Chapter 2
Do Diversity Courses Make a Difference? A Critical Examination of College Diversity Coursework and Student Outcomes

Nida Denson and Nicholas A. Bowman

Introduction

The United States is as racially diverse as it has ever been. More than half of all children younger than 5 years old are racial or ethnic minorities, reflecting how the population as a whole has also become more diverse in the last decade, from 33 % of the population being from a minority background in 2004, to 38 % in 2014 (U.S. Census Bureau, 2015). However, in this era of increased racial heterogeneity, the United States is also becoming more racially and socioeconomically segregated in neighborhoods and K-12 schools (Kucsera & Orfield, 2014; Orfield, Kucsera, & Siegel-Hawley, 2012). The proliferation of social media further allows people to self-select into interactions with those who are similar to themselves. Thus, the need to promote interracial and intergroup understanding is arguably even greater now than in previous decades.

Colleges and universities can play a critical role in shaping these dynamics. Hundreds of studies have demonstrated that intergroup interactions and friendships predict improved intergroup attitudes; many of these examined samples of college students (see Davies, Tropp, Aron, Pettigrew, & Wright, 2011; Pettigrew & Tropp, 2011). Institutions have a limited amount of control over the quantity and quality of intergroup interactions, whereas they can require students to take coursework that

N. Denson (✉)
School of Social Sciences & Psychology, Western Sydney University,
Locked Bag 1797, Penrith, NSW 2751, Australia
e-mail: n.denson@westernsydney.edu.au

N.A. Bowman
University of Iowa, N491 Lindquist Center, Iowa City, IA 52242, USA
e-mail: nick-bowman@uiowa.edu

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focuses on diversity issues as part of their general education requirements. As a result, diversity coursework holds a unique position on many campuses as a shared—and sometimes introductory—experience to issues of difference. Creating a common curricular experience also comes with significant challenges, since such courses must attempt to promote learning among students who have spent very little time thinking about issues of inequality as well as others who spent their whole lives confronted by it. For the purposes of this chapter, diversity courses are "courses that have content and methods of instruction that are inclusive of the diversity found in society" (Nelson Laird, Engberg, & Hurtado, 2005, p. 450). Some institutions have implemented a "diversity" general education requirement, while others do not have a diversity requirement but have integrated into the curriculum. According to a nationally-representative survey of 325 Chief Academic Officers of the Association of American Colleges and Universities (AAC&U), 60 % of institutions have incorporated diversity courses in their general education programs; in addition, one-third (34 %) of institutions require all their students to participate in diversity studies and experiences, but the vast majority (87 %) offer these activities to all students (Hart Research Associates, 2016). Diversity courses are also housed in specific departments that may include not only ethnic studies or women's studies, but also the social sciences, humanities, professional fields, and even natural sciences.

The overarching goal of this chapter is to examine the current research on how diversity courses affect student outcomes in higher education. The purpose of this chapter is threefold: (1) to provide a critical examination of the research and theory on college diversity coursework and student outcomes; (2) to provide a critique of the extant literature in terms of its conceptual and methodological rigor; and (3) to provide directions for future research. To date, there has not yet been a systematic review of the extent to which diversity courses affect a broad range of student outcomes in higher education. Thus, this chapter is guided by the following overarching research question: *To what extent do diversity courses affect student outcomes?* To answer this question, the following questions will be discussed:

1. What are the various types of diversity courses on campuses?
2. What are the current theoretical frameworks regarding the relationship between diversity courses and student outcomes?
3. What are the nature and quality of the research evidence regarding the relationship between diversity courses and student outcomes?
4. How can research be improved to promote a greater understanding of the relationship between diversity courses and student outcomes?
5. What questions remain for further exploration regarding diversity courses and student outcomes?

Diversity Courses on Campuses

The ultimate goal of diversity courses is to equip students for participation in an equitable and just society (Banks, 2013; Nelson Laird, 2003, 2014). Nelson Laird (2003) reviewed models of diversity courses that specifically identified goals for

diversity education, and he formulated four major goals of diversity courses. The first goal is to prepare students with a greater understanding of the history and reality of their self and other cultural groups in society. The second goal is to develop students' abilities to function effectively within and across various cultural groups, including their own. The third is for students to become proficient in "basic education" areas, such as literacy, numeracy, and perspective-taking. The final goal is to reduce students' biases and prejudices while simultaneously empowering them to combat discrimination and oppression from others and the larger society. These goals fall along a continuum from the first goal (least inclusive) to the fourth goal (most inclusive) (Nelson Laird, 2003).

In a more recent iteration, Nelson Laird (2014) provides a "diversity inclusivity framework" that outlines how the different elements of diversity courses are more or less inclusive of diversity. The diversity inclusivity framework is meant to assist faculty who are incorporating (or considering incorporating) diversity into their courses. The framework lists the following nine elements that relate to the design and delivery of diversity courses: purpose/goals, content, foundations/perspective, learners, instructor(s), pedagogy, environment, assessment/evaluation, and adjustment. Each individual element carries equal weight, and each element falls along a continuum ranging from not inclusive to fully inclusive. Thus, each diversity course can vary in their level of diversity inclusivity for each individual element. When conceptualized in this way, what counts as a "diversity course" is broader than the traditional classification of diversity courses and also takes into account the contextual and pedagogical aspects of courses (Nelson Laird, 2011; Nelson Laird & Engberg, 2011).

As Nelson Laird and Engberg (2011) point out, the majority of past research focuses either on the "nominal classification" (e.g., diversity course requirements) or "content-based derivatives" (e.g., ethnic studies courses). In terms of nominal classification, these courses tend to be either a "diversity requirement" (which is more frequent) or can be infused throughout the entire curriculum (which is less frequent and more difficult to implement) (Gaff, 1991; Humphreys, 1997; Nelson Laird, 2003). An institution can also choose not to provide any diversity course offerings at all. In terms of content-based derivatives, sometimes diversity courses are categorized in terms of their curricular location, such as ethnic studies and women's studies departments (Nelson Laird, 2003). The curricular location can also refer to the level of study within the course, that is, as an upper-level or lower-level course (Nelson Laird, 2003).

Not surprisingly, institutions vary considerably in how they implement their diversity course requirements, with the most common being a diversity requirement in which students select from among a list of approved diversity courses. Over 15 years ago, a national survey by the Association of American Colleges and Universities (AAC&U) revealed that almost two-thirds (63 %) of the nation's colleges and universities either already had a diversity requirement in place or were currently developing one (Humphreys, 2000). Humphreys noted that the continued rise in diversity courses reflected public opinion that diversity courses contained important experiences in global citizenship, and they needed to be considered as a key part of the curriculum. At the time the survey was conducted, 54 % of colleges

and universities had at least one required diversity course in the curriculum. Of those institutions with diversity requirements in place, 25 % had them for at least 10 years or more, 45 % for 5–10 years, and 30 % for less than 5 years. Furthermore, of the colleges and universities with diversity requirements in place, 58 % required students to complete only one diversity course, while the remaining 42 % required students to complete two or more courses. More recently, the National Survey of Student Engagement (NSSE, 2011) found that 52 % of graduating senior students had taken courses that encouraged understanding of other cultures.

Overview of Theoretical Frameworks on Exposure to Diverse Content and People

Over the years, various theoretical frameworks have been developed in an attempt to explain the processes and benefits of exposure to diverse content and people, with the majority of current theoretical frameworks focusing predominantly on White or majority perspectives as well as on attitudinal change. Given the increasing racial heterogeneity in U.S. society and college campuses across the country, there has been a recent shift to perspectives from groups that have been excluded historically from the curriculum, as well as outcomes other than attitudinal change. The current theoretical frameworks that attempt to explain the processes of exposure to diverse people and content originate mainly from social psychology and higher education disciplines and are described briefly below.

Social Psychological Frameworks

Allport's (1954) classic book, *The Nature of Prejudice*, is the most widely used theoretical framework regarding the potential benefits of intergroup contact, and the basic principles of his framework have been used extensively to inform the overall effect of intergroup contact in the higher education context. In brief, Allport argued that people typically have more favorable perceptions of ingroup members and express more negative stereotypes and prejudices toward outgroup members. He reasoned that ignorance surrounding the outgroup and any resulting conflict was likely the result of limited contact between the ingroup and outgroup; a reduction in the stereotypes underlying prejudice could be achieved through substantive contact between members of each group. Importantly, Allport made a distinction between the types of contact, arguing that superficial contact will likely have less impact than 'true acquaintance' contact. In order to achieve a reduction in prejudice through interaction, he outlined that a number of specific conditions in the interaction had to be present, including equal status among group members, personal and informal interaction, cooperative activities toward a common goal, and support of authority figures for the interaction.

While Pettigrew's (1998) comprehensive review of Allport's theory provided support for the four conditions for optimal interaction, he did add a fifth condition of *friendship potential*. Pettigrew found that participants who reported having outgroup friends were more tolerant and had more positive feelings toward the outgroup generally than participants who did not report such friendships. Pettigrew's revised contact theory added that Allport's conditions are important because they allow for the possibility of friendships to develop between ingroup and outgroup members. Specifically, Pettigrew (1998) suggested that cross-group friendships contributed to prejudice reduction as it generated *affective connections* to the outgroup members.

One critique of Allport's (1954) theory is the lack of detail regarding the *process* for how contact might change attitudes and behavior. As Pettigrew (1998) notes, Allport's theory "predicts only when contact will lead to positive change, not how and why the change occurs" (p. 70). A decade later, Pettigrew and Tropp (2008) conducted a meta-analysis to examine three possible mediators in reducing prejudice. Specifically, intergroup contact leads to a reduction in prejudice for three reasons: (1) contact between ingroup and outgroup members leads to increased knowledge about the outgroup; (2) interaction encourages understanding and empathy between members; and (3) contact reduces anxiety about the outgroup. While their meta-analysis showed mediational effects of all three processes in prejudice reduction, increased empathy and anxiety reduction were stronger mediators as compared to increased knowledge. Thus, Pettigrew and Tropp (2006) argued that mere exposure to the outgroup could either increase or decrease negative feelings toward the outgroup, and this theory was used to explain why superficial contact may have led to negative outcomes in some studies. These meta-analytic findings are consistent with the growing literature on the central role of affective processes in reducing prejudice through intergroup contact.

Crisp and Turner (2011) provide a cognitive adaptation explanation to experiences of diversity that is based on multiple social categorization and intergroup attitudes. Crisp and Turner's (2011) categorization-processing-adaptation-generalization (CPAG) model proposes that diversity experiences may stimulate greater cognitive flexibility in individuals, but *only* in situations that challenge stereotypical expectations. They posit that when people are faced with culturally incongruous information (such as a Harvard-educated carpenter), they are likely to employ greater cognitive effort in order to resolve the apparent conflict. Crisp and Turner draw on numerous theoretical frameworks and previous research to offer two pathway models to explain the likelihood of positive and negative appraisal in diversity experiences. On the one hand, reappraisal may include the reassignment of new attributes, but also may operate to inhibit the automatic stereotypical traits that are normally activated with each separate category (e.g. 'Harvard graduate' and 'carpenter'). In this pathway, diversity experiences challenge existing stereotypes and may therefore lead to a reduction in an individual's reliance on them to guide their appraisals. On the other hand, the alternative pathway will likely be used when people lack the motivation to engage with—or ignore or deny altogether—alternative

information that challenges a stereotyped viewpoint (Conway, Schaller, Tweed, & Hallett, 2001). Thus, enhanced cognitive flexibility is more likely to occur in individuals who are motivated and able to engage with stereotype-disconfirming information, which can occur either before or after experiencing the stereotype-disconfirming information. While proposed in the context of intergroup contact, the CPAG model is also applicable to college diversity experiences such as diversity courses, and colleges and universities in particular are an ideal context for providing curricular and co-curricular courses and activities that challenge stereotypical expectations.

In a similar vein, Dovidio et al. (2004) proposed that exposure to diversity content through structured diversity interventions (e.g., multicultural education) may help trigger important cognitive and affective processes that will lead to the development of more positive ingroup attitudes. In brief, their theory posited that teaching content about other racial groups can also lead to an acknowledgment of previous injustices and recognition that prejudice is undeserved. Their model is largely based on the dual influences of cognitive and affective processes in reducing intergroup bias, although to varying degrees. Since the emphasis of multicultural education (which reflects diversity coursework) is on gaining new knowledge and awareness of different groups, the focus is more likely to occur through cognitive rather than affective pathways. Those courses that also include structured intergroup contact (e.g., through facilitated class discussions) may also draw upon the affective pathways.

All of these theories share a focus on how exposure to diverse people and content affects attitudinal change, but they all lack a delineation of how attitudes and beliefs are translated into behavior. Ajzen's (1985, 1991) theory of planned behavior accomplishes exactly this task. His theory proposed that three forces influence behavioral intentions: attitudes towards the behavior (i.e., how the individual views the behavior), subjective norms regarding the behavior (i.e., what other people think about the behavior), and perceived controllability of the behavior (i.e., whether the person thinks they can engage in or achieve the behavior). In turn, behavioral intentions will influence and lead to planned behavior. In other words, more favorable attitudes towards the behavior in combination with higher subjective norms and greater perceived controllability of the behavior will lead to stronger behavioral intentions. Of the three forces influencing behavioral intentions, diversity courses are likely to influence attitudes most often, particularly by becoming more aware of issues of inequality and/or discrimination. Through diversity coursework and possibly interactions with diverse others in the course, students may also perceive and experience subjective norms that more strongly promote egalitarian attitudes towards diversity. Thus, diversity courses will likely have direct effects on influencing students' attitudes, and possibly indirect effects on students' behavior.

