DO DIFFERENCES MAKE A DIFFERENCE?

The Effects of Diversity on Learning, Intergroup Outcomes, and Civic Engagement

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Introduction

The face of the United States is changing. As the population of racial minorities grows and women take on non-traditional occupational roles, spheres traditionally associated with white males are becoming increasingly diverse. In the United States, more women are taking part in the workforce than ever before (U.S. Census Bureau, 2010), racial minorities are projected to outnumber whites by 2050 (Ortman & Guarneri, 2009; U.S. Census Bureau, 2008), and the number of Americans who speak a language other than English at home has more than doubled since 1980 (Pew Hispanic Center, 2006). Despite this upward trend in diversity, however, certain groups remain underrepresented in specific domains. Women are still less likely to pursue careers in science, technology, engineering, and mathematics (STEM; Cheryan & Plaut, 2010), and racial minorities and low-income students are underrepresented in college enrollment and graduation (Astin, Tsui, & Avalos, 1996; Ottinger, 1991; Thayer, 2000). Should steps be taken to increase diversity in schools and in the workplace? In what ways does a richly diverse community benefit its constituents?

The goal of this paper is to examine research on how experiencing diversity influences learning, intergroup attitudes and behavior, and civic engagement, particularly in relation to school and workplace environments. This paper will primarily utilize findings from the fields of psychology, sociology, and economics to investigate the benefits and drawbacks associated with diversity. Collectively, research suggests that although interactions with diverse others may initially seem more difficult and effortful than interactions with similar others, they are associated with several benefits.

What is Diversity?

Diversity can manifest in many ways. Differences in race, gender, sexual orientation, socioeconomic status, upbringing, and philosophical views are just a few ways in which people can be diverse. In this paper, diversity is defined as "variation based on any attribute people use to tell themselves that another person is different" (Mannix & Neale, 2005, p. 33). Although many types of diversity exist, this paper will focus primarily on racial and gender diversity and its effects on learning, intergroup outcomes, and civic engagement. The reasons are twofold: race and gender are commonly used dimensions to categorize people (Norton, Sommers, Apfelbaum, Pura, & Ariely, 2006) and the majority of diversity research focuses on the effects of race and gender, particularly in university and workplace contexts. When applicable, research on other forms of diversity, such as varying levels of expertise or religious beliefs, will also be discussed. Although much research focuses on race and gender, many of these findings may apply to other types of diversity as well.

How is Diversity Studied?

Researchers have primarily studied three forms of diversity: structural, curricular, and interactional. *Structural diversity* refers to the proportion of diverse individuals in a given setting. For example, studies that examine the proportion of black students enrolled in a university are looking at structural diversity. Of the three types of diversity, structural diversity has received the least empirical attention (Denson & Chang, 2009). *Curricular diversity* refers to classes, workshops, seminars, and other programmatic efforts that expose individuals to diversity-related content. One study that examined curricular diversity compared the end-of-semester prejudicial attitudes of students who enrolled in a diversity course to the prejudicial attitudes of students who enrolled in a research methods course (Rudman, Ashmore, & Gary, 2001). Finally, *interactional diversity* refers to interpersonal contact with diverse individuals. Interactions may occur horizontally via contact with peers and other equals or they may occur vertically via contact with diverse superiors or subordinates. Studies that examine roommate relationships among interracial and same-race pairs investigate horizontal interactions, whereas studies that examine gender-matched versus mixed-gender pairings between managers and employees investigate vertical interactions. Although the majority of research produces similar findings regardless of how diversity is measured, these measurement differences may be important to consider when studies produce discrepant results. Further, certain types of diversity may be more effective than others. Interactional diversity, for instance, is particularly influential in affecting learning outcomes compared to structural and curricular diversity (Bowman, 2010). For these reasons, this paper will distinguish between these three forms of diversity.

The study of diversity can also differ in terms of the type of the methodological paradigm researchers employ. Diversity can be investigated using two different paradigms: basic versus applied research. These paradigms complement each other by addressing each other's methodological weaknesses. *Applied research* examines phenomena in natural environments—in classrooms, companies, and friendship networks. Applied research also examines interventions; for example, applied research that examines whether taking a diversity course will improve prejudiced attitudes may survey students who took a diversity course versus those who did not. The advantage of applied research is that it studies diversity as it naturally occurs in the world without much interruption from researchers. However, one drawback of applied research is that it is oftentimes correlational in nature and not causal; for instance, perhaps the students who chose to enroll in the diversity course were already less prejudiced than people who chose not to attend the course. Thus, it is unclear whether the diversity course improved students' findings or if there is simply a correlation between course choice and pre-existing attitudes. In this type of study, researchers may be less confident in drawing cause-and-effect conclusions from the findings.

By contrast, *basic research* refers to controlled experiments where participants are randomly assigned to research conditions. Basic research that examines whether taking a diversity course will improve prejudiced attitudes will randomly assign some students to take a diversity course and others to take a non-diversity course. Because students were assigned to take each course, researchers can more confidently rule out the potential role of any pre-existing differences in backgrounds or views that may have existed between the two groups of students, allowing them to draw cause-and-effect conclusions. However, one drawback of basic research is that it is often difficult to implement and consequently is more removed from the natural setting in which the phenomenon in question occurs. For example, students would probably be unwilling to sacrifice a semester of their education to be randomly placed in a course of the researcher's choosing. Thus, researchers may approximate the effects of enrolling in a diversity course, perhaps by having students come to the lab and read an article promoting diversity. However, reading an article may not be as influential as taking a semester-long course on the topic. To summarize, basic and applied research trade off between the competing goals of (1) the desire to study a phenomenon in its natural context and (2) the desire to maintain enough control over the research setting to draw appropriate cause-and-effect conclusions (Wilson, Aronson, & Carlsmith, 2010). This paper will draw from both basic and applied research to provide a more informed picture of the benefits and drawbacks of diversity.

