

## ABSTRACT

Title of Document:           ENGAGING WITH DIVERSITY:  
                                      EXAMINING THE RELATIONSHIPS  
                                      BETWEEN UNDERGRADUATE STUDENTS'  
                                      FREQUENCY OF DISCUSSIONS OF  
                                      SOCIO-CULTURAL ISSUES AND THEIR  
                                      UNDERSTANDING OF DIVERSITY AND  
                                      SELF-AWARENESS

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This study examined the relationships between undergraduate students' frequency of discussions of socio-cultural issues and their understanding of diversity and self-awareness. Differences in students' interaction patterns by race/ethnicity and gender were also explored. The data used in this study consisted of 48,118 undergraduate students from 52 institutions of higher education across the country, and were collected in the spring of 2006 as a part of the Multi-Institutional Study of Leadership. Data were analyzed using a series of hierarchical multiple regressions to investigate the contribution of discussions of socio-cultural issues in explaining variance in the outcomes, and a series of analyses of variance (ANOVA) to compare group differences by race/ethnicity and gender. Discussions of socio-cultural issues emerged as a significant predictor of variance

in the outcome variables for each of the six racial/ethnic groups studied, and various racial/ethnic and gender differences emerged in frequencies of discussions. Multiracial students reported significantly higher frequencies of socio-cultural issue discussions than most other racial/ethnic groups, whereas Asian American students reported significantly lower frequencies. For Multiracial and White students, females reported significantly higher frequencies of discussions than did males, while for African American/Black students, males reported higher frequencies.

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OF SOCIO-CULTURAL ISSUES AND THEIR UNDERSTANDING OF  
DIVERSITY AND SELF-AWARENESS

By

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## Dedication

This thesis is dedicated to Seamus.

## Acknowledgments

There are many people who supported and encouraged me throughout this process. First, I would like to thank my chair and advisor, Susan Jones, who has consistently made herself available and provided much needed encouragement and guidance. Her dedication and sense of humor have been tremendous motivators. I am also sincerely grateful to my other committee members, Marylu McEwen, who provided invaluable feedback throughout the writing process and was a constant source of kindness, insight and support, and Susan Komives, whose wisdom I valued greatly and whose enthusiasm and desire to see me succeed kept me motivated. I would also like to thank Hung-Bin Sheu for his invaluable assistance in helping me better understand the statistical analyses used in this study. I am indebted to John Dugan and Susan Komives, for allowing me opportunity to be a part of the research team for the Multi-Institutional Study of Leadership. It has been amazing and empowering experience. Not only was I able to use this data for my thesis and develop invaluable skills through my involvement on this team, but I have had the chance to be a part of an important national project, an opportunity few masters students have.

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## CHAPTER 1

### INTRODUCTION

There is no doubt that institutions of higher education are becoming increasingly diverse. The percentage of “nontraditional” college students continues to increase dramatically (*Chronicle of Higher Education Almanac*, 2005). In terms of racial/ethnic background, enrollment in college by students of color is steadily increasing. Between 1999 and 2002, White student enrollment dropped from 70% of the total enrollment in institutions of higher education in the United States to 67% (*Chronicle of Higher Education Almanac*). Campuses across the country are also facing increasing diversity in college students’ religious affiliations (Schlosser & Sedlacek, 2001).

It is also clear that U.S. society as a whole is becoming increasingly more diverse. According to the 2004 Census Projections, the population of Black people in the United States will increase by 71.3% between 2000 and 2050, Asians and Asian Americans will increase 212.9%, and Latino/Latina people, 187.9%, while the number of White Americans is projected to increase only 32.4%. As a result, White people will drop from comprising 81% of the total population in 2000, to 72.1% of the total population in 2050. The projected population change for people who identify as White only (not Hispanic) is even more drastic: from 69.4% of the population in 2000 to 50.1% in 2050 (U.S. Census Bureau, 2004).

As demographic diversity has increased, awareness of issues associated with diversity, multiculturalism, and justice has also expanded. This is evidenced in the recent court battles over the legality of affirmative action programs and gay marriage, as well as heated political debates about immigration policies and homeland security provisions

related, for example, to ethnic and racial profiling. As some of these issues come to the forefront of mainstream politics, much of the American public is increasingly politically polarized with respect to its attitudes and beliefs (Abramowitz & Saunders, 1998; Hershey, 2007), and has become progressively more residentially segregated, even within the diverse populations of larger cities (Mutz & Martin, 2001). Perhaps the likelihood that students come to campus from areas where many shared their views has led in part to an increase in conflict and polarization on campuses, where students may be exposed more fully than before to different social groups and viewpoints. On campuses across the country, a solid majority of deans at four-year institutions reported the decline of “civility” among students and that “diversity issues are the main cause of conflict between students” (Levine & Cureton, 1998a, p. 6).