Higher Education Frameworks

Following from Allport's and later Pettigrew's work, diversity experiences (broadly defined) was one of the strongest contributors to a wide range of student outcomes of any aspect of college (whether considering experiences that happen with a college or institutional attributes that occur between colleges) (Mayhew et al., 2016). Emerging higher education models in this area over the past 15 years have attended to the processes and conditions under which diversity experiences may affect student outcomes. Gurin, Dey, Hurtado, and Gurin (2002) proposed such a framework, which was grounded in Piaget's (1971) concept of cognitive disequilibrium. In their view, the greater presence of diversity at many college campuses (compared with the relatively homogeneous environments of most K-12 schools and neighborhoods) offers students the unique opportunity to encounter experiences with difference that are novel and inconsistent with their pre-existing attitudes and perspectives. Gurin et al. theorized three specific dimensions of diversity experiences: structural diversity (i.e., the numerical representation of students from different backgrounds), informal interactional diversity (the quality and frequency of interactions with student peers), and classroom diversity (the diversity of the learning content, from readings to classroom experiences). Structural diversity itself does not directly promote student outcomes; instead, it provides a necessary condition for interactional diversity to occur. Gurin et al. argue that experiences with diversity through course content, workshops, and interracial interaction occur in a developmental period in which young adults are forming their personal and social identities and therefore may be particularly likely to reconsider their pre-existing worldviews when they encounter diversity. When students' experiences with diversity contradict their previously held assumptions, they may experience a sense of disequilibrium, which can be resolved either by assimilating the experiences into their existing worldviews and attitudes or by accommodating or changing their belief structures to fit with these new experiences.

Bowman's (2009) theory on divergent experiences of diversity extends Gurin et al. (2002) model and provides a framework for understanding how the impact of college diversity coursework on cognitive growth may vary between students from differing social groups. In particular, Bowman seeks to explain the differences between privileged groups (i.e., White/Caucasian, male, wealthy) and marginalized groups (i.e., students of color, female, lower or middle-income). Bowman (2009) posits two possible opposing predictions. On the one hand, the *exploration perspective* draws upon Gurin et al.'s (2002) concept of disequilibrium and reconsidering one's existing worldviews, which results in cognitive growth (Piaget, 1971; Ruble, 1994). It posits that students from privileged backgrounds generally have had less frequent diversity exposure than students from marginalized backgrounds; as a result, diversity experiences should be more novel and therefore more beneficial for privileged students. In addition, if the attitudes and beliefs of students from

privileged groups are further from those taught in diversity courses than are the attitudes and beliefs of students from marginalized groups, then this greater deviation also provides a greater opportunity for learning and growth for students from privileged (relative to marginalized) groups. On the other hand, the *resistance perspective* posits that students from privileged groups may resist learning about the content in diversity courses, especially when it challenges students' own privilege in society. Students who feel personally threatened may become less open-minded and may be less likely to undergo cognitive disequlibrium. In this case, students from privileged groups would experience less cognitive growth than students from marginalized groups. As Bowman points out, some students are much more inclined than others to be more open to diversity and challenge and thus more likely to seek out diversity courses and diverse friends. That said, both perspectives can operate simultaneously, such that some privileged students are resistant while others are not, and students who initially resist may eventually realize some or all of the intended course benefits.

Hurtado, Alvarez, Guillermo-Wann, Cuellar, and Arellano (2012) extend previous conceptualizations of the campus climate for diversity by putting forth a holistic model that accounts for campus climate, educational practices, and student outcomes. Modifying and extending upon Hurtado, Milem, Clayton-Pedersen, and Allen' (1998, 1999) model for the campus climate for racial/ethnic diversity, Hurtado et al. (2012) *Multi-contextual Model for Diverse Learning Environments* (MMDLE) model provides increased specificity about curricular and co-curricular diversity activities on campus and how campus climate can shape these two diversity activities. The MMDLE model also incorporates staff and student identities, which were largely lacking in previous conceptualizations of campus climates for diversity. The MMDLE model provides a multicontextual model for diverse learning environments that incorporate a much broader range of factors, including macro-level factors (socio-historical, institutional, and policy contexts) as well as micro-level factors (including individuals and roles). Most importantly, the MMDLE model places diverse students and their multiple student identities at the core of educational processes that occur in curricular and co-curricular diversity contexts. They note that, most importantly, interactions between the student and faculty member are influenced by their own social group identities. In other words, "diverse learning environments are characterized by the dynamic interplay between faculty and student identity, content, and pedagogy, all of which are facilitated by processes such as intentional socialization, validation, and inclusion that creates the psychological sense of integration or sense of belonging" (Hurtado et al., 2012, p. 76). In sum, this model recognizes the variation in racial climate across campuses and how institutions are impacted by internal as well as historical and political forces. The MMDLE model allows for a more contextual and student-centered view of campus climate and diversity.

The Nature and Quality of Current Research on Diversity Courses and Student Outcomes

We used several different strategies to identify relevant articles. These approaches included a keyword search of several library databases and Google Scholar, a hand search of every article published in a top-tier U.S. higher education journal (see Bray & Major, 2011) as well as *Journal of Diversity in Higher Education*, and a review of the literature cited in the publications we obtained. We used several criteria to determine whether a study was included in the review: (1) it provided original empirical results, (2) the study investigated the relationship between at least one diversity course and at least one student outcome, (3) the key predictor did not combine diversity coursework with other forms of diversity engagement (which would obscure the unique effect of courses), (4) participants were undergraduate students or were reporting about their previous undergraduate experience in the United States, (5) the article was published from 1990 to 2014 (so as to focus on studies that explored a reasonably recent version of a diversity course). We also considered whether to include Intergroup Relations and service-learning, since both of which are arguably forms of diversity coursework. However, because these are defined in terms of their use of a specific pedagogy (which cannot be differentiated from their content), such courses were excluded from this review. Our search and selection criteria resulted in 92 primary studies examining the relationship between diversity courses and student outcomes. These studies often did not specify whether the diversity course was required or not, so we did not examine the differential effects for required versus non-required diversity courses as other reviews have done (e.g., Engberg, 2004).

For the purposes of this review, we have classified the diversity courses based on their curricular location within the institution (i.e., course department or program). In addition, some studies examined a number of courses in multiple departments, or they did not specify the location of the course(s). Other studies created a composite of curricular diversity exposure, while others examined the number of diversity courses taken. Thus, we review the studies based on the following six categories.[1]

- Ethnic studies courses (16 studies)
- Women's studies courses (10 studies)
- Courses located in other departments/programs (20 studies)
- Courses in unknown departments or multiple courses (19 studies)
- Curricular diversity composite (7 studies)
- Number of courses (28 studies)

Within each of these categories, we first classified them according to their methodological approach, including quantitative, qualitative, and mixed-methods designs. Then, the studies were assessed by their findings, which included whether

[1] Some papers conducted multiple studies, so these have been included in more than one category.

diversity courses had positive, negative, nonsignificant, or mixed findings. Studies were then reviewed along the following criteria: overall and differential findings, sample characteristics, research design and methodology, and outcome type. We also provide a brief summary at the end of each subsection as well as an overall summary across the six subsections at the end.

Ethnic Studies Courses

There were 16 studies that examined the relationship between ethnic studies courses and student outcomes (15 quantitative studies and 1 mixed-method study). Of these studies, four found positive relationships (Antony, 1993; Astin, 1993; Hyun, 1994; Milem, 1994), two found nonsignificant relationships (Hurtado, 1994; Park, 2009), and 10 found mixed relationships (Antonio, 2001; Bowman, Brandenberger, Hill, & Lapsley, 2011; Brantmeier, 2012; Chang, 1996; Gurin et al., 2002; Hurtado, 2001; Jayakumar, 2008; Johnson & Lollar, 2002; Tsui, 1999; Vogelgesang, 2001). Of the 16 total studies, 13 of them utilized secondary data from UCLA's Cooperative Institutional Research Program (CIRP), and three did not (Brantmeier, 2012; Hurtado, 1994; Johnson & Lollar, 2002).

Quantitative Studies While the majority of these studies used matched student data from the freshman and senior year surveys on a multi-institutional sample, Jayakumar (2008) used the 1994/1998/2004 data where students were followed up 6 years after graduation. Antonio (2001) used 1994 CIRP freshman data and followed up students in their third year at a single institution (UCLA), while Bowman et al. (2011) used 1990/1994 CIRP data from a single-institution with a third survey 13 years after graduation in 2007.

Positive Findings Of the quantitative studies, the four that found positive results all examined the goal of helping to promote racial understanding (a diversity-related outcome) and all used the 1985/1989 CIRP data (Antony, 1993; Astin, 1993; Hyun, 1994; Milem, 1994). Antony (1993), Astin (1993), and Hyun (1994) all conducted analyses on the overall sample. Hyun (1994) disaggregated the sample by White and African American students, while Milem (1994) disaggregated the sample by White women and White men. The simple correlation between having taken an ethnic studies course and helping to promote racial understanding was moderate in magnitude for all the studies. When they controlled for relevant background characteristics, the pretest, environmental characteristics, and other college experiences (both diversity-related and non-diversity related), the final Beta coefficients indicated small but still significant relationships. Hyun (1994) compared White and Black students; while the White students had slightly higher simple correlations than the Black students, the final Beta coefficients for both groups were identical. Milem (1994) compared the relationship between having taken an ethnic studies course the goal of promoting racial understanding for White women and White men. Both the simple correlations and final Beta coefficients were similar.

Astin (1993) provided an overview of his findings from his 1993 book on *What Matters in College? Four Critical Years Revisited*, which utilized 1985/1989 CIRP data to examine 82 outcome measures on 25,000 students from 217 four-year colleges and universities. Astin controlled for pretests and other entering student characteristics to examine how various outcomes are affected by college environments. In addition to finding that taking an ethnic studies course is associated with helping to promote racial understanding, he also found that taking an ethnic studies course had significant positive associations with believing that racial discrimination continues to be a problem in America; self-ratings of cultural awareness, political liberalism, listening ability, foreign-language skills; importance of cleaning up the environment, participating in campus protests; and attending recitals and concerts. Thus, having taken an ethnic studies course was related to a number of diversity-related and non-diversity related outcomes 4 years after college entry.

Nonsignificant Findings There were two studies that found nonsignificant results (Hurtado, 1994; Park, 2009). Using the 1994/1998 CIRP data, Park (2009) examined predictors of student satisfaction with diversity at traditionally White institutions. She conducted separate analyses for White, African American, Latino/a, and Asian American students. She found that having taken an ethnic studies course had no significant relationship with student satisfaction with the racial/ethnic diversity of the campus for students from all four racial/ethnic groups. These analyses controlled for a number of other college diversity experiences such as cross-racial interaction, having a roommate of another race, other co-curricular diversity experiences, and various diversity-related perceptions and attitudes.

Hurtado (1994) examined the factors that predict student perceptions of diversity and campus climate using a national sample of academically talented Latino college students. She examined a perceptual (perceptions of racial/ethnic tension on campus) and a behavioral (whether they experienced discrimination on campus) dimension to reflect the institutional climate for diversity. Hurtado also controlled for a number of other college diversity experiences (e.g., informal social preferences in college, dating preferences, interacted across racial/ethnic groups, participated in Hispanic student clubs or organizations). She found no relationship of having enrolled in a Latino studies course on perceptions of the climate or experiences of discrimination.

Mixed Findings There were nine quantitative studies that found mixed results. Antonio (2001) used the 1994 CIRP Freshman Survey data for students at a single institution, and then administered a second survey in their third year. When only precollege characteristics were taken into account, having taken an ethnic studies course had significant positive associations with all three diversity-related outcomes (i.e., interracial interaction, cultural awareness, and promoting racial understanding). However, after controlling for friendship group characteristics and student involvement variables (which included co-curricular diversity experiences, interracial interaction outside their friendship group, and conversations around difference and diversity), the positive association of having taken an ethnic studies

courses became nonsignificant. This finding may reflect an indirect effect, since diversity courses involve conversations about difference and diversity by definition, which may then lead to these outcomes.

Tsui (1999) used 1985/1989 CIRP data to examine how various college courses (including ethnic studies courses) *and* instructional techniques predict self-reported critical thinking (a non-diversity related outcome). When only the courses were added to the regression analysis, ethnic studies courses had a significant but small positive link with self-reported critical thinking. However, this positive finding for ethnic studies courses became nonsignificant once the instructional variables were accounted for. In other words, ethnic studies courses may affect students' critical thinking indirectly, because these courses utilize likely used active learning instructional techniques, such as receiving instructor feedback on a paper, conducting an independent research project, or participating in a group project.

Three of these studies examined how enrolling in an ethnic studies course was associated with a number of diversity-related and non-diversity related outcomes (Chang, 1996; Hurtado, 2001; Johnson & Lollar, 2002). Chang's (1996) study showed that having enrolled in an ethnic studies course had significant positive associations with socializing with someone of a different racial group, discussing racial/ethnic issues, and college retention. Ethnic studies courses had no relationship with college satisfaction, intellectual self-concept, social self-concept, and college GPA, which are all non-diversity related outcomes. Similarly, Johnson and Lollar (2002) showed that having enrolled in a racial/ethnic studies course was positively associated with learning about contributions of other racial/ethnic groups to US society and the importance of promoting racial understanding, but had no association with interest in the 2000 elections or being a member of a university student organization. Hurtado (2001) conducted partial correlations (controlling for selectivity, student abilities, and academic habits) between enrollment in an ethnic studies course and students' self-reported growth on seven civic outcomes, five job-related outcomes, and eight learning outcomes. She found that having enrolled in an ethnic studies course was positively associated with 12 outcomes, negatively associated with two outcomes, and had no association with six outcomes. The largest positive partial correlations were for the diversity-related outcomes (e.g., cultural awareness, acceptance of people of different race/cultures, tolerance of people with different beliefs), with negative partial correlations for mathematicalability and competitiveness.