Organization of the Paper

This paper is organized by the three outcomes under investigation: learning, intergroup outcomes, and civic engagement. These outcomes were selected due to their importance and relevance to university and workplace settings. *Learning* comprises outcomes affiliated with cognitive development, such as task performance, skill acquisition, and intellectual self-confidence. Colleges are sought for their educational value, and as such, learning is a critical component to consider when discussing the potential benefits of diversity. In the workplace, people are learning new skills and acquiring new information in order to perform better. Across both contexts, as well as others, learning is an important outcome needed to succeed. *Intergroup outcomes* include attitudes, prejudices, and behavior toward diverse groups. Given increasing opportunities to interact with diverse groups of people, having positive attitudes and eliminating stereotypes will enhance people's ability to get along well with others. Lastly, *civic engagement* refers to the desire to improve society and the steps people take to enact social justice. Although there are some notable drawbacks linked to interactions with diverse others, research primarily attests to the promise of diversity in facilitating improved learning, intergroup outcomes, and civic engagement.

The Effects of Diversity on Learning

In schools and in the workplace, learning is a key criterion related to success. Can students learn and process new material and use this information accordingly? Can employees learn new techniques and strategies in order to be productive and perform well? Learning and other related outcomes, such as cognitive development, exposure to new ideas and perspectives, and even intellectual self-confidence, are highly prized characteristics needed to successfully navigate college and beyond. This section will examine to what extent diversity improves learning outcomes.

Basic research

At first glance, the effects of diversity on learning-related outcomes may seem disheartening. A recent meta-analysis, or statistical summary compiling findings across several studies, found that same-race pairs of participants tended to perform higher on various tasks compared with interracial (predominantly black/white) pairs (Toosi, Babbitt, Ambady, & Sommers, 2012). These tasks ranged from word memorization, word searches, and math problems to cooperation during economic games. Studies on mixed gender groups have yielded similar results. People perceive mixed gender task groups to be less effective than groups with more men (Baugh & Graen, 1997), although objective performance seems not to be hindered by the group's gender composition (Myaskovsky, Unikel, & Dew, 2005). Nevertheless, these faulty perceptions are still dangerous because they may create a self-fulfilling prophecy (Rosenthal & Jacobson, 1968) by causing people in mixed gender groups to feel that they are underperforming, leading to actual underperformance. Despite these apparent drawbacks, however, research discussed later in this section will examine findings on the positive effects of diversity.

One reason for the performance disparities between diverse and homogeneous groups may be because intergroup interactions tend to be more effortful to navigate successfully compared with same-group interactions (Richeson & Shelton, 2007). For example, a white employee's concerns about not appearing prejudiced when collaborating with a Hispanic co-worker may detract from the attention he devotes to their joint work, a dynamic that is not likely to occur if both people are white. This increased effort and vigilance may interfere with the attentional and mental resources required to perform well on tasks, subsequently leading to underperformance. On a positive note, however, the researchers note that the magnitude of the effect of racial composition on performance is small ($r = .07$) compared to other meta-analyses in social psychology ($r = .21$; Richard, Bond, & Stokes-Zoota, 2003). Further, only tasks with "objectively determinable" (p. 7) outcomes, such as the number of problems solved correctly, were considered in the meta-analysis. In reality, however, the process of learning and the content learned may be difficult to determine in such a concrete manner.

Perhaps in part due to differences in "objectively" quantifying learning, as well as researchers' differential emphasis on the process of learning versus performance, other research reveals benefits of diversity. Diverse groups can influence the learning outcomes of the people they come in contact with both directly and indirectly. As people share about their different views, experiences, and backgrounds, they are directly exposing others to new and sometimes dissenting information, which can facilitate active learning on the part of the listeners (Langer, 1978). Blacks who grew up in a predominantly black neighborhood may find themselves encountering new people and new ways of thinking once they arrive at a more racially integrated university. Men who take a women's studies class for the first time may learn about experiences and concerns particular to women that they have never thought about before. Thus, having to integrate and make sense of these different views allows people to stretch their minds and look beyond their own limited experiences. Interactions with diverse groups may be particularly beneficial for people who belong to the majority group because they are less likely to encounter views or information that contradict their thoughts compared to people who belong to minority groups. Indeed, exposure to minority opinions can powerfully influence those who prescribe to "majority" views (Wood et al., 1994) and increase knowledge about what it is like to be a member of an outgroup in terms of race, age, mental/physical illness, or sexual orientation (Pettigrew & Tropp, 2008). These findings suggest that exposure to diversity shapes the process of learning, particularly learning about views and experiences relevant to minority groups. Although same-race dyads may slightly outperform interracial dyads on certain tasks,

a unique kind of learning takes place during exchanges with people from a different group that does not occur in same-group interactions.

Not only do minorities directly expose others to new knowledge, their mere presence may indirectly trigger improved cognitive outcomes among majority members. White college students placed in a group that had one black student wrote essays of higher integrative complexity compared to white college students placed in an all-white group (Antonio, Chang, Hakuta, Kenny, Levin, & Milem, 2004). Integrative complexity, a cognitive style that integrates multiple perspectives and viewpoints, has been associated with better task performance among college students (Gruenfeld & Hollingshead, 1993). Notably, the mere presence of a black student was sufficient in improving the quality of white students' essays, even though the black student did not directly offer any contributions toward writing the essay. Similarly, the mere presence of racial minorities improved reading comprehension for whites on race-relevant passages (Sommers, Warp, & Mahoney, 2008) and caused white mock jurors to deliberate longer, consider a wider range of information, and make fewer inaccurate statements when discussing a black defendant (Sommers, 2006). In all of these cases, the higher performance of whites occurred through the mere presence of racial minorities as opposed to racial minorities' overt contributions.