In this politically polarized environment, and in light of the growing diversity of the United States population, it is more important than ever to prepare students to function effectively, productively, and in a socially responsible way in this increasingly multicultural context. Many researchers have established that interacting with diverse peers and participating in diversity related activities during college have a positive impact on students’ cognitive complexity and ability to interact cross-culturally once they leave college (Pascarella & Terenzini, 2005), which are critical components in participating in an “increasingly heterogeneous and complex society” (Gurin, 1999, p. 43). This cross-cultural competence is a particularly important skill for students to have developed as they enter the post-college world. Many businesses realize the importance of staying competitive within a global economy, and seek out college graduates who have experience working with diverse populations (Milem, 2003; Milem & Hakuta, 2000).

Thus, it is vital to continue examining the relationships that interaction with diverse peers and conversing about diversity have with students' attitudes, beliefs, and actions.

To help improve understanding about the nature of these relationships, this study used data from the Multi-Institutional Study of Leadership national data set, a new and extensive source that contains information about college students' experience with and attitudes toward diversity, leadership development, and experiences during college, among other factors. The purpose of this study was to examine the extent to which the frequency of engagement in discussions of socio-cultural issues during college contributes to the outcomes of understanding of diversity and self-awareness, after controlling for students' gender and pre-college experience with diversity, and to identify any racial/ethnic and gender differences in students' interaction patterns. In addition to the benefits of this new data set, this study adds to current findings about the patterns in diverse interactions and diversity outcomes by expanding the focus beyond only issues related to race.

### Definition of Terms

#### *Diversity*

Several of the terms used throughout this study warrant clarifying. The first of these terms is *diversity*. There are many different components of diversity. Hurtado, Milem, Clayton-Pedersen, and Allen (1999) provided a framework for examining elements of diversity that influence campus climate. In addition to historical factors and aspects of campus climate, their framework includes *structural diversity* (the demographic makeup of a campus's faculty, staff, and student population) or what Antonio, Milem, and Chang (2005) referred to as "compositional diversity" (p. 6), and a

*behavioral dimension*, which includes interaction across different racial/ethnic groups on campus. For the purposes of this study, I focused on the behavioral dimension, most specifically, “diverse interactions,” which include “interactions with diverse ideas and information” (Milem, 2003, p. 132) as well as interactions with diverse peers. However, where Hurtado et al. (1999) and Milem focused solely on race and ethnicity, I looked at diversity in a broader context to include interaction across differences in religion, political opinion, and values, as well as conversation topics that deal with issues of multiculturalism and justice.

### *Self-Awareness*

Another term that is used in this study is *self-awareness*. For the purposes of this study, self-awareness refers to the degree to which one is in touch with his or her own values and attitudes. Self-awareness was measured using the consciousness of self scale. H.S. Astin (1996), one of the members of the Working Ensemble that developed the framework of the Social Change Model of Leadership Development, which includes consciousness of self, described this construct as “self-awareness,” which “implies mindfulness, an ability and a propensity to be an observer of one’s current actions and state of mind” (p. 6). In other words, consciousness of self involves possessing a deep awareness of the parts of oneself that one brings to any group situation or interaction with others, including values, attitudes, viewpoints, and ways of life.

### *Discussions of Socio-Cultural Issues*

*Discussions of socio-cultural issues* encompasses both discussions with peers who hold different values and viewpoints from oneself, as well as discussions about social and human rights issues, different customs or lifestyles, and/or one’s views on diversity and



multiculturalism. This idea can be closely linked to Gurin, Dey, Gurin, and Hurtado's (2003) definition of "informal interactional diversity," which is defined as "the actual experience students have with diverse peers in the campus environment" (p. 23).

### *Understanding of Diversity*

*Understanding of diversity* refers to one's level of awareness of the complexities of intergroup understanding, including a level of awareness and understanding or "knowledge of people from different races/cultures" (Antonio, 2001, p. 598), and an understanding of one's own racial/ethnic identity.