Two studies examined the relationship between ethnic studies courses and various outcomes across different racial/ethnic groups (Gurin et al., 2002; Vogelgesang, 2001). Vogelgesang (2001) found that having taken an ethnic studies course had significant positive links with both commitment to activism and promoting racial understanding for both Latino/a and White students, but had no such relationships for African American students, and was significantly and positively related to commitment to promoting racial understanding for Asian American students. Gurin et al. showed that having taken an ethnic studies course had significant and consistent positive relationships with both learning (intellectual engagement,

academic skills) and democracy outcomes (racial/cultural engagement, citizenship engagement) for White students. However, the findings were mixed for students of color. Ethnic studies courses had a significant positive association with all outcomes except for racial/cultural engagement for Latino/a students, while they were only significantly and positively related to racial/cultural engagement for the Asian American students (all other findings were nonsignificant). For African American students, having taken an ethnic studies course had no link with three of the outcomes, and had a significant negative association with academic skills.

Two longitudinal studies utilized structural equation modelling to examine both the direct and indirect effects of having enrolled in an ethnic studies course over the span of 10–17 years (Bowman et al., 2011; Jayakumar, 2008). Using a single-institution sample, Bowman et al. (2011) surveyed students at the start of college, end of college, and then 13 years after graduation. Having taken an ethnic studies course had significant positive direct effects on prosocial orientation and recognition of racism in the senior year. While ethnic studies courses had no direct effect on any of the postcollege outcomes, it had significant positive indirect effects on recognition of racism, volunteering behavior, identified/engaged purpose, and personal growth. There were no indirect effects of having taken an ethnic studies course on either environmental mastery or life satisfaction.

Jayakumar (2008) used a multi-institutional sample where students were surveyed at the beginning and end of college, and then again 6 years after graduation. She only examined White students, but she conducted separate analyses on White students from segregated precollege neighborhoods and White students from diverse precollege neighborhoods. Having enrolled in an ethnic studies course had significant direct effects on pluralistic orientation and cross-racial interaction in the senior year, and the effects were almost identical in magnitude across both groups. While having taken the course had no direct effect on any of the postcollege outcomes, it did have positive indirect effects on postcollege socializing across race for both groups. In addition, there were positive indirect effects on postcollege leadership skills and a racially integrated postcollege lifestyle for Whites from segregated precollege neighborhoods.

Mixed-Method Study Brantmeier (2012) conducted a mixed-method dissertation examining college students' attitudes towards Native Americans and their native studies course experience using a single-institution sample. Utilizing a pretest-posttest design, 31 students who took a native studies course had significantly more positive political and racial attitudes toward Native Americans at the end of the course than the beginning of the course. White and non-White students did not differ significantly on either the pretest or posttest. The qualitative portion examined how taking a native studies course might influence student attitudes toward Native Americans, their history, and contemporary experiences. The qualitative findings suggested three themes constructed around the experience and process of taking a Native American studies course: learning and unlearning the past, present, and future; awareness, emotion, and moving toward action; and locus of change. The students move through these three themes, ranging from relatively basic to more

advanced perspectives. Brantmeier concludes that the extent to which students move through the themes as a continuum is based on personal and educational factors. For example, a student for which this was their first exposure to Native American content may or may not move to the locus of change theme and into figuring out how they can create change.

Summary Overall, one-quarter of the studies that examined ethnic studies courses showed positive relationships, one-eighth identified no significant relationships, and the remaining majority had mixed findings. Most studies utilized CIRP data and the dichotomous variable on the survey which asked students whether or not they had enrolled in an ethnic studies course (yes or no). The studies that showed mixed findings were largely studies that examined a combination of both diversity-related and non-diversity related outcomes, disaggregated samples by race, examined both direct and indirect effects, or used mixed methods. Generally, ethnic studies courses tended to have more consistent, stronger positive associations with diversity-related outcomes, and less consistent, weaker, and/or no association with non-diversity related outcomes. The results were more likely to be statistically significant for White students as compared to students of color. Lastly, ethnic studies courses tended to have direct effects on outcomes that were diversity-related and/or proximal (e.g., senior-year outcomes), with indirect effects on outcomes that were non-diversity related and/or more distal (e.g., postcollege outcomes).

Women's Studies Courses

There were ten studies that examined the link between women's studies courses and student outcomes (nine quantitative, one mixed-methods). Of the ten studies, five reported positive findings (Antony, 1993; Astin, 1993; Eisele & Stake, 2008; Malkin & Stake, 2004; Tsui, 1999), one reported nonsignificant results (Hyun, 1994), and four reported mixed relationships (Antonio, 2001; Hurtado, 2001; Stake & Hoffmann, 2001; Vogelgesang, 2001).

Quantitative Studies Similar to ethnic studies courses, the majority of the quantitative studies in this category utilized CIRP data (Antonio, 2001; Antony, 1993; Astin, 1993; Hurtado, 2001; Hyun, 1994; Tsui, 1999; Vogelgesang, 2001), and these same studies also examined women's studies courses as well (see previous section).

Positive Findings In the overview of his book's findings, Astin (1993) points out that having taken an ethnic studies course or a women's studies course produces almost identical patterns of results on outcomes. Thus, similar to the findings on ethnic studies courses, Astin (1993) found that having taken a women's studies course has positive associations with a number of diversity-related and non-diversity related outcomes. Antony (1993) showed that having taken a women's studies course had a small to moderate correlation with promoting racial understanding.

Once controlling for background characteristics, environmental characteristics, and a number of college experiences (both diversity-related and non-diversity related), the final Beta coefficient was small but still significant and positive.

As described in the previous section, Tsui (1999) examined how college courses (including women's studies courses) and instructional techniques affect self-reported critical thinking. When only courses were included in the analyses, women's studies courses had a significant, small positive association with students' critical thinking. Unlike the findings for ethnic studies courses, this result stays significant even after the instructional variables are accounted for in the final model, meaning that any association of having taken a women's studies course is not driven by instructional techniques examined and is likely due to other factors.

Both Eisele and Stake (2008) and Malkin and Stake (2004) examined how women's and gender studies courses affect student development utilizing a pretest-posttest design on multi-institution samples. Eisele and Stake (2008) had a sample of 435 students (357 women, 78 men) enrolled in 29 women's and gender studies courses at six universities and junior colleges in the Midwest. At the end of the semester, the students had significant positive changes as compared to the start of semester on all four outcomes (i.e., feminist attitudes, feminist identity, personal self-efficacy, and feminist activism). When compared across gender, women reported higher scores than men in both time periods for feminist attitudes, identity, and activism. While men reported higher personal self-efficacy at the pretest as compared to women, there were no gender differences in personal self-efficacy at the posttest. Women also reported higher empowerment scores than men at the posttest (empowerment was only measured at the posttest). When compared across race/ethnicity, African American (n = 45) students had significantly higher personal self-efficacy and lower feminist identity scores on both the pretest and across time as compared to Euro American (n = 325) and 'Other' (n = 16) students. There were no racial/ethnic differences for feminist attitudes, feminist activism, or class empowerment.

Malkin and Stake (2004) surveyed 328 students (275 women, 53 men) enrolled in 23 women's and gender studies courses from four midsized universities in a large Midwestern metropolitan area. As compared to the beginning of the semester, the students in the women's and gender studies courses had significant positive increases on all four outcomes (i.e., appreciation/acceptance of diversity, understanding equality issues, performance self-esteem, and career goal confidence). Additional analyses showed that student readiness (positive women and gender studies class expectations and capacity for positive interpersonal relationships) was positively associated with classroom relationships (i.e., alliance with the teacher and cohesion with classmates). In addition, these classroom relationships mediated the link between student readiness and social attitude change.

Nonsignificant Findings There was one study that showed a nonsignificant result of having enrolled in a women's studies course on student outcomes. Hyun (1994) also simultaneously examined the effects of taking a women's studies course as well as an ethnic studies course. However, Hyun utilized stepwise multiple regression in

which only significant predictors emerged in the final model. While having enrolled in a women's studies course was included as a possible predictor in the initial regression, it did not enter as a significant predictor of promoting racial understanding, and so was omitted from the final regression equation.

Mixed Findings The last three quantitative studies reported mixed results of having taken a women's studies course (Antonio, 2001; Hurtado, 2001; Vogelgesang, 2001). All three studies also examined taking an ethnic studies course in addition to a women's studies course. Similar to the results for ethnic studies courses, Antonio (2001) also found that having taken a women's studies course had a significant relationship when only precollege variables were taken into account, but it then became nonsignificant when all variables (i.e., precollege characteristics, friendship group characteristics, numerous student involvement variables) were entered into the model. This pattern of findings was consistent across all three diversity outcomes (i.e., interracial interaction, cultural awareness, and the importance of promoting racial understanding). Hurtado (2001) conducted partial correlations (controlling for selectivity, student abilities, and academic habits) between having enrolled in a women's studies course and students' self-reported growth on seven civic outcomes, five job-related outcomes, and eight learning outcomes. She found that having enrolled in a women's studies course was positively associated with eight outcomes, negatively associated with two outcomes, and had nonsignificant associations with ten outcomes. The largest positive partial correlations were with cultural awareness, writing skills, and tolerance of people with different beliefs. The largest negative partial correlation with having taken a women's studies course was mathematical ability. Vogelgesang (2001) showed that women's studies coursework was significantly and positively related to a commitment to activism for White students only, but had no link with commitment to activism for Asian American, African American, or Latino/a students. Having taken a women's studies course did not enter in any of the preliminary stepwise regressions for all four racial/ethnic groups, and thus was unrelated to the outcome of commitment to promoting racial understanding.

Mixed-Method Study Stake and Hoffmann (2001) examined the effectiveness of women's studies courses utilizing a sample of 574 (398 women's studies, 176 non-women's studies) students from 32 college campuses. Students were surveyed at three time points: beginning, end, and 6 months after the semester. Students in the women's studies courses had higher scores than the non-women's studies students on all the outcomes: performance self-esteem, egalitarian attitudes toward women, general egalitarianism, awareness of sexism and discrimination, activism for women's issues, other activism, and likelihood of future activism for women's issues and other activism. Even when controlling for pretest scores, the women's studies students had significantly higher scores as compared to the non-women's studies students on all the outcomes except for performance self-esteem (at both the posttest and follow-up). In examining possible long-term effects, there were no discernible changes on any of the outcomes for the students in the women's studies group 6 months after the course. However, of the students who took the first women's studies course, those who took an *additional* women's studies course in the

follow-up period (and even controlling for their posttest scores) had significantly higher follow-up scores on all of the outcomes except for egalitarian attitudes towards women as compared to students who did not take the additional women's studies course. The authors also included subjective change measures to gain participants' views on their own perceived growth that may not be evident in other measures, and a content analysis was conducted on the written descriptions of change. With or without covariates, students in the women's studies course experienced greater self-perceived change in their egalitarian attitudes and awareness of discrimination as compared to students in the non-women's studies courses. The women's studies students were also more likely than the non-women's studies students to report in their written description of their changes that the course had caused them to be more aware of discrimination and/or engaged in social activism, paralleling the quantitative findings.

Summary Taken together, half of the studies showed positive results, and the other half showed a mixed results. The majority of the studies utilized CIRP data, and many of them overlapped with studies that examined ethnic studies courses. Generally, the CIRP studies that included both ethnic studies and women's studies courses showed slightly smaller relationships for women's studies courses as compared to ethnic studies courses, which may explain why one study showed no significant finding of having taken a women's studies course (i.e., using stepwise regression). In addition, this trend may occur because the outcomes in those studies tended to focus on racial diversity outcomes, which are more directly relevant to the content of ethnic studies coursework. The studies that showed mixed findings included a number of other college diversity involvement variables and friendship group characteristics in the models, examined a broad range of outcomes (both diversity-related and non-diversity related), and disaggregated samples by race. In general, women's studies courses tended to have stronger positive associations with gender-related and diversity-related outcomes, and less consistent, weaker, and/or no association with non-diversity related outcomes. There were no racial/ethnic group differences for gender-related outcomes, but the results were more likely to be statistically significant for White students as compared to students of color for diversity-related outcomes.

Courses Located in Other Departments/Programs

There were 20 studies that examined diversity courses that were located in departments or programs besides ethnic or women's studies (12 quantitative, six mixed-methods, and two qualitative). Of these, ten studies examined diversity courses located in psychology departments (Case, 2007a, 2007b; Case & Stewart, 2010a, 2010b; Chappell, 2014; Kernahan & Davis, 2007, 2009; Khan, 1999; Pettijohn & Walzer, 2008; Probst, 2003). The remaining ten studies examined diversity courses in business (Martin, 2006), communication (Carrell, 1997),

cultural studies (Hathaway, 1999), education (Bidell, Lee, Bouchie, Ward, & Brass, 1994; Burrell, 2008; Hasslen, 1993), human development and family studies (MacPhee, Kreutzer, & Fritz, 1994), life span development and family sciences (Doucet, Grayman-Simpson, & Shapses Wertheim, 2013), nursing (Caffrey, Neander, Markle, & Stewart, 2005), and social work (Hall & Theriot, 2007). Of the 20 studies, six found positive results (Bidell et al., 1994; Caffrey et al., 2005; Carrell, 1997; Case & Stewart, 2010b; Khan, 1999; MacPhee et al., 1994), and 14 found mixed results (Burrell, 2008; Case, 2007a, 2007b; Case & Stewart, 2010a; Chappell, 2014; Doucet et al., 2013; Hall & Theriot, 2007; Hasslen, 1993; Hathaway, 1999; Kernahan & Davis, 2007, 2009; Martin, 2006; Pettijohn & Walzer, 2008; Probst, 2003).