Similarly, mere exposure to foreign cultures in and of itself increases creativity. Exposure to multicultural experiences—for example, watching a slideshow on American-Chinese fusion culture as opposed to watching no slideshow, an American culture slideshow, or a Chinese culture slideshow—predicts various outcomes related to creativity, such as generating new ideas or retrieving unconventional knowledge from memory (Leung, Maddux, Galinsky, & Chiu, 2008). The benefits of exposure to a different culture on creativity is particular pronounced for people who have already lived abroad and have immersed themselves in a completely different culture than their own (Maddux & Galinsky, 2009). Although this research examines the advantages of living in a new country, similar benefits may be found when people interact extensively with others who come from different cultures, backgrounds, and philosophies.

Having a diverse collection of people within a community also benefits numerical minorities because it increases the likelihood that these individuals will be able to interact with people who belong in their same group. In other words, contact with diverse individuals is beneficial for majority group members, but for minority group members it is beneficial to be around others of their own group. Contact with fellow minorities is particularly beneficial if these minorities tend to be negatively stereotyped in a particular context, such as women in STEM fields or low-income students in a university. When female students take engineering classes taught by a successful woman professor or when low-income students interact with professors who overcame their financially disadvantaged background to become a faculty member, they may be better able to overcome the negative stereotypes associated with their group. This is important because minorities tend to be more susceptible to stereotype threat, or feelings of threat based on the possibility that one may be judged by negative stereotypes associated with one's group, which inadvertently leads people to behave in ways that confirm these negative stereotypes (for a review, see Steele, Spencer, & Aronson, 2002). Stereotype threat has been shown to contribute to underperformance across several groups and domains: women (vs. men) on the mathematics Graduate Record Exam (GRE; Spencer, Steele, & Quinn, 1999); blacks (vs. whites) on the English GRE (Steele & Aronson, 1995); women (vs. men) on financial decision making tasks (Carr & Steele, 2010); and whites (vs. blacks) on a test of natural athletic ability (Stone, Lynch, Sjomeling, & Darley, 1998). Given that these groups are often underrepresented in negatively stereotyped domains, universities and workplaces are strongly encouraged to recruit more people from these groups in order to achieve a critical mass. Contact with other ingroup members can protect against the detrimental effects of stereotype threat. In particular, contact with successful ingroup role models and peers can buffer stigmatized individuals from self-doubt, negative stereotypes, and even underperformance (Cheryan, Plaut, Davies, & Steele, 2009; Dasgupta, 2011; Inzlicht & Ben-Zeev, 2000, Inzlicht & Ben-Zeev, 2003; Murphy, Steele, & Gross, 2007; Sekaquaptewa & Thompson, 2003). Indeed, exposure to successful ingroup peers has been shown to increase self-esteem among blacks (Blanton, Crocker, & Miller, 2000) and exposure to non-stereotypical women role models has been shown to increase women's beliefs in their ability to succeed in computer

science (Cheryan, Siy, Vichayapai, Drury, & Kim, 2011). Consequently, hiring faculty and high-status supervisors from traditionally underrepresented backgrounds is likely to positively affect students' and subordinates' learning outcomes.

Applied research

Applied research conducted in universities and workplaces generally demonstrates a positive association between diversity and various learning outcomes. University research provides stronger evidence in support of diversity, whereas workplace research produces more mixed results. Differences across the domains of research may result from disparities in how researchers measure diversity and the specific learning outcomes in question: university research explores the effects of diversity on intellectual self-confidence and critical thinking, among other outcomes, whereas workplace research examines team performance and innovation. Although all of these outcomes relate to learning, they are nevertheless distinct. Given these different findings, this paper will examine university and workplace research separately.

University research. Several studies conducted across different universities suggest that contact with diverse others is positively related to improved cognitive outcomes. A national longitudinal study across 184 colleges and universities found a consistently positive relationship between students' diversity experiences and several learning outcomes (Gurin et al., 2004). Students who experienced more racial diversity in terms of their interactions with others and participation in diversity-related courses and events reported increased intellectual engagement (e.g., drive to achieve, interest in attending graduate school) and academic skills (e.g., accumulation of general knowledge, ability to think critically, analytical skills). These findings applied similarly to black, white, Hispanic, and Asian Americans students, and these patterns held even after adjusting for students' intellectual outcomes prior to college entrance. Another longitudinal study of 124 four-year colleges demonstrated that interaction diversity across racial, national, religious, political, and philosophical lines is associated with perceived gains in learning outcomes, such as acquisition of intellectual, practical/vocational, scientific/technological, and personal/social skills (Hu & Kuh, 2003). Here, too, similar gains were found for whites and racial minorities. Greater interracial interactions in terms of dining, dating, studying, and being in the classroom positively predicts self-reported growth in the accumulation of general knowledge (Chang, Astin, & Kim, 2004), and the number of diversity courses students take predicts critical thinking (Nelson Laird, 2005). Interactional and curricular diversity provide promising avenues to improve learning inside and outside of the classroom.

Although most research shows similar gains across racial groups, sometimes these benefits only apply for select groups of people. For example, a study that looked at randomly assigned roommate relationships for white and black students found that black students who lived with a white (vs. black) roommate had higher GPAs at the end of the first academic quarter, but whites' GPAs did not differ based on the race of their roommate (Shook & Fazio, 2008). This finding held even after statistically accounting for students' standardized test scores from prior to college. This research is particularly striking for two reasons. First, much of the research on diversity is framed such that majority group members, such as whites or men, are seen as the beneficiaries of diversity and minority group members, such as racial minorities or women, are seen as the benefactors. This work indicates that majority group members can also benefit the learning outcomes of minorities. Second, this work examines concrete academic performance at the end of the academic quarter. Much of the previous work looks at self-reported gains in learning outcomes, a less objective measure compared to actual performance.