### Background

Much research has been conducted over the past several decades on the degree to which exposure to and engagement with diversity at institutions of higher education leads to a variety of positive outcomes for students. Particularly over the past 13 years, a great deal of literature has emerged that examines these concepts, likely sparked by A.W. Astin's (1993a) study of college students. One of the areas of involvement Astin studied was cross-racial interaction, which was found to be positively associated with a variety of outcomes, including cultural awareness and commitment to racial understanding. Since 1993, a number of researchers have examined comparable constructs in depth and have found similar results (Antonio, 2001; Chang, 1999; Chang, A.W. Astin, & Kim, 2004; Gurin, Dey, Hurtado, & Gurin, 2002). For example, in a recent study, Chang, Denson, Sáenz, and Misa, (2006) found positive relationships between students' frequencies of cross-racial interaction and their levels of openness to diversity, cognitive development, and self confidence.

Although the majority of the studies that examine interaction across difference look specifically at cross-racial interaction and racial issues, Whitt, Edison, Pascarella, Terenzini, and Nora (2001) and Pascarella, Edison, Nora, Hagedorn, and Terenzini, (1996) studied interaction with diverse peers more broadly. In addition to examining the effect that engaging in conversations about diversity and social issues had on students, they corroborated the findings of other researchers who studied race specifically. Both sets of researchers found that engaging in conversations about diversity and interacting with diverse peers had positive influences on students' levels of openness to diversity and challenge.

Openness to diversity seems to be a consistent outcome for students who interact more frequently across difference (Pascarella et al., 1996; Whitt et al., 2001). Students who talk and meet more often with people different from themselves and who discuss issues of racial, religious, and social diversity tend to have more positive attitudes toward diversity, a fuller cognitive understanding of other groups, and a clearer understanding of themselves as well. These are important outcomes to measure in light of the complexity of interacting within a multicultural society; appreciating and understanding this complexity is paramount. As King and Baxter Magolda (2005) argued, “demonstrating one’s intercultural skills requires several types of expertise, including complex understanding of cultural differences,” a “capacity to accept and not feel threatened by cultural differences,” and a “capacity to function interdependently with diverse others” (p. 574).

Another important dimension of diverse interactions is one’s self-awareness, a contention for which a number of researchers and theorists have found support (Alimo,

Kelly & Clark, 2002; Chickering & Reisser, 1993; King & Baxter Magolda, 2005, Landreman, Rasmussen, King, & Jiang, 2007; Ortiz & Rhoads, 2000). The Social Change Model of Leadership Development, created by the Higher Education Research Institute (HERI, 1996), includes seven core values that the creators argued are critical in any leadership process. The Social Change Model of Leadership Development provides a framework for looking at self-awareness through one of its core values: consciousness of self. H.S. Astin (1996) described consciousness of self as “fundamental” to the model, as this quality is necessary if one hopes to realize any of the other values in the model, which include congruence, commitment, collaboration, common purpose, controversy with civility, and citizenship.

Using student development theory as a framework, it would naturally follow that understanding one's own identity, beliefs, and attitudes would likely both result from, as well as contribute to, more effective interaction and collaboration across difference. This is reflected in the work of some of the earliest student development theorists, such as Chickering. According to Chickering and Reisser's (1993) update of Chickering's (1969) original widely known and influential framework for development, students are faced with seven developmental tasks, described as vectors, during college that are critical components of identity formation. Two of these developmental vectors are especially central to the discussion of self-awareness in this study. The fifth vector, Establishing Identity, consists of the development of a "sense of self in a social, historical, and cultural context," "clarification of self-concept through roles and lifestyle," and "gaining a sense of how one is seen and evaluated by others" (p. 49), among other components. According to Chickering and Reisser, development in earlier vectors (which includes the fourth

vector, Developing Mature Interpersonal Relationships) is crucial in the development of one's identity. Chickering and Reisser incorporated "tolerance and appreciation of differences," which consists of awareness, "openness," and "enjoy[ing] diversity" (p. 48), as a critical quality in developing mature interpersonal relationships. In other words, they contended that experiencing and developing an awareness of diversity is essential in the process of forming an identity, and further, that identity formation is necessarily self-reflective in nature.

More recently, King and Baxter Magolda (2005) placed having a "sense of oneself" within their proposed framework of intercultural maturity, as it "enables one to listen to and learn from others" (p. 574). Others have noted self-awareness as an essential part of developing competence in multicultural counseling (Constantine, Melincoff, Barakett, Torino, & Warren, 2004; Fowers & Davidov, 2006; Roysircar, 2004). So not only do diverse interactions contribute to a sense of self (Chickering & Reisser, 1993), but understanding oneself then further contributes to one's ability to interact with diverse others (King & Baxter Magolda). It is clear that these concepts are related to one another. However, there is little empirical evidence that demonstrates how self-awareness and experience with diversity are related directly. Although some researchers have studied the relationship between diverse interactions and self-confidence or interpersonal skills, few have looked at the relationship between diverse interactions and self-awareness, as it is defined in this study. Theorists who have examined self-awareness as a construct have explored it mainly as it relates to the development of "self" (Kegan, 1979, 1982) without linking it to diverse discussions.