Quantitative Studies Of 12 quantitative studies examining diversity courses, three showed positive findings (Caffrey et al., 2005; Carrell, 1997; Case & Stewart, 2010b) and nine found mixed results (Case, 2007a, 2007b; Case & Stewart, 2010a; Chappell, 2014; Hall & Theriot, 2007; Kernahan & Davis, 2009; Martin, 2006; Pettijohn & Walzer, 2008; Probst, 2003).

Positive Findings Case and Stewart (2010b) showed that students (n = 143) in a Psychology of Race and Gender course showed significant changes in greater awareness of heterosexual privilege, reduced prejudice against lesbians and gay men, and increased support for same-sex marriage over the course of a semester. Caffrey and colleagues (2005) evaluated the integration of cultural content into an undergraduate nursing curriculum on female students' (n = 39) self-reported cultural competence. Students were surveyed at the beginning of the junior year and then again at the end of their senior year before graduating. In addition, they also compared students who participated in an additional 5-week clinical immersion program in international nursing (n = 7). While all students in the nursing program reported an increase in cultural competence at the end of the program, the ones that did not participate in the additional clinical immersion program showed small to moderate gains, while students in the clinical immersion program showed large gains in cultural competence. In the third quantitative study, Carrell (1997) examined the impact of integrating cultural diversity into the communication curriculum on students' empathy. Their findings showed that students in the treatment group showed significantly greater gains in empathy as a trait, attitude, and behavior as compared to the gains for the students in the control group.

Mixed Findings There were nine quantitative studies that showed mixed findings of having taking a diversity course (Case, 2007a, 2007b; Case & Stewart, 2010a; Chappell, 2014; Hall & Theriot, 2007; Kernahan & Davis, 2009; Martin, 2006; Pettijohn & Walzer, 2008; Probst, 2003). Using a one-group pretest-posttest design, three studies examined how taking a Psychology of Race and Gender course predicted changes in students' male privilege awareness and sexism (Case, 2007a, Study 1) and White privilege awareness and racial prejudice (Case, 2007b). In the first study (Case, 2007a), students (n = 147) in the diversity course increased significantly from pretest to posttest in male privilege awareness and support for

affirmative action, while they decreased significantly in modern sexism and hostile sexism. There were no differences in terms of benevolent sexism or feminist self-identification. In the second study (Case, 2007b), students (n = 146) in the diversity course increased significantly in White privilege awareness, awareness of racism, support for affirmative action, White guilt, and fear of other races (last finding was attributed to only one item regarding the number of cross-race friendships). Student prejudice against African Americans, Arab-Middle Eastern people, and Jewish people remained consistent, but prejudice against Latino/as increased. The authors attributed this increase in prejudice towards Latino/as possibly due to chance. Hall and Theriot (2007) examined a required multicultural social work course and showed that students (n = 23) had significant positive changes on their multicultural awareness and knowledge from the beginning to the end of the semester, but no changes in their multicultural skills.

Of the seven studies with mixed results in a two-group pretest-posttest design, six of the studies examined diversity courses in psychology, and one examined a diversity course in business. All six psychology studies compared students in a diversity course in psychology with a non-diversity course in psychology. The diversity courses included Psychology of Women and Introduction to Women's studies (Case, 2007a, Study 2; Case & Stewart, 2010a), a multicultural course (Chappell, 2014), Psychology of Prejudice (Pettijohn & Walzer, 2008), Psychology of Prejudice and Racism (Kernahan & Davis, 2009), and Cultural Diversity in Organizations (Probst, 2003). The last study examined a Cultural Diversity in Business course compared to a capstone public affairs course (Martin, 2006). These studies examined a range of attitudinal outcomes, such as those related to racial/ethnic diversity (e.g., multicultural awareness and knowledge; Chappell, 2014), gender diversity (e.g., prejudice against lesbians and gay men; Case, 2007a; Case & Stewart, 2010a), or other types of intergroup attitudes (e.g., attitudes towards disabled workers; Martin, 2006).

All seven studies surveyed students at the beginning and end of the semester, and one study also followed up students 1 year after completing the course (Kernahan & Davis, 2009). These studies showed that students who took a diversity course showed a significant increase in multicultural knowledge (Chappell, 2014); knowledge of diverse groups and cultural diversity issues (Martin, 2006); awareness of racial privilege, institutional discrimination, blatant racial issues, awareness and understanding, and action and responsibility (Kernahan & Davis, 2009); awareness of heterosexual privilege and support for same-sex marriage (Case & Stewart, 2010a); male privilege awareness, feminist self-identification, and support for affirmative action (Case, 2007a); and improved attitudes towards gender roles, disabled workers, gays/lesbians/bisexuals, racial minorities, and intercultural tolerance (Probst, 2003). Two of these studies showed that students who took a diversity course showed significant decreases in modern and hostile sexism (Case, 2007a) as well as old-fashioned and modern racism, modern sexism, and negative attitudes towards homosexuals (Pettijohn & Walzer, 2008). However, the diversity courses had no association with students' multicultural awareness (Chappell, 2014), comfort

and interaction (Pettijohn & Walzer, 2008), prejudicial attitudes (Martin, 2006), prejudice against lesbians and gay men (Case & Stewart, 2010a), attitudes towards older employees (Probst, 2003), and old-fashioned sexism (Pettijohn & Walzer, 2008).

Kernahan and Davis (2009) also followed up with students (n = 17) in the diversity course 1 year after completing the course. Since completing the course a year earlier, the students did not change in their awareness of racial privilege and blatant racial issues, but decreased in their awareness of institutional discrimination (marginally significant). Interestingly, while their awareness and understanding, and action and responsibility (marginally significant) decreased, their comfort and interaction increased. This is especially noteworthy since there were no changes from the beginning of the semester to the end of the semester on comfort and interaction, but then increased a year later suggesting possible indirect effects. However, the findings must be interpreted with caution given the small follow-up sample.

Mixed-Method Studies Of the six mixed-method studies, half showed positive findings (Bidell et al., 1994; Khan, 1999; MacPhee et al., 1994) and half showed mixed findings (Burrell, 2008; Hasslen, 1993; Kernahan & Davis, 2007) of having taken a diversity course. Of the studies that showed positive findings, Khan (1999) evaluated her experience of teaching a course on the psychology of racism using course evaluation results and the final written assignment. Her course evaluations were significantly higher than the departmental average on whether students thought this was an excellent course and whether they learned a great deal from this course. On the final written assignment, students discussed how their proposed solutions to end racism differed from their solutions before taking the class. According to Khan, their responses provided additional insight into how much they learned in this course. For example, some students noted that they had not carefully thought about racism before taking this course, and that this course allowed them to do so meaningfully. In addition, many students reported being unaware of the power of social norms on influencing behavior until this course. However, little detail was provided on the underlying processes of how this diversity course affected student development.

Bidell and Colleagues (1994) examined White undergraduates (n = 55) enrolled in a cultural diversity course. They were asked to respond to questions about their conceptions of the nature and causes of racism before and after their participation in the one-semester class. There were significant positive developmental differences for both questions. For example, at the beginning of the course, most students attributed racism to individuals, that is, the racist beliefs/actions of a few individuals. By the end of the course, most of the students generated conceptions about the nature and causes of racism that reflected increasingly complex dimensions of the problem (e.g., race-based social privileges). MacPhee and colleagues (1994) examined a curriculum infusion project within a Human Development and Family Studies department. Students in a diversity course (n = 302) were compared to controls in three other courses in behavioral science, natural science, and business (n = 657). Controlling for pretest scores and previous coursework, those in the diversity course had significant improvements in their views on person blame, system blame,

old fashioned racism, and modern racism. The results of the content analysis of their assignments showed that students increased in their critical thinking skills, decreased in ethnocentrism, and increased in their ability to distinguish poverty from ethnicity as developmental risk factors.

The other three mixed-method studies showed mixed results of having taken a diversity course. Burrell (2008) and Hasslen (1993) both examined a diversity course in education. Using a one-group pretest-posttest design, Burrell (2008) used vignettes and asked students whether they believed the situation to be an example of oppression (racism, sexism, classism, and heterosexism), if they believe actions should be taken, and (if so) what example actions they would take. There were mixed results for the racism, sexism, classism, and heterosexism vignettes. Hasslen (1993) examined 265 White students' experiences in a multicultural education course. Hasslen found that the students in the course increased on 16 of the 28 cultural awareness items (which reflect an individual's attitudes, beliefs, and behavior towards elementary children of culturally diverse backgrounds), and half of the situational attitudes (attitudes of Whites towards African Americans) showed a significant increase over the course of the semester. Kernahan and Davis (2007) demonstrated that students in a diversity course showed significant increases over the course of the semester on perceptions of racial privilege, institutional discrimination, blatant racial issues, noticing racism, White guilt, taking action, and responsibility. The qualitative findings supported the quantitative findings overall, except they did not find an increase in taking action on the qualitative measure.

Qualitative Studies The two qualitative studies showed mixed results of having taken a diversity course (Doucet et al., 2013; Hathaway, 1999). Doucet and colleagues (2013) conducted a phenomenological analysis of written assignments of 14 White female students enrolled in a required diversity course for majors in the Department of Life Span Development and Family Sciences. The students reported engaging in a transformative journey, part of which involved acquiring new knowledge that challenged their preconceived notions. However, there was substantial variation in the cognitive and relational transformative journeys across students. Hathaway (1999) also used a phenomenological approach to examine the impact of a required diversity course on nine White students' personal and societal beliefs regarding inequality. Her analysis revealed mixed results. While the course helped students reflect and question the ways in which dominant thinking is socially constructed, the students showed little change in reflecting and questioning their own personal belief systems regarding racial inequality.

Summary Overall, about one-third of the studies that examined diversity courses in other departments/programs showed positive results, while two-thirds showed mixed results. The studies that showed positive findings examined outcomes that were closely aligned with the goals of the diversity course in which the students were enrolled (e.g., nature and causes of racism). However, the majority of studies in this category showed mixed findings. Some of these studies examined a variety of dependent variables, so a study could be classified as "mixed" even if it exhibited positive findings for most—but not all—of the outcomes. In addition, they examined

a combination of attitudinal, cognitive, and behavioral outcomes, with more consistent positive relationships for attitudinal outcomes, and less consistent relationships for the cognitive and behavioral outcomes. There were also a number of qualitative and mixed-method studies, and this research may be more sensitive to the complex ways in which diversity courses may or may not be related to student growth. Importantly, the qualitative studies or qualitative components of the mixed-method studies were usually based on very small sample sizes, so the smaller sample sizes here (and for some of the quantitative analyses) may have resulted in less statistical power and therefore less consistent positive results.

Courses in Unknown Departments or Multiple Courses

There were 19 studies that examined diversity courses in unknown departments or examined multiple courses simultaneously (15 quantitative, two mixed-methods, and two qualitative). Of these, six studies reported positive results (Engberg & Mayhew, 2007; Henderson-King & Kaleta, 2000; Hurtado, Mayhew, & Engberg, 2012; Marin, 2000; Nelson Laird et al., 2005; Palmer, 2000), two studies reported nonsignificant results (Brehm, 1998, 2002), and 11 studies reported mixed results (Caviglia, 2010; Chang, 2002; Chick, Karis, & Kernahan, 2009; Cole, Case, Rios, & Curtin, 2011; Herzog, 2010; Hogan & Mallott, 2005; Hurtado, 2003, 2005; Remer, 2008; Warchal, 1999; You & Matteo, 2013).

Quantitative Studies Of the 15 quantitative studies, four studies were based on university campuses involved in the Preparing College Students for a Diverse Democracy Project (Hurtado, 2003, 2005; Hurtado et al., 2012; Nelson Laird et al., 2005). Of the remaining studies, two were based on multi-institution samples (Brehm, 2002; Remer, 2008), and the last nine studies were based on single-institution samples (Brehm, 1998; Chang, 2002; Cole et al., 2011; Engberg & Mayhew, 2007; Henderson-King & Kaleta, 2000; Herzog, 2010; Hogan & Mallott, 2005; Palmer, 2000; You & Matteo, 2013).

Positive Findings Of the five quantitative studies that found positive findings, two were classroom-based studies through the Preparing College Students for a Diverse Democracy Project. In both studies (Nelson Laird et al., 2005; Hurtado et al., 2012), students in a diversity course (a social diversity course and a women's studies course) were compared to students in a control course (a management course). One study (Nelson Laird et al., 2005) showed that students in the management course as compared to those in the diversity courses had greater increases in the amount of positive interpersonal diversity interactions and the importance placed on taking social action. In the other study (Hurtado et al., 2012), students in the diversity courses had increased moral reasoning relative to students in the management course, but there were no corresponding differences for changes in critical thinking disposition. However, enrolling in a diversity course had a positive indirect effect on critical thinking dispositions through increased active learning.