Given the varied measures and outcomes associated with these studies, meta-analyses provide an excellent summary based on statistical findings. A meta-analysis compiling 58 effects across 77,029 total undergraduates concluded that college experiences with diversity are positively associated with cognitive development (Bowman, 2010). This work also showed that interpersonal interactions across racial lines most strongly related to cognitive development; nevertheless, coursework, workshops, and non-racial interactions also had a significant impact. Indeed, another longitudinal study examining 23 colleges and universities found that engagement with diversity of all kinds, such as interactions with people from different political, religious, and national backgrounds, predicted critical thinking skills on the Collegiate Assessment of Academic Proficiency (Pascarella, Palmer, Moye, & Pierson, 2001). These patterns held even after adjusting for pre-college measures of academic ability, although some differences in results occurred based on the exact diversity measure and

participant demographics. Overall, however, research agrees that college diversity predicts beneficial cognitive outcomes for students.

Greater experiences with diversity also affect students' attitudes toward their college experience. Bowen and Bok's (1998) seminal work on the impact of affirmative action on students in 28 selective liberal arts colleges and research universities found that in one graduating class, nearly 70% of white students with the most extensive interracial interactions during college reported being "very satisfied" with their college education, compared with around 60% of those who had "some" interracial interactions and 55% of those with "no substantial" interracial interactions. A separate study on 124 undergraduate institutions documented that greater interactions with people from different racial, national, religious, political, and philosophical backgrounds positively predicted how much students thought their college experience contributed to their personal growth and development (Hu & Kuh, 2003). However, one study on 140 schools found that the percentage of black students enrolled in the university negatively correlated with satisfaction with education and perceptions of the quality of education among students, faculty, and administrators (Rothman et al., 2003). Although these results may seem discouraging, discrepancies may arise because this study was not longitudinal, in contrast to many of the studies documenting the benefits of diversity. Because the study only compared schools at a single point in time, they cannot make any claims about the effects of increases in diversity (Gurin et al., 2004); perhaps the schools with greater proportions of black students differ from schools with fewer black students in many other ways. Even with this study in mind, however, the majority of research suggests that exposure to diversity contributes positively to students' satisfaction with their college experience.

Experiences with diversity also shape students' outcomes after graduation. White students who went on to attain professional degrees in law, medicine, and business were more likely than other whites in the same class to have interacted with peers from different racial backgrounds during college (Bowen & Bok, 1998). Benefits are particularly evident among students from underrepresented groups. Among nearly a thousand undergraduate and graduate STEM students, women (vs. men) and racial minorities (vs. whites) were more likely to report that having a mentor of one's own gender or race was important to them (Blake-Beard, Bayne, Crosby, & Muller, 2011). Experiences with ingroup mentors may encourage students to pursue careers in fields that are not traditionally associated with their group for two reasons. First, exposure to ingroup leaders who are non-stereotypical of a given field may change people's beliefs and assumptions about the kinds of people who belong in that field. A study of women attending a women's versus co-educational university found that greater exposure to women leaders caused women who attended a women's college to demonstrate less gender stereotyping about women in leadership compared to women who attended a co-educational university (Dasgupta & Asgari, 2004). When women believe that they have the ability to be effective leaders, they are more likely to take on leadership roles instead of shying away from them. Second, underrepresented minorities may be more interested in pursuing a career that is not typically associated with their group if they perceive that they share similarities with others in the field. Indeed, perceived similarity to the people in a field significantly explains women's lowered interest in computer science and men's interest in English (Cheryan & Plaut, 2010). Contact with similar role models may encourage students to pursue non-traditional careers associated with their group because they feel like they have something in common with those who have already achieved success in that field.

In summary, these findings demonstrate the numerous advantages of diversity in the educational environment. Greater diversity-related experiences are associated with positive learning outcomes for whites and people of color alike, such as greater accumulation of general knowledge and intellectual engagement. Next, the paper will discuss research on diversity in workplace environments and note the similarities and dissimilarities between university and workplace research.

Organizational research. In contrast with university research, diversity research in workplace settings provides more mixed results. Groups that differ in terms of surface-level characteristics like race or gender tend to be negatively linked to some group performance outcomes, but not always (Mannix & Neale, 2005). For example, racial diversity has been shown to produce negative effects on constructive group processes (Kochan et al., 2003) and performance (Jackson, Joshi, & Erhardt, 2003), but positive effects in terms of business success,

such as growth in branches' business portfolios, more customers, increased sales revenue, greater market share, and greater relative profits (Herring, 2009; Kochan et al., 2003). Similarly, research on gender composition of groups in the workplace has yielded mixed results in terms of performance. Some studies suggest that gender diversity can improve constructive group processes (Kochan et al., 2003) and business success (e.g., increased salves revenue, more customers; Herring, 2009), whereas others suggest that gender differences do not matter (Mannix & Neale, 2005). Further research is needed to conclusively demonstrate when, why, and how surface-level characteristics make a difference.

In contrast to research on surface-level diversity, others have found positive effects when measuring deeper, underlying sources of diversity (Mannix & Neale, 2005). Pairs of people with heterogeneous attitudes—for example, dyads where one person has more liberal attitudes and the other has more conservative attitudes—generate more creative solutions to problems than dyads with homogeneous attitudes (Triandis, Hall, & Ewen, 1965). A survey of 45 product development teams found that diversity in length of employee service improved groups' ability to define goals and set priorities (Ancona & Caldwell, 1992). Further, a study of the top management teams of 199 banks discovered that the teams managing the more innovative banks had more diversity in educational backgrounds and expertise, in addition to being more educated overall (Bantel & Jackson, 1989). Some research even shows that a diverse group of thinkers are better at solving difficult problems than a group of the best individual thinkers (Page, 2007). These findings suggest that surface-level diversity may not be sufficient to effect positive outcomes in the workplace, and that deeper sources of diversity must also be considered in order to fully reap the benefits.

Taken together, the organizational research suggests that considering the source of diversity—surface-level or underlying—may be important to consider when assessing the benefits on workplace performance. These sources, however, need not be mutually exclusive. It may be the case that a racially diverse faculty provides better learning opportunities for students because they have underlying differences in terms of perspectives, experiences, and expertise. Indeed, different racial groups hold significantly different viewpoints on various sociopolitical issues, such as the death penalty, health care, drug testing, taxation, free speech, and the prevalence of discrimination (Chang, 2003). As universities and workplaces recruit staff and faculty, it may be important to consider demographic differences as well as deeper, less visible differences in terms of opinions, interests, and experiences.

