capital in promoting academic success of African American men at a black college. *Journal of College Student Development*, 49(1), 52–70.
- Palmer, R. T., & Strayhorn, T. L. (2008). Mastering one's own fate: non-cognitive factors associated with the success of African American males at an HBCU. *National Association of Student Affairs Professionals Journal*, 11(1), 126–143.
- Pascarella, E. T. (1991). The impact of college on students: the nature of the evidence. Review of Higher Education, 14(4), 453–466.
- Pascarella, E. T. (2001). Using student self-reported gains to estimate college impact: a cautionary tale. Journal of College Student Development, 42, 488–492.
- Pascarella, E. T., & Terenzini, P. T. (1991). How college affects students: Findings and insights from twenty years of research. San Francisco: Jossey-Bass.
- Pascarella, E. T., & Terenzini, P. T. (2005). How college affects students: A third decade of research (Vol. 2). San Francisco: Jossey-Bass.
- Pascarella, E. T., Smart, J. C., Ethington, C., & Nettles, M. T. (1987). The influence of college on self-concept: a consideration of race and gender differences. *American Educational Research Journal*, 24, 49–77.
- Pascarella, E. T., Wolniak, G. C., Cruce, T., & Blaich, C. (2004). Do liberal arts colleges really foster good practices in undergraduate education? *Journal of College Student Development*, 45, 57–74.
- Paulsen, M. B. (1998). Recent research on the economics of attending college: returns on investment and responsiveness to price. Research in Higher Education, 39(4), 471–498.
- Perna, L. W. (2000). Differences in the decision to enroll in college among African Americans, hispanics, and whites. *Journal of Higher Education*, 71, 117–141.
- Perna, L. W. (2005). The benefits of higher education: Sex, racial/ethnic, and socioeconomic group differences. *Review of Higher Education*, 29, 23–52.
- Pike, G. R. (1993). The relationship between perceived learning and satisfaction with college: an alternative view. *Research in Higher Education*, 34, 23–40.



- Pike, G. R. (1995). The relationships between self reports of college experiences and achievement test scores. *Research in Higher Education*, 36, 1–22.
- Pike, G. R. (1996). Limitations of using students' self-reports of academic development as proxies for traditional achievement measures. *Research in Higher Education*, 37, 89–113.
- Pike, G. R. (2000). The influence of fraternity or sorority membership on students' college experiences and cognitive development. *Research in Higher Education*, 41(1), 95–116.
- Pike, G. R. (2006). Vocational preferences and college expectations: an extension of Holland's principle of self-selection. *Research in Higher Education*, 47(5), 591–612.
- Pike, G. R., & Kuh, G. D. (2005). First and second generation college students: a comparison of their engagement and intellectual development. *Journal of Higher Education*, 76(3), 276–300.
- Pohlmann, J., & Beggs, D. (1974). A study of the validity of self-reported measures of academic growth. Journal of Educational Measurement, 11, 115–119.
- Polite, V. C., & Davis, J. E. (eds). (1999). African American males in school and society. New York: Teachers College.
- Raudenbush, S. W., & Bryk, A. S. (2002). Hierarchial linear modeling: Applications and data analysis methods. Thousand Oaks: Sage.
- Seifert, T., Pascarella, E., Colangelo, N., & Assouline, S. (2005, November). The effects of honors college participation on experiences of good practices and learning outcomes. Paper presented at the annual meeting of the Association for the Study of Higher Education, Philadelphia, PA.
- Seifert, T. A., Drummond, J., & Pascarella, E. T. (2006). African American students' experiences of good practices: a comparison of institutional type. *Journal of College Student Development*, 47(2), 185–205.
- Strayhorn, T. L. (2008a). Influences on labor market outcomes of African American college graduates: a national study. *The Journal of Higher Education*, 79(1), 29–57.
- Strayhorn, T. L. (2008b). The invisible man: factors affecting the retention of low-income African American males. *National Association of Student Affairs Professionals Journal*, 11(1), 66–87.
- Strayhorn, T. L. (2008c). The role of supportive relationships in facilitating African American males' success in college. NASPA Journal, 45(1), 26–48.
- Strayhorn, T. L. (2009). Accessing and analyzing national databases. In T. J. Kowalski & T. J. Lasley II (Eds.), *Handbook of data-based decision making in education* (pp. 105–122). New York: Routledge.
- Suskie, L. A. (1996). Questionnaire survey research: What works (2nd ed.). Tallahassee: Association for Institutional Research.
- Terenzini, P. T., Springer, L., Yaeger, P. M., Pascarella, E. T., & Nora, A. (1996). First generation college students: characteristics, experiences, and cognitive development. *Research in Higher Education, 37*, 1–22.
- Thomas, S. L. (2000). Deferred costs and economic returns to college major, quality, and performance. *Research in Higher Education*, 41, 281–313.
- Tinto, V. (1993). Leaving college: Rethinking the causes and cures of student attrition (2nd ed.). Chicago: University of Chicago Press.
- Umbach, P. D., & Kuh, G. D. (2003). Student experiences with diversity at liberal arts colleges: Another claim for distinction. Paper presented at the annual meeting of the Association for Institutional Research, Tampa, FL.
- U.S. Department of Education, National Center for Education Statistics. (2006). *The condition of education 2006 (NCES 2006–071)*. Washington: U.S. Government Printing Office.
- Vogt, W. P. (1999). Dictionary of statistics and methodology: A non-technical guide for the social sciences. Thousand Oaks: Sage.
- Walpole, M. (2003). Socioeconomic status and college: how SES affects college experiences and outcomes. *Review of Higher Education*, 27(1), 45–73.
- Watson, L. W., & Kuh, G. D. (1996). The influence of dominant race environments on students' involvement, perceptions, and educational gains: a look at historically black and predominately white liberal arts institutions. *Journal of College Student Development*, 37, 415–424.
- Watson, L. W., Terrell, M. C., Wright, D. J., Bonner, F., Cuyjet, M. J., Gold, J. M., et al. (2002). How minority students experience college: Implications for planning and policy. Sterling: Stylus.
- Winfield, L. F., & Lee, V. (1986). Gender differences in reading proficiency: Are they constant across race/ethnic groups? Paper presented at the annual meeting of the American Psychological Association, Washington, DC.