Students do appear to be differentially affected by their participation in discussions of socio-cultural issues based on a variety of background characteristics. Previous studies have uncovered several variables that significantly influence student interaction patterns and outcomes. One such variable is racial/ethnic background. Many researchers have noted significant differences between White students and students of color in their frequency of diverse interactions and in their understanding of and openness to diversity (Antonio, 2001; Chang et al., 2004; Gurin et al., 2002; Kuh, 2003; Milem & Umbach, 2003; Nagda et al., 2004; Washington, 2004; Whitt et al., 2001). Gender has also emerged as a significant predictor of differences in many studies (Hurtado et al., 2001; Nagda et al., 2004; Whitt et al., 2001; Wilmarth, 2004; Zuniga et al., 2005), as has pre-college experience with diversity (Hurtado et al., 2001; Milem & Umbach, 2003; Milem, Umbach, & Liang, 2004; Whitt et al., 2001).

#### Problem Statement

Although a wealth of research on diverse interactions and openness to diversity exists, much of the data that have been analyzed thus far are more than a decade old. In addition, few studies focus on diversity in a broader sense; most look very specifically at racial/ethnic diversity and cross-racial interaction. No studies have looked yet at the relationship between self-awareness, as measured by the Social Change Model of Leadership Development's consciousness of self construct, and discussions of socio-cultural issues. This study will attempt to address these issues.

#### Research Questions

The purpose of this study was to examine the extent to which the frequency of engagement in discussions of socio-cultural issues during college contributes to the

outcomes of understanding of diversity and self-awareness, after controlling for students' gender and pre-college experience with diversity, and to identify any racial/ethnic and gender differences in students' interaction patterns. The research questions are as follows:

1. How much of the variance in students' levels of understanding of diversity and self-awareness is explained by the frequency with which undergraduate students engage in discussions of socio-cultural issues during college, by race/ethnicity, after controlling for gender and pre-college experience with diversity?
2. What, if any, racial/ethnic or gender differences exist in students' frequency of discussions of socio-cultural issues in college?

#### Significance of Study

This study makes several contributions given the research that currently exists in this area. One such contribution involves the use of data that were collected in the spring of 2006. The Multi-Institutional Study of Leadership (MSL) data are some of the most recent data that contain information on diverse interactions and discussions, as well as on understanding of diversity and consciousness of self. Most similar studies, even those that have been published recently, use data that are, at minimum, a decade old (Antonio, 2001; A.W. Astin, 1993a, 1993b; Chang, 1999; Chang et al., 2006; Gurin et al., 2002; Gurin et al., 2003; Pascarella et al., 1996; Sax & Astin, 1998; Whitt et al., 2001). Within the past decade, major issues have affected public opinion in the United States, including the attack on the World Trade Center and the Pentagon, the wars in Iraq and Afghanistan, conflict over immigration reform, and the new Homeland Security Policies in the context of a global "War on Terror." These events and policies have raised public awareness of

the growing heterogeneity of the United States and have given rise to discussion about benefits and perceived dangers of a more diverse society.

At the same time, studies have shown that college students come from high schools that are becoming progressively more segregated (Milem & Umbach, 2003; Milem, Umbach, & Liang, 2004) and that, perhaps in part because of their pre-college experience, students increasingly find refuge in segregated groupings once in college (Levine & Cureton, 1998b, 1998b; Sax & Astin, 1998; Washington, 2004). Research has also indicated students' reluctance to openly express feelings about diversity and multiculturalism for fear of being "politically incorrect" (Baxter Magolda, 1997; Levine & Cureton, 1998b, 1998b), in addition to increasing political polarization present in the larger society (Abramowitz & Saunders, 1998; Hershey, 2007). Consequently, it is reasonable to assume that more current data about diverse interactions might contain new information.