Conclusion

Diversity of all kinds is generally associated with positive learning and performance outcomes. Not only do experiences with diversity improve one's cognitive skills and performance, it also improves attitudes about one's own intellectual self-confidence, attitudes toward the college experience, and shapes performance in the workplace. Although more mixed results on the benefits of diversity have been found in the workplace, one reason why this may be the case is because universities may be more uniform to one another whereas workplaces may vary widely in terms of goals, environments, employees, and services. In universities, students tend to be closer together in age and may have more similar experiences and beliefs as a result of being in a similar age group. Universities have a primary goal of educating students and the environment is one such that education is highly prized. Workplaces, on the other hand, may retain employees with a wider range of differences in age, background, and experiences. The goals of each workplace may differ widely, from hospitals trying to treat patients quickly and efficiently to financial institutions trying to amass the most capital. Given these differences, it may be unsurprising that university and organizational research yield somewhat discrepant findings. However, research has shown the promising effects of workplace interventions. For example, training, development initiatives, and positive working environments have successfully alleviated the performance decrements associated with racially diverse groups (Ely & Thomas, 2001; Kochan et al., 2003). Consequently, universities and workplaces may want to develop resources to help individuals overcome the initial hardships associated diversity so that people may later be able to enjoy the benefits associated with interacting with diverse others.

The Effects of Diversity on Intergroup Attitudes and Behavior

Increased exposure to diversity may also facilitate a different kind of learning experience: learning about unfamiliar groups of people and the experiences, perspectives, values, and backgrounds associated with these groups. One black student wrote about his college experience at the University of Michigan: "I lived in a black neighborhood for my entire life. I always attended black schools… My outlook has definitely broadened here. My assumptions about other cultures have been challenged and I have been stretched in many ways" (Gurin et al., 2004, p. 103). Similarly, a white student from the University of Michigan wrote: "Now not all of my friends are white. I have a few really close friends who are African American and Asian American. I have learned so much from all of them… I would be oh so much more ignorant if I hadn't had this experience" (Gurin et al., 2004, p. 104). As these students attest, face-to-face encounters with people from different backgrounds can challenge and improve the stereotypes and misconceptions held about these groups. This section of the paper discusses the effects of diversity in improving intergroup outcomes, or the attitudes, prejudices, and stereotypes people feel towards those who are different, as well as their behavior toward these individuals.

Basic Research

Research agrees that birds of a feather flock together. People are more attracted to those who share similar attitudes (Byrne, 1971) and surface-level demographic characteristics (Berscheid, 1985) as themselves. Perhaps because of people's natural tendencies to interact with similar others, interactions with diverse others can be quite difficult. For example, a recent meta-analysis covering 40 years of dyadic interracial research found that people tend to experience less positive emotions, more negative emotions, and more feelings of threat while interacting with a partner of a different race (Toosi et al., 2012). These internal states also reflect in people's behavior: people exhibit less friendly nonverbal behavior in interracial vs. same-race interactions, as rated by interaction partners or third-party observers. Differences in gender also exacerbated the negative effects of interacting with a partner of a different race: interacting with someone of a different gender increased the amount of negative emotions people felt in interracial vs. same-race interactions. These findings demonstrate that despite living in an increasingly diversifying society, interactions with diverse others can be difficult and unpleasant.

Fortunately, increased contact with members of other groups can significantly improve intergroup attitudes. Allport's (1954) contact hypothesis proposes that intergroup interactions can improve attitudes toward other groups, but only under certain conditions: having equal status between group members in the particular situation, working toward common goals, intergroup cooperation, and having the support of authorities or customs. These ideas have found much empirical support over years of intergroup research. Most recently, Pettigrew and Tropp (2006) found that contact does indeed improve attitudes and, further, these findings extend beyond racial interactions. In general, increased contact with the elderly, people with physical or mental illnesses, and people of different sexual orientations improves attitudes toward these groups. A separate meta-analysis revealed that contact improves attitudes by enhancing knowledge of the other group, reducing anxiety about interacting with outgroup members, and by increasing empathy and perspective-taking (Pettigrew & Tropp, 2008). As people become more familiar with diverse others, their attitudes towards them become increasingly positive.

Although the majority of work in this area examines interactions with outgroup strangers, interactions with outgroup friends also reaps benefits. A meta-analysis revealed that spending more time with outgroup friends and disclosing more to them predicts positive intergroup attitudes (Davies et al., 2011). The positive effects of intergroup contact can even spread via extended contact—simply knowing that an ingroup friend has a friend from a different racial group improves attitudes towards that group (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). Direct and extended contact with diverse others provides unique opportunities to learn about other groups, which improves negative misconceptions and attitudes people may harbor.

In *The Nature of Prejudice* (1954), Allport originally stipulated that equal status between groups is needed to improve intergroup attitudes. However, other research has shown that vertical interactions with outgroup members may also improve attitudes and stereotypes. In one study simulating a workplace