Engberg and Mayhew (2007) examined the extent to which a first-year success course with an explicit focus on diversity predicted students' learning and democratic outcomes. They compared students in the first-year success course (n = 109) to those in an introductory communication course (n = 194) and an introductory engineering course (n = 168). Although there were no differences among the three groups of students at the beginning of the semester, students in the diversity course made significant gains in all three outcomes (i.e., multicultural awareness, commitment to social justice, and attributional complexity), while students in the other two courses showed no significant changes. Even when controlling for background characteristics and previous exposure to diversity courses, students in the diversity course had greater increases than students in the other two courses on multicultural awareness and commitment to social justice. Palmer (2000) examined semester-long changes in over 1000 students' attitudes and knowledge in a random sample of courses meeting a diversity requirement at Pennsylvania State University. There were few methodological details of her study, as well as a lack of formal presentation of the results. She concluded that the students' racial and gender attitudes became more tolerant during the semester. In addition, students of color experienced greater gains in tolerance than did White students.

Henderson-King and Kaleta (2000) examined students who had enrolled in four Race and Ethnicity (RAE) course from a number of disciplines. The control group was a random stratified sample of 100 female and 100 male students who were not currently enrolled in a RAE course in the current semester. Those in the control group became less favorable towards Latina/os, African Americans, and men, which was largely due to White students attitudes towards group decreasing over time. Among the RAE group, there were no differences in attitudes towards various groups over the course of the semester. They concluded that in the absence of courses that focus on social diversity, undergraduate students become less tolerant of others.

Nonsignificant Findings Two quantitative studies found nonsignificant results of diversity courses on student outcomes. Brehm (1998, 2002) conducted a preliminary study of White students' stereotypes of and tolerance towards women, minorities, and gay people at a large Mid-Atlantic state university. Utilizing a convenience sample of approximately 100 students from 12 courses, she found no differences between the two groups on the pretest or posttest in terms of their stereotypes of and tolerance towards women, minorities, and gay people. Brehm (2002) also conducted a follow-up study on almost 1200 college students from 12 institutions mainly in the South. However, only 139 students responded to both the pretest and the posttest. Of the students who responded to both surveys, only ten had taken a course that could be classified as a diversity course during that semester, so the limited sample prevented any meaningful analysis of the possible impact of diversity courses on student outcomes.

Mixed Findings Of the eight quantitative studies that found mixed results for having taken a diversity course, three utilized multi-institution samples (Hurtado, 2003, 2005; Remer, 2008), and the remaining five studies were conducted at a single

institution (Chang, 2002; Cole et al., 2011; Herzog, 2010; Hogan & Mallott, 2005; You & Matteo, 2013). Remer (2008) utilized data from the beginning and end of the semester from almost 300 students (168 diversity course; 110 non-diversity course) in 23 courses from a variety of disciplines at three institutions. Their findings showed a significant increase in awareness of privilege and oppression over time, between the students in the diversity course as compared to students in the non-diversity course. However, there were no difference between the two groups in change over time for ethnocultural empathy and openness to diversity.

Hurtado (2003, 2005) summarized findings from the primary quantitative portion of the Preparing College Students for a Diverse Democracy Project, a longitudinal study of over 4000 students from nine public universities who were surveyed at the beginning of college and again at the end of the second year. Controlling for pretests, background characteristics, informal interaction with diverse peers, and participation in 9/11 activities, she examined the independent effects of four campus practices (including integrated diversity courses) on a variety of student outcomes. The diversity courses were "integrated" in the sense that two of the campuses did not have diversity course requirements, but had instead undertaken curriculum integration initiatives. Students who enrolled in an integrated diversity course scored higher on 19 of the 25 outcomes in the study. Specifically, diversity courses had significant positive relationships with attributional complexity, college retention, cultural awareness, interest in social issues, self-efficacy for social change, importance of creating social awareness, social identity awareness, perspective taking, support for institutional diversity and equity, pluralistic orientation, interest in poverty issues, perceptions of conflict enhancing democracy, concern for the public good, importance of civic contribution, support for race-based initiatives, tolerance for LGB people, and voting in federal or state elections. As expected, diversity courses had significant negative associations with two perceptions: that racial inequality is not a problem in society, and that social inequity is acceptable. There was no significant link between diversity courses and changes in analytical problem-solving skills, leadership skills, discomfort with racial/ethnically diverse peers, helping others in the community vote, voting in student government elections, and perceiving differences of values with other racial/ethnic groups.

The remaining five studies were single-institution studies which showed mixed results of having taken a diversity course. Two used a one-group design (Herzog, 2010; You & Matteo, 2013), two used a two-group design (Chang, 2002; Cole et al., 2011), and one study used a three-group design (Hogan & Mallott, 2005). Using a sample of 2801 students, Herzog (2010) showed that enrollment in a diversity course during the first year was positively related to GPA, but it did not predict persistence. You and Matteo (2013) surveyed 137 students in five diversity courses at a small Catholic liberal arts university in the Northeast. Using a one-group pretest-posttest design, students exhibited an increased number of multicultural experiences in three of the five courses, with no change in the other two courses. Students' multicultural desire (i.e., effort or intention to increase their multicultural experiences) increased in two of the five courses. The authors point out that these two

courses (Intercultural Communication and Multicultural Issues in Psychology) both included structured interactions with people of different backgrounds, which may be responsible for these positive results.

The next two studies utilized a two-group design. Chang (2002) examined the impact of an undergraduate diversity course requirement on students' racial views and attitudes at a public university in the Northeast. Of the 25 approved diversity courses, half were randomly assigned to the pretreatment group and half to the treatment group. The pretreatment group (n = 112) were surveyed at the start of the semester, while the treatment group (n = 81) were surveyed during the last week of semester. All students who had already completed the diversity requirement in a previous semester were excluded. Controlling for background characteristics and degree of exposure to racial diversity, those who had nearly completed the requirement had more favorable views in general about African Americans (using the modern racism scale) than those who were just starting the diversity requirement course. He also examined the cumulative effect of an undergraduate diversity course requirement on students' racial views and attitudes by examining the students who were excluded earlier because they had already taken a diversity course. Controlling for the same covariates as before, there were no differences between the two groups, so taking more than one diversity course did not seem to have any cumulative benefits.

Cole and colleagues (2011) investigated the extent to which required race and ethnicity diversity courses at the University of Michigan predict students' understanding of racial inequality and their social development with regard to racial outgroups. A total of 173 students were surveyed at the beginning and end of a semester (106 students in diversity-themed courses, 67 students in introduction to psychology). Relative to students in the control course, students in the diversity courses had significantly greater increases in White privilege awareness and intersectional consciousness, and they were less like to believe that individuals get what they deserve in life. There were no differences between the two groups in denial of blatant racial issues, outgroup comfort, or acting to promote diversity. There was also evidence of two moderator effects by course and race. In particular, White students enrolled in diversity courses had significantly higher intersectional consciousness than White students in the non-diversity course, but this pattern was not the case for students of color. Moreover, diversity courses was associated with less endorsement that individuals get what they deserve, and this relationship was significantly stronger for White students than for students of color.

Hogan and Mallott (2005) examined prejudice using the Modern Racism Scale (MRS) at an institution in Cincinnati, Ohio. They compared three groups of students: a group that had *completed* a race and gender course before the semester of assessment (38 students), a group that had a race and gender course *in progress* (153 students), and a group that had done *neither* (59 students). In the between-group analyses, the students in all three groups did not differ significantly in prejudice at the pretest. On the posttest, however, those currently enrolled in the diversity course had lower prejudice than students who had already completed the course or those who had not enrolled in a diversity course. In the within-group analyses, those

currently enrolled in the course significantly improved their attitudes over the semester, while the students in the other two groups deteriorated slightly. The authors concluded that diversity courses reduce prejudice, but the benefit does not appear to persist across semesters.

Mixed-Method Studies There were two mixed-method studies that examined multiple diversity courses simultaneously. Chick et al. (2009) conducted a mixed-method study to examine how students feel about their learning in race-related diversity courses. They examined 91 participants from four diversity courses. The qualitative component consisted of analyzing anonymous journal assignments that were posted to online course websites, which students individually reflected upon and discussed in small groups. The quantitative findings corroborated the qualitative findings and showed that students in three of the four courses showed significant increased understanding and awareness of racism and racial privilege.

Warchal (1999) examined White students' racial identity attitudes, racism, sexism, and homophobia. She compared students in four diversity courses ($n = 50$) with students in three control courses ($n = 41$). The quantitative outcomes consisted of racial identity ego status, racism, sexism, and homophobia. Based on a MANOVA, she found no significant main effects for diversity course or time (i.e., no change from pretest to posttest) across the combined outcomes. In the qualitative portion of the study, students were asked to describe any critical incidents (major turning points) which occurred as a result of the course and changed the way they think, feel, or behave towards persons of the opposite sex, people from a different racial background, and people of a different sexual orientation (corresponding to sexism, racism, and homophobia respectively). The student ratings of critical incidents were assessed at the posttest to examine whether students perceived these three critical incidents as positive, negative, or neutral. Students in the diversity course reported more positive changes as compared to the students in the non-diversity course in terms of racism and sexism (not homophobia).

Qualitative Studies Two qualitative studies examined the relationship between unknown/multiple diversity courses and student outcomes. Marin (2000) conducted a case study to explore how student outcomes changed during three courses that infused diverse perspectives. She found that all three courses led to challenging or reducing racial stereotypes, broadening student perspectives, and developing critical thinking skills. Caviglia's (2010) qualitative study examined how 13 underrepresented students (African American, Latino/a, biracial students) at one academically selective institution perceive how diversity courses changed elements of their relational leadership through qualitative interviews. Some students had taken numerous courses, with one student having taken nine diversity courses. Caviglia found that these students perceived that the diversity courses increased their tolerance of difference in others and improved their relational leadership; in addition, classroom interaction had both a positive and negative effect, since tokenism was detrimental to student learning and development.

Summary Of the studies that examined multiple diversity courses or courses in which their departments were not specified, one-third found a positive relationship, while the majority found mixed results of having taken a diversity course. The studies that yielded positive results were consistent across a number of outcomes (both diversity-related and non-diversity related) even after controlling for previous exposure to diversity courses. Similar to previous sections, the majority of studies in this category found mixed results of diversity courses. Many of the studies examined a mixture of diversity-related and non-diversity related outcomes, as well as a combination of attitudinal, cognitive, and behavioral outcomes, which also contributed to the mixed findings. Other studies were qualitative or mixed-method studies, which also tended to have mixed findings. Some research indicated that taking more than one diversity course did not seem to have any cumulative benefits and that any benefits of having taken a diversity course may deteriorate slightly in the following semester if another diversity course is not taken. These latter findings are in contrast to other studies in this category which found positive results even when controlling for previous diversity coursework.

Curricular Diversity Composite

There were seven quantitative studies that used a curricular diversity composite to assess diversity course content: two found positive results (Milem, Umbach, & Liang, 2004; Smith, Parr, Woods, Bauer, & Abraham, 2010), one found only non-significant results (Inkelas, 2004), and four obtained mixed findings (Gurin et al., 2002; Lopez, 2004; Mayhew, Grunwald, & Dey, 2005; van Laar, Sidanius, & Levin, 2008).

Positive Findings Using a pretest-posttest survey, Milem et al. (2004) surveyed 536 students at a public research university in the mid-Atlantic region. Their "classroom diversity" composite consisted of five items asking students the extent to which they were exposed to diverse ideas and information in their classes. Controlling for pre-college diversity environments, pre-college interactions, and plans to engage in diversity-related activities, classroom diversity had significant direct effects on all three diversity-related outcomes (i.e., diverse interactions, extracurricular diversity activities, and involvement in institutionally sanctioned diversity activities) while in college. In addition, classroom diversity also had significant indirect effects on the first two outcomes through increased opportunities to learn about different racial/ethnic groups. Using a cross-sectional survey, Smith et al. (2010) surveyed social science graduates (n = 156) at a master degree-granting public state university approximately five-six years after graduating from college. Their curricular diversity composite consisted of six items relating to their experience with multicultural courses (e.g., globalization; inequalities within the US; issues of class, race, or gender within the US). Their findings showed that curricular diversity was a significant positive predictor of multicultural competence and volunteer service.

Nonsignificant Findings Inkelas (2004) was the one study that found nonsignificant results of diversity courses. She examined 184 Asian Pacific American (APA) undergraduates to assess whether participation in diversity activities facilitated a sense of ethnic awareness and understanding. Her curricular diversity measure was "depth of exposure to a diverse curriculum" (ranging from 1 = not at all to 5 = a great deal). Controlling for a number of student background characteristics, environments, and involvement in curricular and co-curricular diversity experiences, a diverse curriculum had no significant association with APA students' self-reported gains in racial/ethnic awareness and understanding.

Mixed Findings The other four studies that utilized a curricular diversity composite found mixed results for diversity-related coursework (Gurin et al., 2002; Lopez, 2004; Mayhew et al., 2005; van Laar et al., 2008). Two of these used data collected at the University of Michigan. Specifically, Lopez (2004) utilized longitudinal data from the Michigan Student Survey, where students were surveyed at the beginning and end of the first year of college. She conducted separate analyses by race/ethnicity: 480 Whites, 165 Asian American, and 92 African American students. Her curricular diversity composite was constructed by summing participation in interdisciplinary activities and exposure through academic courses. She found that diversity courses had significant positive relationships with awareness of inequality and support for educational equity for White students, but it had no significant association with either outcome for Asian American and African American students (although support for educational equity was marginally significant and positive for African American students).