environment, white students were either assigned to be a superior or a subordinate to a black student. Whites who were assigned to be the subordinate of a black student showed less racial prejudice compared to whites assigned to the role of being a superior (Richeson & Ambady, 2003). Racial prejudice was measured using the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998), a test of implicit (vs. explicit) racial attitudes unbiased by people's tendency to self-report socially desirable answers. Other research suggests that vertical relationships with outgroup members can improve intergroup attitudes to the extent that the exemplar is associated with positive and not negative concepts. For example, exposure to admired black exemplars (e.g., Michael Jordan) and disliked white exemplars (e.g., Jeffrey Dahmer) compared to exposure to disliked blacks (e.g., Mike Tyson) and admired whites (e.g., John F. Kennedy) caused white and Asian American participants to display less implicit racial prejudice towards blacks (Dasgupta & Greenwald, 2001). Notably, these effects were evident even 24 hours after the experiment. A similar study exposed people to either admired black exemplars (e.g., Oprah), all-white exemplars (e.g., Julia Roberts), or less favorable black exemplars (e.g., Jesse Jackson), and found that exposure to admired black exemplars led people to disagree that racial discrimination is no longer a problem in society (Bodenhausen, Schwarz, Bless, & Wänke, 1995). In other words, they were better able to empathize with blacks, who are on average more likely to believe that racial discrimination exists in America. These findings call for increased hiring of traditionally underrepresented groups in high-level roles, such as faculty and managerial positions. Contact with people who are not traditionally associated with high-level positions, such as a female mathematics professor or an Asian American CEO, extend beyond individual interactions with others because they have the potential to challenge people's stereotypes and attitudes about these groups as a whole.

Exposure to favorable exemplars can even positively affect ingroup subordinates, particularly if the exemplar belongs to a group that is typically stigmatized or underrepresented in a given context. For example, research demonstrates that leadership stereotypes are associated with masculinity (Koenig, Eagly, Mitchell, & Ristikari, 2011), but this bias can be attenuated with exposure to women leaders. In one study (Dasgupta & Asgari, 2004), women saw pictures and read a paragraph about 16 women in leadership positions (e.g., Meg Whitman, CEO of e-Bay; Ruth Bader Ginsburg; U.S. Supreme Court Justice) or 16 flowers (the control condition). Women who saw pictures of women leaders were quicker to associate women with leadership qualities compared to women who were not exposed to women leaders. Similar benefits may be observed in cases where students attend a class taught by female or racial minority professors. Increased exposure to underrepresented groups who are in high-level positions may help attenuate the negative stereotypes people hold about who does or does not belong in certain roles. Collectively, research shows that increased representation of diverse groups in high-level positions benefit ingroup members of these diverse groups as well as outgroup members.

Applied Research

Structural, curricular, and interactional diversity research conducted in university and workplace settings parallel findings from basic research: increased exposure to diversity is associated with positive intergroup attitudes and behavior. The effects of each type of diversity will be discussed in turn.

Structural diversity. Increasing structural diversity in university settings improves intergroup attitudes and behavior. Whites are more likely to socialize, develop relationships, and talk about racial issues with peers from a different racial background to the extent that the school has a higher proportion of racial minority students (Chang, 1999). White and black alumni also report having benefited from structural diversity in college. Students from more diverse student populations reported getting along better with people from different racial backgrounds and holding more positive attitudes towards affirmative action programs (Bowen & Bok, 1998). As demonstrated, structural diversity is a critical factor in bringing people from diverse groups together. At the same time, however, structural diversity may be insufficient for facilitating the maximum benefits of diverse interactions: people from different groups must have opportunities to learn about each other in order to ameliorate any negative thoughts or attitudes people hold about others.

Curricular diversity. One way people can learn about outgroups is to attend diversity-related seminars and courses. Students who took a prejudice and conflict course versus a research methods course showed improved racial attitudes at the end of the semester,

despite both groups having similar attitudes at the beginning of the semester (Rudman, Ashmore, & Gary, 2001). The beneficial effects of these courses may also be contributed in part by the race of the professors: a black professor taught the prejudice and conflict course whereas a white professor taught the research methods course. Perhaps a combination of interacting with a black professor—someone who is from a racial group typically underrepresented in faculty positions—led the diversity course to be even more effective in ameliorating racial attitudes. Nevertheless, other studies show that taking diversity courses in and of itself is associated with improved intergroup attitudes. For example, taking diversity-related courses is associated with more supportive attitudes regarding racial issues related to the university community, such as support for educational equality (e.g., hiring more faculty of color; Lopez, 2004) and emphasizing the importance of interacting with people from diverse backgrounds in respect to race, sexual orientation, national origin, and culture (Springer, Palmer, Terenzini, Pascarella, & Nora, 1996). Importantly, taking diversity-related courses affects one's own cognitions about their attitudes toward other groups. Students who took diversity courses showed increased motivation to reduce one's own prejudices by refusing to participate in derogatory jokes, avoiding language that reinforces negative stereotypes, and challenging biases that affect one's own thinking (Zuniga, Williams, & Berger, 2005). Coursework provides structured and informative ways for students to be exposed to new content and improve negative attitudes towards people from backgrounds that differ from their own.

In the workplace, diversity training has yielded mixed results. One overview of 34 studies examined the effects of cultural competence training among health professionals (Beach et al., 2005). This review found that cultural competence training demonstrated a beneficial effect on improving providers' attitudes, cultural knowledge, and skills across a majority of studies, although a small minority yielded harmful or null effects. A separate review of affirmative action and diversity policies across 708 corporate establishments found mixed results (Kalev, Dobbin, & Kelly, 2006). They found that programs for taming managerial bias through education and feedback was the least effective in increasing managerial diversity, compared to practices that established organizational responsibility (i.e., affirmative action plans, diversity staff, and diversity task forces) and attempts to reduce social isolation among underrepresented groups through networking and mentoring. Specifically, programs that attempted to reduce managerial bias improved hiring outcomes for white women, but not for black men and women, suggesting that reductions in bias may not necessarily correspond to concrete behaviors. These findings suggest that not all diversity programs will yield beneficial results; thus, special consideration must be given to the logistics of the particular type of diversity training that workplaces implement. Specifically, cultural competence training and programs that establish organizational responsibility seem to have the greatest effect on improving workers' attitudes and making the workplace a better environment for minority group members.

Interactional diversity. Outside of the classroom, interactions with diverse peers and superiors can also provide opportunities to improve intergroup attitudes and behavior. In college, interactions with diverse peers typically occur in study groups, dormitories, parties and other social events, and extracurricular activities (Bowen & Bok, 1998). The majority of these interactions are voluntary. People choose who to socialize with, and some choose to spend time with outgroup friends and roommates more so than others. In general, voluntary interactions with outgroups have positive effects on intergroup attitudes and behavior. Undergraduates with a greater number of racial outgroup friends during their sophomore and junior years and those who dated outside of their racial ingroup during the first three years of college showed less racial ingroup bias and felt less anxious being around different racial groups at the end of their senior year (Sidanius, Levin, van Laar, & Sears, 2008). These effects were similar for white, Asian, black, and Hispanic students. Further, the greater the racial heterogeneity of the roommates students chose to live with during their sophomore and junior years, the more positive their attitudes were towards whites, Asians, Latinos, and blacks at the end of their senior year and the greater their sense of competence in navigating interracial interactions (Sidanius et al., 2008). Interestingly, interactions with people outside of their friendship networks are more likely to have involved conversations regarding diversity, such as sociopolitical views and women's rights. Similar effects are found when examining interactions with people who differ in terms of race, national origin, philosophies of life, political beliefs, and religious beliefs. For both whites and racial minorities, the extent to which people interacted with a variety of

diverse others was positively associated with increased competence about diversity (Hu & Kuh, 2003). People who had more diverse interaction partners possessed more knowledge about outgroups and reported greater ability in getting along with different kinds of people. In short, the choices students made in their informal interaction partners during their formative years of college shaped their attitudes by the end of the college experience.

Despite encouraging results, how confident can researchers be about whether voluntary contact with diverse others improves intergroup attitudes? Perhaps people who choose to interact with diverse peers differ in various ways from people who choose more homogeneous peers, and these differences are what actually drive improvements in intergroup attitudes. Fortunately, research on *involuntary* contact with diverse others addresses this dilemma. By randomly assigning students to live and socialize with diverse vs. homogeneous peers, researchers can more confidently claim that contact with diverse others improves intergroup attitudes. A longitudinal study of students attending the University of California in Los Angeles found that greater racial heterogeneity in students' freshmen roommate assignments as designated by the university predicted more positive attitudes toward whites, Asians, Hispanics, and blacks (Sidanius et al., 2008). Further, students who were assigned to live with more racially diverse roommates reported a greater sense of competence in dealing with people from other racial groups at the end of their freshmen year. Implicit racial attitudes and intergroup anxiety has been shown to improve over the course of white students' first year of college if they were randomly assigned to live with a black (vs. white) roommate (Shook & Fazio, 2008). Taken in conjunction with research on voluntary contact, the literature provides significant support for the notion that contact with diverse peers can improve attitudes and reduce stereotypes people hold about outgroups, equipping students with the competence to smoothly navigate future intergroup interactions.

Interactions with diverse superiors are also sources of attitudinal and behavioral change. Most of the applied literature examines whether superiors and subordinates match on group membership, such as belonging to the same racial group or gender. In general, traditionally stigmatized groups experience more negative intergroup outcomes when matched with a non-stigmatized superior. Black subordinates with white supervisors tend to experience more racial discrimination than black subordinates with black supervisors (Jeanquart-Barone, 1996). A racial minority supervisor is more likely to sympathize with their fellow minority subordinates because they personally understand the hardships of being a minority in the workplace and are less likely to act in a discriminatory manner against them. A study surveying 763 employees found differences in perceptions of gender and racial discrimination in the workplace (Avery, McKay, & Wilson, 2008). In this study, females were more likely to report the prevalence of gender-based discrimination than their male counterparts, and black and Hispanic employees reported more racial discrimination than their white counterparts. For blacks and Hispanics, however, perceptions of discrimination were attenuated if they had a same-race supervisor. This study shows that racial minority superiors are more likely to empathize with ingroup subordinates, just as ingroup subordinates are more likely to feel support and understanding from ingroup superiors. In addition, these superiors—whether they are professors at a university or high-level staff at a company—are likely to play an important role in shaping the classroom and workplace environment to be appreciative of diversity, which in turn fosters cooperation, productivity, and learning. For example, a survey of 816 firms nationwide found that a greater proportion of female managers in a given firm is associated with greater likelihood in adopting diversity management programs (Dobbin, Kim, & Kalev, 2011). These findings call for increased diversification among faculty, staff, and other high-level positions for the sake of improving outcomes for subordinates and consequently, the institution as a whole.

Conclusion

Despite some mixed results, in general the studies show that exposure to diversity can ameliorate negative stereotypes and biases people may have about people from different backgrounds and perspectives. In addition, increasing diversity in high-power positions can buffer underrepresented and stigmatized groups by providing ingroup members as understanding and supportive role models. Collectively, these findings agree with Allport's (1954) original premise that exposure to diverse others—whether by taking diversity courses or via face-to-face contact—has the power to improve intergroup outcomes.

The Effects of Diversity on Civic Engagement

Thus far, the paper has shown that exposure to diversity has beneficial effects on learning and intergroup outcomes. Exposure to diversity influences how and what people think, shaping intellectual pursuits and interpersonal attitudes towards others. But how does diversity lead people to affect others, the local community, and society as a whole? Research suggests that exposure to diversity leads to civic engagement, or actions taken to change and improve society. People high in civic engagement want to rectify group-based inequalities, take charge in promoting intergroup understanding, and desire to create a more egalitarian society. This section of the paper will discuss how structural, curricular, and interactional diversity contribute to civic engagement.

Basic Research

Much of basic research has examined the role of interactional diversity in improving intergroup attitudes and behavior (e.g., Pettigrew & Tropp, 2006) and less research has examined how these improved attitudes translate into civic engagement. Nevertheless, growing research on *collective action* has started to examine how people may take steps to enact social change. Collective action is when group members take action to improve conditions for the group (Wright, Taylor, & Moghaddam, 1990). Whenever possible, people try to enact forms of collective action that conform to the rules and norms of the established social system (Wright, 2009) rather than taking more drastic actions. For example, voting for candidates during an election or petitioning for political change is an example of normative collective action. However, when these steps prove ineffective, groups may adopt non-normative tactics that disregard the existing social system (Drury & Reicher, 2005). Collective action, then, is one type of civic engagement where members of a group try to attain more favorable collective outcomes.