Gurin et al. (2002) used longitudinal data from the 1990/1994 Michigan Student Survey (MSS) in which students were surveyed at the beginning and end of college. They also conducted separate analyses by race: 1129 White students, 187 African American students, and 266 Asian American students. Their curricular diversity composite consisted of two items: the extent to which students had been exposed in classes to "information/activities devoted to understanding other racial/ethnic groups and interracial ethnic relationships", and if they had taken a course during college that had an important impact on their "views of racial/ethnic diversity and multiculturalism." They also controlled for other college diversity experiences (e.g., informal interpersonal interactions, events/dialogues). Curricular diversity had significant positive results for both learning outcomes (active thinking and intellectual engagement) across all three racial/ethnic groups. For the democracy outcomes, the pattern of relationships was mixed. Curricular diversity was significantly and positively related to all three democracy outcomes (compatibility of differences, perspective-taking, racial/cultural engagement) for White students, compatibility of differences and racial/cultural engagement for African students, and racial/cultural engagement for Asian students. All other findings were nonsignificant.

Mayhew and colleagues (2005) explored the factors that predict students' perceptions of their institution's success in achieving a positive climate for diversity among 544 students at a large, public, predominantly White Midwestern institution.

Their curricular diversity composite consisted of two items and was operationalized as "participation in diversity-related learning". They also controlled for perceptions about curricular diversity, specifically, whether they *perceived* the curriculum to have included many courses on minority group perspectives, emphasized non-dominant cultures in the curriculum, and balanced the relative emphasis on Western civilization and non-dominant cultures is balanced in the curriculum. The results showed that *participation* in curricular diversity had a significant negative link with a positive climate for diversity, whereas *perceptions* of a diverse curriculum was a significant positive predictor of a positive climate for diversity. They also conducted separate analyses by race (Whites vs. students of color) and gender (men vs. women). While participation in curricular diversity was nonsignificant for students of color and negative for White students, the perception of curricular diversity was significant and positive for both groups of students. By gender, participation in curricular diversity was associated with a negative racial climate for women, but not for men. However, perceptions of a diverse curriculum was positively associated with a positive racial climate for both genders.

Finally, van Laar and colleagues (2008) used five-year longitudinal data to examine the long-term effects of courses with ethnic studies content and courses with Latino/African American professors on university students' intergroup attitudes. Students at UCLA were surveyed at the start of college, then again at the end of each year for 4 years. Their curricular diversity composite with ethnic studies content consisted of three items, and they also included other controls such as the number of Latino/a, African American, Asian American, and female professors they have had each year as well as undergraduate major. In the full sample (n = 2617), curricular diversity was associated with significant improvements in attitudes towards outgroups by lowering their symbolic racism and social dominance orientation (marginally significant) in the fourth year of college. Curricular diversity was also associated with increases in identification with their ethnic ingroup and marginally greater interest in taking collective action (as opposed to individual action) on behalf of their ethnic group. In addition, curricular diversity was associated with increased beliefs that the status differences between ethnic groups are less permeable (e.g., it is harder for individuals from some ethnicities to achieve higher personal status or advancement in American society). They also examined the results separately for White (n = 764), Asian American (n = 758), Latino/a (n = 466), and African American students (n = 144). The findings were mixed when the results were analyzed separately for the four racial/ethnic groups. Through exposure to curricular diversity, White students tended to have a lower proportion of ingroup friends. In contrast, curricular diversity is associated with relatively more ingroup friends among Latino/a students. While curricular diversity did predict second- and third-year outcomes for African American students, no significant findings occurred for fourth-year outcomes. For Asian American students, curricular diversity was associated with decreased symbolic racism and perceptions that the social structure is permeable and legitimate, along with increased interest in collective action.

Summary As compared to all the categories, this category had the smallest number of studies, with only seven quantitative studies using a curricular diversity composite. These studies utilized a combination of single-institution and multi-institution samples, and they examined both diversity-related and non-diversity related outcomes. The two studies that found uniformly positive results utilized samples which combined students from various racial/ethnic groups, with the majority of studies obtaining mixed findings. The one study with a null result examined Asian American students only, and all the studies which found mixed results examined differential effects by race/ethnicity. In general, more consistent positive results were obtained for White students, with mixed findings obtained for students of color. In addition, these studies did not account for differential sample sizes, which can lead to significant results for larger groups (e.g., Whites) and nonsignificant results for smaller groups (e.g., students of color). One study examined both direct and indirect effects of curricular diversity to explore possible mediating effects, and two other studies examined possible moderating effects (i.e., diverse friendship groups, instructor's race/ethnicity). Interestingly, one study showed that while *participation* in curricular diversity had differential effects across White students and students of color, student *perceptions* of an inclusive curriculum had consistent, positive associations with a positive campus climate for both groups of students.

Number of Courses

There were a total of 28 studies that examined the number of diversity courses taken (27 quantitative and 1 mixed-methods). Of these, two studies reported positive results (Cole & Zhou, 2014; Zuniga, Williams, & Berger, 2005), seven found nonsignificant results (Lindsay, 2007; Loes, Pascarella, & Umbach, 2012; Loes, Salisbury, & Pascarella, 2013; Pascarella, Palmer, Moye, & Pierson, 2001; Saenz, Ngai, & Hurtado, 2007; Taylor, 1994; VanHecke, 2006), and 19 studies reported mixed results (Bolen, 2010; Bowman, 2009, 2010b, 2010c, 2012; Engberg, 2007; Engberg & Hurtado, 2011; Engberg, Hurtado, & Smith, 2007; Harper & Yeung, 2013; Kendall Brown, 2008; Mayhew, Seifert, & Pascarella,2012; Nelson, 2010; Nelson Laird, 2005; Nunez, 2009; Pascarella, Salisbury, Martin, & Blaich, 2012; Pearson, 2012; Saenz, 2005, 2010; Yeazel, 2008).

Quantitative Studies Of the 27 quantitative studies, ten used data from the Wabash National Study of Liberal Arts Education (WNSLAE) (Bowman, 2009, 2010b, 2010c, 2012; Lindsay, 2007; Loes et al., 2012; Loes et al., 2013; Mayhew, Seifert, & Pascarella, 2012; Pascarella et al., 2012; VanHecke, 2006), eight used data from Preparing Students for a Diverse Democracy Project (Engberg, 2007; Engberg & Hurtado, 2011; Engberg et al., 2007; Nelson Laird, 2005; Nunez, 2009; Saenz, 2005, 2010; Saenz et al., 2007), one used data from the National Study of Student Learning (NSSL; Pascarella et al., 2001), and the remaining eight studies used other data sources (Bolen, 2010; Cole & Zhou, 2014; Harper & Yeung, 2013; Nelson, 2010; Pearson, 2012; Taylor, 1994; Yeazel, 2008; Zuniga et al. , 2005).

Positive Findings There were two quantitative studies that reported a positive finding of having taken a number of diversity courses. Zuniga et al. (2005) evaluated a diversity initiative (Project Mosaik) implemented in residence halls at a large, predominantly White, public university in the Northeastern United States. A total of 597 students completed a pretest and posttest administered at the beginning and end of the year. Diversity coursework was indicated by the self-reported number of courses taken during the semester with diversity as a major focus (ranging from 1 = 0 courses to 5 = 7 or more courses). Controlling for diversity interactions and diversity-related co-curricular activities, the number of diversity courses taken had significant positive links with both motivation to reduce one's own prejudice and motivation to promote inclusion and social justice. Cole and Zhou (2014) conducted a longitudinal, single-institution study to examine the extent to which involvement in diversity experiences helped students become more civically minded. They utilized the CIRP Freshman Survey matched to a university senior survey along with transcripts (n = 553). They calculated the total number of multicultural courses among the first 40 courses each student had taken (range from 0 to 8). Their findings showed that the number of diversity courses was significantly and positively associated with civic mindedness in the senior year of college.

Nonsignificant Findings Seven quantitative studies reported nonsignificant results of the number of diversity courses on student outcomes. One study used a single-institution sample (Taylor, 1994). The remaining six studies utilized multi-institutional samples: four used WNSLAE data (Lindsay, 2007; Loes et al., 2012; Loes et al., 2013; VanHecke, 2006); one used NSSL data (Pascarella et al., 2001); and one used data from the Preparing Students for a Diverse Democracy Project (Saenz et al., 2007). Taylor (1994) analyzed data from the Michigan Study, using data from the beginning and end of the first year of college only from White students (n = 575). Taylor defined curricular diversity with a dummy variable (0 = no coursework taken on diversity issues, 1 = one or more courses taken). Curricular diversity was unrelated to the development of tolerance. She also conducted separate analyses for White women and White men, finding no association between curricular diversity and development of tolerance for either gender.

Of the four studies using WNSLAE data, VanHecke (2006) and Lindsay (2007) used data from the cross-sectional pilot phase of the WNSLAE, while Loes et al. (2012, 2013) used the longitudinal data. VanHecke (2006) simultaneously examined how the number of courses focusing on diverse cultures and perspectives *and* the number of courses focusing on issues of equality or social justice each predict responsible citizenship; both items were measured on a 5-point scale (ranging from 1 = 0 to 5 = 4+ courses). These two variables had identical raw correlations with the outcome of responsible citizenship, but these two variables became nonsignificant once all college experiences were included in the final model. Lindsay (2007) and Loes et al. (2012, 2013) also used WNSLAE data, but created a 3-item composite of the number of courses that focus on: "diverse cultures and perspectives," "women/gender studies," and "equality and/or social justice issues". All three individual items were on the same 5-point scale as VanHecke (2006). Also using WNSLAE

pilot data, Lindsay (2007) found that the number of diversity courses was not significantly related to need for cognition (although the coefficient was marginally significant and positive). Loes et al. (2012) utilized data from the first year of the full-scale WNSLAE study; this analytic sample consisted of 1354 students from 19 institutions who were surveyed at the beginning and end of the first year of college and completed the CAAP critical thinking test. When controlling for incoming critical thinking test and interactions with diverse others (among other variables), they observed no net effect of the number of diversity courses on first-year critical thinking. The results were still nonsignificant when disaggregating the sample by race/ethnicity. Loes et al. (2013) also used longitudinal data from the first year of college (n = 2935). They showed no net effect of diversity courses on positive attitudes toward literacy (the extent to which students enjoy reading literature, poetry, scientific texts, and/or historical material and expressing their ideas through writing). Additional analyses found no conditional effects by race, gender, precollege test preparation, pretest, the structural diversity of the institution, or attending a liberal arts college.

Pascarella et al. (2001) used longitudinal data from the National Study of Student Learning (NSSL) to examine how diversity experiences predict the development of critical thinking. Students were assessed at the beginning of the first year of college, then again at the end of the first, second, and third year. The number of diversity courses taken was defined as the cumulative number of courses taken in women's studies, Latin American studies, or African American studies. The analyses also included nine other diversity experiences (e.g., interactions with diverse others, cocurricular diversity experiences) and the pretest, and the analyses were conducted separately for several different subgroups (disaggregated by race/ethnicity, sex, and institutional type). Diversity coursework did not significantly predict critical thinking test scores (over and above these other diversity experiences) in the end of the first year or third year within any subgroup.

Another quantitative study that found nonsignificant results was conducted by Saenz et al. (2007). Using data from the Preparing College Students for a Diverse Democracy Project, Saenz et al. examined the number of courses taken that included readings/materials on race/ethnicity issues, gender issues, and issues of oppression; each item ranged from 1 (no courses) to 4 (3+ courses). Conducting separate analyses for African American, Asian American, Latino/a, and White students, they found that the number of diversity courses taken had no significant link with positive interactions across race for students from all racial/ethnic backgrounds. However, they had also included opportunities for intense dialogue as an additional predictor; they concluded that this construct eliminated the effect of diversity courses on positive interracial interactions.

Mixed Findings The remaining 18 quantitative studies reported mixed findings between the number of diversity courses taken and student outcomes. Of these 18 studies, five utilized single-institution samples (Bolen, 2010; Harper & Yeung, 2013; Nelson, 2010; Pearson, 2012; Yeazel, 2008), and 13 utilized multi-institution

samples (Bowman, 2009, 2010b, 2010c, 2012; Engberg, 2007; Engberg & Hurtado, 2011; Engberg et al., 2007; Nelson Laird, 2005; Nunez, 2009; Mayhew et al., 2012; Pascarella et al., 2012; Saenz, 2005, 2010).

Of the five single-institution studies, three were conducted at the University of Southern California (Bolen, 2010; Nelson, 2010; Pearson, 2012), one at UCLA (Harper & Yeung, 2013), and one at a community college (Yeazel, 2008). The three USC studies all utilized data from a larger study on diversity course requirements funded by the Teagle Foundation. The sample included USC students who took the 2004 CIRP Freshman Survey at the start of college, and then were followed up at the end of college using a university survey (n = 553). All three utilized the total number of diversity courses taken as a measure of curricular diversity, and they all controlled for the year the student took his/her first diversity course, diversity typology of the first diversity course they took, as well as other diversity experiences such as study abroad, community service, and racial/cultural awareness workshops. Bolen (2010) showed that the number of diversity courses taken had a significant positive link with critical thinking and social action engagement, but no significant association with student-faculty interactions. Nelson (2010) found that diversity courses were significantly and positively related to humanism and individualism, but they were nonsignificant for artistic orientation or materialism. Finally, Pearson (2012) showed that diversity courses were associated with greater analyticity, systematicity, and truth-seeking, but not with inquisitiveness, judgment, open-mindedness, or self-confidence.