By definition, collective action refers to steps taken by members of the beneficiary group. Some work, however, has examined when outgroup members take action on behalf of other groups. Men are more likely to engage in collective action on behalf of women when they perceive widespread discrimination against women and feel sympathy for them (Iyer & Ryan, 2009). Adopting the perspective of outgroups and feeling guilt also predict collective action. For instance, feelings of guilt influenced the extent to which heterosexuals take collective action on behalf of homosexuals and the extent to which whites take collective action on behalf of blacks (Mallett, Huntsinger, Sinclair, & Swim, 2008). This work suggests that at a minimum, awareness of group disparities is needed to trigger people to take action on behalf of others. Interacting with diverse others and taking diversity-related courses may spread awareness of group inequalities and consequently lead people to engage in collective action on behalf of others. Ultimately, these actions may help bring about safe and nurturing environments for minorities that would benefit their learning, performance, and well-being.

Applied Research

Studies among college populations have yielded favorable effects of diversity on civic engagement. Looking at a sample of 184 schools nationwide, Gurin et al. (2004) found that black, white, Hispanic, and Asian American students' experiences with diversity are positively associated with greater democracy outcomes over time, even after accounting for students' democracy outcomes when entering college. Democracy outcomes included citizen engagement during college, racial and cultural engagement, motivation to take the perspective of others, and the belief that democracy and diversity are compatible. Students across all four racial groups who had the most experiences with diversity were the most engaged in various kinds of citizenship activities by the end of college. These students were more likely to take steps to influence the political structure, help others in difficulty, be involved in programs to clean up the environment, and participate in other community action programs. Similarly, another study of 154 colleges and universities found that greater interracial interactions in terms of studying, dining, dating, and spending time in the classroom were positively associated with civic interest (Chang, Astin, & Kim, 2004). Students with greater experiences with diversity reported higher personal importance in promoting racial understanding and participating in community action programs. Other studies have found the importance of taking diversity-related courses in commitment to social engagement outcomes, such as eliminating poverty and volunteering (Nelson Laird, 2005; Nelson Laird, Engberg, & Hurtado, 2005). The effects of curricular and interactional diversity even

extend beyond college. Students who recalled taking more undergraduate courses that discussed ethnic and cultural diversity reported greater volunteer service five years later (Smith et al., 2010). Upon graduating from college, these people were more likely to have worked on volunteer projects involving government agencies, donated professional services on a "pro-bono" basis, worked with others to solve community problems, and donated goods. Taken together, these results show that curricular and interactional diversity increases peoples' interest in improving society as well as concrete behaviors associated with civic engagement.

Less research has looked at how structural diversity affects civic engagement, perhaps because findings seem to contradict the benefits of interactional and curricular diversity. One study examined racial diversity in neighborhoods across the United States and found that more diverse neighborhoods were associated with reduced social capital and civic engagement (Putnam, 2007). Specifically, people who lived in more racially heterogeneous areas (e.g., San Francisco, Boston) report lower confidence in the local government, lower political efficacy (confidence in one's own political influence), lower frequency of voting registration, lower expectations that others will cooperate to solve social dilemmas, and lower likelihood of working on a community project or volunteering compared to people who lived in more racially homogeneous areas (e.g., rural West Virginia). It is unclear why applied research in college settings and Putnam's (2007) work differ so drastically. Perhaps differences in the ways in which diversity is measured by researchers matter: Putnam (2007) examined structural diversity whereas most work on college populations examines interactional and curricular diversity. More research is needed to discover the conditions under which exposure to diversity can promote civic engagement.

Conclusion

Although there exists mixed evidence regarding the effects of diversity on civic engagement, the majority of research on interactional and curricular diversity strongly suggests that increased exposure to diversity is positively associated with civic engagement. Achieving awareness of group-based inequalities and discrimination through interactions with diverse others and enrolling in diversity-related courses is the first step in taking action to improve one's community and society at large. Even though the majority of research covered in this section related to university settings, these findings indicate that students' experiences in college set them on the path to engage in civic actions once they join the "real world." These individuals are more likely to perform activities and services in order to improve outcomes for others, and in doing so, they are making a difference in their homes, neighborhoods, workplaces, churches, and communities.

General Conclusion

As society becomes increasingly diverse, intergroup interactions will become more frequent. People will encounter peers, supervisors, and subordinates who are from a different racial group, national origin, gender, sexual orientation, age, political party, or religion. On the one hand, increased interactions with diverse others may be problematic in that intergroup interactions tend to be fraught with discomfort, negativity, and anxiety. Because people are more familiar with interacting with similar others and prefer to interact with others who are like them, initial encounters with diverse others may be quite difficult. However, with practice and increased exposure, people can start to reap the learning, intergroup, and civic benefits associated with interacting with diverse groups. When universities and workplaces create greater opportunities to interact with diverse others and learn about other viewpoints, experiences, and people, they can better prepare students and employees to navigate diverse interactions in the future.

Diversity also benefits different groups of people at all levels. Increased exposure to people who differ on various attributes can cause individuals to question their beliefs and assumptions about the world and correct any negative biases they may possess about unfamiliar others. For numerical minorities, such as Asian American athletes, women engineers, male nurses, and low-income university students, being in an environment with diverse groups of people increases the likelihood that fellow ingroup members are included in that institution. Finding others who are diverse in the same ways that they are can buffer minorities from social isolation and self-doubt. This calls for diverse representation at both subordinate (e.g., student, employee) levels and superior levels (e.g., faculty, managers). Consequently, schools and workplaces should promote diversity at all levels so that students, faculty, and staff can better enjoy the numerous benefits associated with structural, curricular, and interactional diversity.

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