Harper and Yeung (2013) utilized data from UCLA students who completed the Campus Life in America Student Survey (CLASS) at the start of college and then again at the start of junior year. Students were asked how many courses they had taken related to diversity, multiculturalism, or ethnic studies (6-point scale: 1 = none to 6 = 5 or more). They examined relationships for the overall sample and then separately for White students and students of color. The number of diversity courses taken was a significant positive predictor of openness to diverse perspectives in the overall sample as well as for students of color (n = 244), but this pattern was nonsignificant for White students (n = 153). Yeazel (2008) analyzed data from 161 community college students enrolled in an introduction to psychology course. The number of diversity courses taken was a categorical variable: never taken a diversity course, currently enrolled or have taken one diversity course, or currently enrolled or have taken two diversity courses. In the regression analyses, the number of diversity courses taken was a marginally significant positive predictor of open mindedness, and was a significant positive predictor of openness to diversity (whether or not critical thinking disposition was included as a covariate). The ANOVA results showed that there were significant differences between the three groups of students on open mindedness, openness to diversity, and critical thinking disposition. However, no post-hoc analyses were reported, so it is unclear where the significant differences were.

Of the 13 multi-institution studies, seven utilized Diverse Democracy data (Engberg, 2007; Engberg & Hurtado, 2011; Engberg et al., 2007; Nelson Laird, 2005; Nunez, 2009; Saenz, 2005, 2010) and six utilized WNSLAE data (Bowman, 2009, 2010b, 2010c, 2012; Mayhew et al., 2012; Pascarella et al., 2012). Of the seven studies that used Diverse Democracy data, Nelson Laird (2005) conducted a pilot project to examine how college diversity experiences predict students' academic self-concept, social agency, and disposition toward critical thinking. Students were asked whether or not they had taken an ethnic studies course, a course that involved serving a community in need, or a course that included activities that encouraged interactions across racial/ethnic groups. The students' responses were summed, ranging from 0 (had taken no such courses) to 3 (had taken at least one course in all three areas). His findings showed that the number of diversity courses taken had significant positive relationships with academic self-concept, social agency, critical thinking self-confidence subscale, and the California Critical Thinking Dispositions Inventory (CCTDI total score), whereas these were unrelated to the open-mindedness subscale of the CCTDI. He also examined diversity courses as a predictor of other college diversity measures, finding that diversity courses were positively associated with positive quality of interactions, but these were not a significant predictor of negative quality of interactions, interaction with diverse peers, or involvement with a fraternity/sorority.

The remaining studies analyzed data from the Preparing College Students for a Diverse Democracy Project in which about 4700 students from nine institutions were surveyed at the beginning of college, and then again at the end of the second year of college (Engberg, 2007; Engberg & Hurtado, 2011; Engberg et al., 2007; Saenz, 2005, 2010). Nunez (2009) included only Latino/a students in her sample (n = 362). Two studies used the number of courses taken that include readings/materials on race/ethnicity, gender, oppression or opportunities for intensive dialogue between students with different backgrounds and beliefs (Engberg, 2007; Enberg & Hurtado, 2011). Engberg and Hurtado (2011) conducted separate SEM analyses for White, Asian American, Latino/a, and African American students. The number of diversity courses taken had a direct positive effect on pluralistic orientation for Latino/a students, but they had no direct effect on pluralistic orientation for White, Asian American, or African American students. However, diversity courses had *indirect* positive effects on pluralistic orientation, through intergroup learning, for students from all four racial/ethnic groups. Engberg (2007) used the same variables as Engberg and Hurtado (2011), but conducted separate SEM analyses by six categories of majors (i.e., arts/humanities, life sciences, business, social sciences, engineering, and education/social work). Diversity courses had direct positive effects on pluralistic orientation for students majoring in the life sciences, engineering, and social sciences (marginally significant). And, diversity courses had direct positive effects on intergroup learning for students from all majors except for business. In terms of indirect effects, diversity courses had positive indirect effects on pluralistic orientation for students majoring in the social sciences, education/social work, arts/humanities, and engineering (the latter two were marginally significant).

The last four Diverse Democracy studies used a three-item composite for the number of diversity courses taken that include readings/materials on race/ethnicity, gender, or oppression (Engberg et al., 2007; Nunez, 2009; Saenz, 2005, 2010). Using structural equation modeling, Engberg et al. (2007) showed that the number of diversity courses taken had direct positive effects on acceptance towards lesbian, gay, and bisexual (LGB) persons. In addition, diversity courses had indirect positive effects, through identity centrality, on attitudes of acceptance towards LGB persons. While there was a direct positive effect of diversity courses on identity centrality (the extent to which students actively think about their various social memberships in racial, ethnic, gender, sexual orientation, and socioeconomic groups), there was no effect of diversity courses on intergroup anxiety.

Saenz (2005, 2010) examined the extent to which a number of college diversity experiences (including the number of diversity courses taken) predicts the frequency of positive cross-racial interactions, interactions with diverse peers, and the belief that racial/ethnic discrimination is no longer a major problem in the US. He conducted analyses on the full sample and then disaggregated the sample into four subsamples: Whites from predominantly White precollege environments (PWEs), Whites from predominantly minority precollege environments (PMEs), nonwhite students from predominantly White precollege environments (PWEs), and nonwhite students from predominantly minority precollege environments (PMEs). On the full sample, diversity courses had a significant positive relationship with positive cross-racial interactions when controlling for all precollege variables, but it then became nonsignificant in the full model. This pattern of findings was replicated in the four subgroup analyses, except for nonwhite PWE students; instead, for these students, diversity courses had a significant negative link with positive cross-racial interaction in the final model. For the overall sample, diversity courses had a significant positive relationship with interactions with diverse peers and the belief that racial/ethnic discrimination continues to be a major problem in the US. However, the pattern of findings is mixed when disaggregated by subgroup. Diversity courses were unrelated to interactions with diverse peers for White PWE and nonwhite PME students, but they were a significant positive predictor for White PME and nonwhite PWE students, suggesting that students' precollege environments can perpetuate their precollege lack of interactions with diverse peers. However, diversity courses were positively related to the belief that racial/ethnic discrimination continues to be a major problem in the US for White PWE and nonwhite PME students, but was unrelated for White PME and nonwhite PWE students. This finding suggests that diversity courses can also interrupt perpetuation effects, at least in terms of student attitudes or beliefs in the short-term.

Finally, Nunez (2009) used data from the 362 Latino/a students from the Preparing College Students for a Diverse Democracy Project. Her structural equation modeling analyses showed that the number of diversity courses taken had positive direct effects on positive cross-racial interaction, class participation, faculty interest, and perceptions of a hostile climate (marginally significant). And, diversity courses also had significant positive indirect effects on positive cross-racial interaction,

faculty interest, and a hostile climate. However, diversity courses did not have any direct or indirect effects on sense of belonging.

The last six quantitative studies utilized WNSLAE data (Bowman, 2009, 2010b, 2010c, 2012; Mayhew et al., 2012; Pascarella et al., 2012), in which the primary independent variable of interest consisted of three items which asked students how many courses they had taken that focused on diverse cultures and perspectives (e.g., African American studies, Latino studies), women's/gender studies, and equality and/or social justice. The first three Bowman studies utilized longitudinal WNSLAE data from the beginning and end of students' first year. To allow for possible nonlinear relationships, Bowman used a number of dummy-coded variables to represent the number of diversity courses taken. Predicting several measures of psychological well-being, Bowman (2010b) found that taking only one diversity course is associated with decreases in environmental mastery, self-acceptance, and overall psychological well-being (marginally significant), whereas taking two or three diversity courses predicts increased personal growth, positive relations with others, and purpose in life, along with a marginally significant positive result for overall psychological well-being.

Bowman (2010c) examined students' overall psychological well-being and three different orientations toward diversity within the overall sample and separately for White students and students of color. In the overall sample, students who take at least two diversity courses have greater gains on all four outcomes as compared to students who take just one course. Consistent with Bowman (2010b), this study also showed that students must take multiple diversity courses to experience some potential benefits from curricular engagement with diversity. When examining subgroup differences, White students received greater benefits from taking one diversity course as compared to students of color as compared to taking no diversity courses, and White students who take two or more diversity courses also experience greater gains than White students who take only one or no diversity courses. For students of color, the pattern of findings is more mixed, in that those who take two or more diversity courses do not experience greater gains than those who take just one course, and those who take one course have lower gains in psychological well-being as compared to those who have taken no diversity courses. However, students of color who take three or more courses (versus one course) have greater gains in diversity of contact, relativistic appreciation of diversity, and psychological well-being (latter two findings are marginally significant).

When examining cognitive outcomes, Bowman (2009) found that students who took one diversity course had greater gains in need for cognition than those who took no such courses, but there was no additional increase after the first course. Also, there was a significant interaction effect that showed that White students who took two diversity courses experienced greater gains in need for cognition as compared to students of color. There was no significant link between number of diversity courses taken and gains in moral reasoning or critical thinking. Lastly, Bowman (2012) used three-wave longitudinal data in which students were also surveyed at the end of their senior year. He used diversity experiences during the first year of college to predict diversity experiences in the senior year, controlling for precollege

characteristics and other college experiences. The number of diversity courses taken was positively related to diversity coursework in the senior year and negative diversity interactions occurring at least rarely (versus never), but these were unrelated to positive diversity interactions. These findings were consistent regardless of students' openness to diversity.

The last two studies which utilized WNSLAE data examined non-diversity related outcomes (Mayhew et al., 2012; Pascarella et al., 2012). Pascarella and colleagues (2012) showed that diversity courses were positively associated with an orientation toward social/political activism, but were unrelated to liberal political views. Additional analyses showed that there was a conditional effect for diversity courses and precollege liberal political views for an orientation toward social/political activism. For students who entered college with liberal or far left political views, diversity courses had no relation with an orientation toward social/political activism. However, for students who entered college with conservative, far right, or middle of the road political views, diversity courses had a positive relation with an orientation toward social/political activism. Mayhew and colleagues (2012) disaggregated the student sample by their moral reasoning scores: students in the consolidation phase (more likely to use consistent cognitive strategies for reasoning when confronted with moral dilemmas) and students in the transition phase (less likely to use consistent cognitive strategies when faced with moral dilemmas). Their findings showed that the number of diversity courses taken was positively related to moral reasoning, but only for students in the transition phase. Diversity courses were unrelated to moral reasoning for those in the consolidation phase. In other words, taking a diversity course(s) spurred development gains by students in moral transition. The authors asserted that these students in transition were likely more developmentally "ready" as compared to students in the moral consolidation phase who were likely less equipped for dealing with cognitive disequilibrium. This pattern of findings was consistent, even when other curricular experiences (i.e., good teaching and high quality interactions with faculty; challenging classes and high faculty expectations) were taken into account.

Mixed-Method Study Kendall Brown (2008) examined how background characteristics and college experiences predict intercultural effectiveness. She used pilot data from WNSLAE, which included a cross-sectional survey of 600 undergraduates from four institutions. Her diversity coursework scale was a 3-item composite of courses that focus on "diverse cultures and perspectives", "women/gender studies" and "equality and/or social justice issues". All items were on a 5-point scale: 0, 1, 2, 3, 4+ courses. On the full sample, her quantitative findings showed that diversity courses had a significant positive correlation with intercultural effectiveness, but it was not associated with intercultural effectiveness when controlling for all the other college diversity experiences and having a developmentally effective intercultural experience. However, when examined separately for White students and students of color, the number of diversity courses taken was positively associated with intercultural effectiveness for White students in the final model, but it had no association with intercultural effectiveness for students of color. She also analyzed a

subset of the 174 qualitative interviews to examine how students make meaning of their diversity experiences, and eight students described and interpreted their experiences of having taken a diversity course(s). However, diversity courses were only one of many college diversity experiences that they described in their interviews, so the unique effect of diversity courses on their development was unclear.

Summary Overall, the number of diversity courses taken has mainly mixed results or nonsignificant results on student outcomes. The diversity of these findings highlight the complexity of the link between diversity courses and student outcomes. Unlike previous sections in this review, this section examines the cumulative impact of diversity coursework. Of the studies that found null results, most of them examined non-diversity related outcomes (e.g., Loes et al., 2012) and/or controlled for a number of other college diversity experiences such as interracial friends and having serious discussions with diverse others (Pascarella et al., 2001). The majority of the studies had mixed findings, many of which also examined a number of non-diversity related outcomes (e.g., Nelson Laird, 2005). Various studies simultaneously examined direct and indirect effects of diversity courses, with one showing an interesting indirect effect through identity centrality (e.g., Engberg et al., 2007). Some of these studies examined differential effects of the number of diversity courses taken by major (Engberg, 2007), by race/ethnicity (Engberg & Hurtado, 2011), and even by race/ethnicity *and* precollege racial environments (Saenz, 2005, 2010). Most importantly, a handful of recent studies has illustrated that the potential effects of diversity courses may be nonlinear (Bowman, 2009, 2010b, 2010c).

Overall Effectiveness of Diversity Courses

Table 2.1 presents a summary of the extent to which diversity courses predict student outcomes. In our review, we counted each research study (e.g., journal article, book chapter, dissertation) once. So if one study had five outcomes, that study was still counted once and would have been categorized as a "mixed finding" if some relationships were positive and some were nonsignificant. However, if they examined both ethnic studies and women studies courses (i.e., some of the CIRP studies), then they were counted twice, once in ethnic studies and once in women studies).

Table 2.1 Summary of overall findings for diversity courses

	Ethnic studies	Women studies	Other departments/ programs	Unknown/ multiple	Curricular diversity composite	Number of courses	Total
Positive	4	5	6	6	2	2	25
Negative	0	0	0	0	0	0	0
No change	2	1	0	2	1	7	13
Mixed	10	4	14	11	4	19	62
Total	16	10	20	19	7	28	100

There were eight studies that fit this description. In total, there were 100 findings resulting from 92 studies: 25 reported positive findings, 13 nonsignificant findings, and 62 studies reported mixed findings. Not a single study reported only negative results of having taken diversity courses, so it is clear that diversity courses do *not* have a detrimental effect on student outcomes. What is not clear, however, is the *extent* to which diversity courses affect particular student outcomes. One-fourth of the studies obtained exclusively positive findings, with the majority of studies yielding mixed findings. The positive findings tended to examine diversity-related outcomes, attitudinal outcomes, and outcomes that were closely aligned with the diversity courses themselves. Thus, the mixed results may largely be attributed to the outcome(s) examined, diversity course(s) examined, research design, and analytic approach. Moreover, these mixed findings are almost exclusively a combination of positive and nonsignificant results, with only a handful of significant negative relationships across hundreds—and perhaps over 1000—effect sizes reviewed here.

Probably the most significant source of variation in the studies was due to the variety of outcomes examined. While many studies examined the relationship between diversity courses and diversity-related outcomes, an increasing number of studies examined non-diversity related outcomes. In general, diversity courses were more likely to be positively associated with diversity-related outcomes, such as the goal of promoting racial understanding, multicultural awareness, and positive quality of interactions with diverse others. Comparatively, diversity courses tended to have no association with non-diversity related outcomes such as intellectual self-confidence, college grade point average, and interest/voting in elections. Occasionally, diversity courses had negative effects on outcomes related to mathematical ability or job-related skills. This pattern of findings is consistent with Bowman's (2011) meta-analysis, which showed that college diversity experiences (broadly defined) are more strongly related to diversity-related civic outcomes than to non-diversity-related civic outcomes. In addition, while not discussed in detail in this review, the majority of studies examined attitudinal outcomes, with a smaller number of studies exploring cognitive, behavioral, or behavioral intention outcomes (e.g., Loes et al., 2012; Milem et al., 2004). According to Ajzen's (1985, 1991) theory of planned behavior, diversity courses will likely have direct effects on students' attitudes ("proximal outcomes"), whereas they will likely have indirect effects on students' behavioral intentions and actual behaviors (more "distal outcomes") that are driven by attitudinal change. Thus, studies that examine the effects—and specifically the direct effects—of diversity courses on cognitive, behavioral, and behavioral intention outcomes are more likely to yield mixed findings than those that exclusively predict student attitudes.

The diversity courses included in this review varied significantly, as did the ways in which diversity courses were examined. Among the studies of a specific diversity course or courses, many were located in ethnic studies, women's studies, and psychology departments. But there were also courses in education, social work, and business, to name a few. The studies varied significantly in their reporting details about the content that was covered in the diversity courses. Many studies reported basic information, such as the name of the course and at times the department in

which the course was located (e.g., Pettijohn & Walzer, 2008). A minority of studies reported more detailed information, such as the weekly course content (e.g., Case & Stewart, 2010b), the course textbook and assignments (e.g., Hall & Theriot, 2007; Hathaway, 1999), and even the gender and/or race/ethnicity of the instructor (e.g., Chappell, 2014). Some studies examined content related to race/ethnicity, and others examined gender-related content. In their study examining the degree of diversity inclusivity across a variety of courses, Nelson Laird and Engberg (2011) found that some non-required courses were more inclusive of diversity than other courses that met institutional diversity requirements. Thus, they posit that researchers have likely *underestimated* the effectiveness of diversity courses, as they have probably included comparison or control courses that also have significant curricular experiences; this inclusion of diversity-related content likely further contributes to the mixed findings. In addition, many of the studies that utilized a multi-institutional survey operationalized diversity courses in a number of ways, ranging from a dichotomous variable (yes/no), to a curricular diversity composite consisting of multiple items, and to the number of diversity courses taken. Thus, differences in the ways that researchers measure *how* students are exposed to diversity courses is also a source of variation in measuring the effectiveness of diversity courses on student outcomes.

The variability in the research designs is another factor that contributes to the mixed findings of diversity courses and student outcomes. Some of the studies used a cross-sectional design, while others used a longitudinal pretest-posttest design. Some controlled for other college experiences, and others even controlled for a range of college diversity experiences that may be a product of taking diversity courses (e.g., intergroup interactions). Meta-analyses on the effects of college diversity experiences showed that studies that used self-reported gains have larger effect sizes than those that used longitudinal gains (Bowman, 2011); in addition, studies that controlled for college experiences have smaller effect sizes than those which do not (Bowman, 2010a; Denson, 2009).

The studies also varied significantly in terms of their analytic approach. As a whole, the studies were heavily quantitative in nature, consisting of 77 quantitative studies, 4 qualitative studies, and 11 mixed-method studies (see Table 2.2). While many of the earlier quantitative studies utilized multiple regression, there has been an increasing trend towards more advanced statistical methods, such as hierarchical linear modeling (e.g., Bowman, 2012) and path analysis and structural equation modeling (e.g., Engberg et al., 2007). Hierarchical linear modeling allows for more

Table 2.2 Summary of analytic approach for examining diversity courses

	Ethnic studies	Women studies	Other departments/ programs	Unknown/ multiple	Curricular diversity composite	Number of courses	Total
Quantitative	15	9	12	15	7	27	85
Mixed-methods	1	1	6	2	0	1	11
Qualitative	0	0	2	2	0	0	4

Table 2.3 Summary of overall findings by race/ethnicity

	White	Asian American	Latino/a	African American	Students of Color	Other
Positive	23	6	4	9	3	4
Negative	1	2	1	0	0	0
No change	13	14	12	17	7	0

accurate estimates on samples for which students are nested within institutions (Raudenbush & Bryk, 2002), and path analysis and structural equation modelling allow for the simultaneous examination of direct and indirect effects while controlling for measurement error (Kline, 2015). The analysis of the indirect effects of diversity courses is relatively new; this approach can reveal how a nonsignificant result in a previous study may actually occur through an indirect effect in a subsequent study.

In addition, most of the research examined the overall effects of diversity courses, while some examined differential effects by race/ethnicity (Engberg & Hurtado, 2011), gender (Eisele & Stake, 2008), major (Engberg, 2007), precollege racial environments (Saenz, 2005, 2010), and other groups. Among the relatively few studies that disaggregated by race/ethnicity (see Table 2.3), diversity courses appear to have more consistent, positive effects for White students as compared to students of color (e.g., Gurin et al., 2002; Lopez, 2004; van Laar et al., 2008; Vogelgesang, 2001). Unfortunately, no systematic differences have been found across the even fewer studies that have examined differential effects by major and precollege environments, and the problem of unequal sample sizes further contributes to the uncertainty.

Suggestions for Future Research

In conducting our systematic review of studies examining diversity coursework and student outcomes, we found substantial variability in the conduct of research into the effectiveness of diversity courses, thereby resulting in a large proportion of mixed findings which we discussed in the previous section. As a result, we have identified some suggestions for future research that relate to moderating effects, mediating effects, and accounting for self-selection. First, more focused attention should be paid to the moderating or conditional effects of diversity courses. For example, *for whom* are diversity courses more effective or less effective? Under *what conditions* can the benefits of diversity courses be realized? Some of the studies reviewed here have begun to examine how the outcomes associated with diversity courses differ by race/ethnicity, gender, major, and precollege environments. While this practice is becoming increasingly common (especially for race/ethnicity), there is still room for further exploration. In addition to examining differential effects through subgroup analyses, researchers should also test for significant differences across groups. A key problem with not testing for differences across groups is

that differences in sample size can lead to significant results for a larger group (e.g., Whites) and nonsignificant results for a smaller group (e.g., students of color) even if the size of the relationships is virtually identical. Since much of the research has examined attitudinal outcomes, future research would benefit from additional exploration of non-attitudinal outcomes. Another area that has been understudied as a possible moderator is the attributes of the diversity courses themselves. These attributes would include, at the very least, the content of what is covered in the diversity course as well as the pedagogical approaches taken in the course. Since past research has shown that interactions with diverse others can improve intergroup attitudes, diversity courses that have an embedded intergroup interaction component would likely yield better student outcomes.

Second, future studies should devote more effort into understanding the mediators or the underlying processes of *how* diversity courses impact on student outcomes. Related to a further examination of non-attitudinal outcomes in the first recommendation, it is likely that the effects of diversity courses on some outcomes (e.g., non-diversity-related outcomes, cognitive or behavioral outcomes) may be indirect, rather than direct. For example, one study showed that instructional variables collectively accounted for the positive association between having taken an ethnic studies course and critical thinking. Another study showed that student identity may be an important mediator in the relationship between diversity courses and student outcomes (e.g., Engberg et al., 2007). Thus, further work in examining mediating pathways is a promising avenue for future research, and more attention should be paid to indirect effects. These can be examined using mediation analyses such as path analysis or structural equation modeling (MacKinnon, 2008). Researchers can use multiple regression and hierarchical linear modeling by adding potential mediators in separate blocks, rather than running one large overall model where all variables are entered simultaneously. By examining how the coefficients change from block to block, possible mediators may be identified. Path analysis and structural equation modeling have some advantages over multiple regression and hierarchical linear modeling as they allow for a detailed understanding of mediation effects, since direct, indirect, and total effects can be examined simultaneously while also controlling for measurement error. Bootstrapping approaches can provide a non-parametric test for testing mediation on small sample sizes or when the assumption of normality is not met (Preacher & Hayes, 2004, 2008).

Third, given that many students self-select into diversity courses, future studies should better account for self-selection. Ideally, randomized experiments would be best, but these are often implausible when examining students in real-world settings. One alternative would be to take advantage of natural experiments, for example, by examining changes in course content over time; the primary challenge of this approach is that relevant data would need to have been collected both before and after the change. Another alternative would be to utilize quasi-experimental methods (see Shadish, Cook, & Campbell, 2002) to more rigorously examine the causal effect of diversity courses. Propensity score matching (PSM) is one such quasi-experimental approach that statistically controls for self-selection (Guo & Fraser, 2015; Holmes, 2013).

What Further Questions Remain

Despite the presence of a growing body of research on the potential effects of diversity courses on student outcomes, what exactly constitutes a "diversity course" is a definitional question that scholars need to address conceptually (Nelson Laird, 2003, 2011; Nelson Laird & Engberg, 2011). Deciding what counts as "diversity courses" is important for assessing students' curricular experiences with diversity, which will improve the research into the effects of diversity courses on student outcomes. As Nelson Laird and Engberg (2011) point out, classifying diversity courses simplistically (e.g., ethnic studies course, women's studies course) is likely to overlook other courses that may be highly inclusive of diversity but not labelled as such. They also advocate for an increased focus on faculty and course characteristics, as these factors are also likely to influence the diversity inclusivity of such courses.

In our review of the literature, diversity courses do appear to have a positive effect on various student outcomes in certain conditions. However, the nature and extent of this impact on college students still needs further examination. As our review has shown, considerable variation exists both between studies and within studies, leading to mixed findings overall. And while some interesting conditional or moderating effects have been identified, there has been little consistent replication, especially for outcomes that are cognitive, behavioral, or non-diversity related. Although we have synthesized the current knowledge base, there is still one large missing piece of the puzzle: What is the "recipe" for creating an effective diversity course?

In their model for Diverse Learning Environments, Hurtado et al. (2012) emphasize that the central features of effective curricular (and cocurricular) experiences should focus on "who we teach (student identities), who teaches (instructor identities), what is taught (content), and how it is taught (pedagogies/teaching methods)" (p. 49). Thus, instructor identities are also important; however, the main effect of these identities, along with how they might interact with students' identities, has been virtually unexamined in diversity coursework. The course content and the pedagogical practices also merit attention. Some of the theoretical frameworks discussed earlier can lead to testable hypotheses about the course components that might be most effective in promoting student outcomes, but these predictions have also been essentially untested. We need to examine the contextual and pedagogical practices in more depth before we can more accurately pinpoint what it is about diversity courses specifically that influence student learning.

In summary, despite the presence of a fairly large literature on diversity coursework and student outcomes, considerably more work is needed. It seems clear that diversity courses promote desired student outcomes, but further inquiry must explore the conditions and processes through which this widely used curricular approach can be most effective for all students.

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Nida Denson is a Senior Research Fellow in the School of Social Sciences and Psychology at Western Sydney University. Her research interests include diversity and diversity-related initiatives in education, racism, educational contexts and campus climates, underrepresented minority populations in higher education, and faculty work-life balance. She previously published a meta-analysis in *Review of Educational Research* on how curricular and cocurricular diversity activities influence racial bias. Her recent work has been published in *Educational Researcher, Journal of Higher Education*, and *Research in Higher Education*.

Nicholas A. Bowman is an Associate Professor in the Department of Educational Policy and Leadership Studies as well as the Director of the Center for Research on Undergraduate Education at the University of Iowa. His research interests include college diversity, college student success, quantitative methodological issues, and perceptions of student and institutional quality. He is an author of the third volume of *How College Affects Students*, and he has written over 50 articles in peer-reviewed journals, including *Review of Educational Research*, *Educational Researcher*, *Social Psychological and Personality Science*, and *Personality and Social Psychology Bulletin*.