Additionally, few studies, even those using data collected from many institutions, have data sets that are as large as the MSL national data set. With more than 50,000 respondents from a diverse array of 52 colleges and universities across the country, this data set contains a wealth of information from which to draw. The size of this data set will also provide an opportunity to examine differences in patterns and outcomes by racial/ethnic groups, something many smaller studies have not been able to do beyond grouping all non-White students into a "students of color" category, which ignores the potential differences that exist between groups of color. The large size of the MSL data set and the fact that these data are very recent, as well as the diversity of institutions

represented within this data set, were all tremendous assets in conducting this study, and add valuable information to the field of higher education.

Another way in which this study differs from other similar studies is the way in which it measures discussions of socio-cultural issues. Although many studies in this area focus exclusively on cross-racial interaction (Antonio, 2001; Chang, 1999; Chang et al., 2004; Chang et al., 2006; Gurin et al., 2002, Sax & Astin, 1998; Washington, 2004), the discussions of socio-cultural issues scale in the MSL defines diversity more broadly, asking about interactions with others who have different political orientations, religious beliefs, and values. The study also asks about students' engagement in discussions about diversity (not confined to racial and ethnic issues). Although race certainly continues to be a salient issue on college campuses and more broadly in the nation, it is also important to look at diversity in a broader sense, as students have multiple identities (Jones & McEwen, 2000) that play out in interactions with others.

Another feature of this study is that it is the first to examine self-awareness, as measured by the consciousness of self scale, as it relates to discussions of socio-cultural issues. There seems to be a close relationship between one's level of self awareness and the way in which one interacts with others. As part of Pettigrew's (1998) analysis of the process of intergroup contact, he stated that when people engage in "optimal intergroup contact," they gain insight about the customs, beliefs, and norms for "ingroups" (dominant groups) as well as "outgroups" (oppressed groups). Through this interaction, people learn that "ingroup" customs are not "the only ways to manage the social world" (p. 72). What Pettigrew alluded to, in other words, is the importance of interaction with diverse peers in triggering one to become more self-aware. The more individuals are



encouraged to become aware of their own cultural beliefs and norms, the more likely they are to realize that their way is not the only way of functioning. This realization is a critical part of becoming interculturally mature (King & Baxter Magolda, 2005) and increasing one's ability to interact effectively in diverse environments. For this reason, it is important to study self-awareness as it relates to diverse interactions.

In addition, having a well-developed awareness of self is a vital leadership quality according to emergent leadership paradigms (HERI, 1996; Kouzes & Posner, 2002). According to Kouzes and Posner, clarifying one's values is critical to being an effective leader. They argued that in order to become a "credible leader," one must first "comprehend fully the values, beliefs, and assumptions that drive [him or her]" (p. 44) and note the importance of knowing "who we are" (p. 54). Given this focus on self-awareness in leadership circles, and the idea that being self-aware contributes to an ability to engage in effective diverse interactions (King & Baxter Magolda, 2005), it is reasonable to presume that self-awareness is inextricably linked to cross-cultural communication and is therefore important to examine in relation to this topic. According to Antonio (2001), however, little evidence exists about the role of diversity in leadership development. Using the consciousness of self construct from the Social Change Model of Leadership Development, this study examined the relationship between self-awareness as a critical piece of leadership and students' frequency of engagement in diverse interactions.

This study also provides college and university educators with information about how the relationships between discussions of socio-cultural issues, understanding of diversity, and self-awareness differ based on students' background characteristics.

Specifically, the study looked at differences by gender, as well as differences between students belonging to different racial/ethnic groups. The differences found have the potential to inform models of facilitation in programming and outreach, depending on the student audience, and directions for future research.

Lastly, but perhaps most importantly, this study contributes to the literature on diverse interactions, a topic about which more information is needed. The recent court cases that have challenged affirmative action policies (Gratz, et al. v. Bollinger, et al., 2003; Grutter v. Bollinger et al., 2003; Gurin, 1999) have brought to light the controversy still present around the concept of diversity on college campuses and its potential educational benefits for students. It is clear that an ability to interact effectively in a diverse environment is important in the post-college workplace (Milem, 2003; Milem & Hakuta, 2000). However, this involves looking beyond enrollment numbers. As Gurin, Nagda, and Lopez (2004) argued, “for diverse students to learn from each other and become culturally competent citizens and leaders of a diverse democracy, institutions of higher education have to go beyond simply increasing enrollment of students of different racial and ethnic backgrounds” (p. 32). Gaining more information about the relationships between diverse interaction and conversations and student outcomes will help institutions of higher education in making more informed decisions about policy and programming.

#### Summary

This chapter has presented a background for and overview of the study. The purpose of this study was to examine the extent to which the frequency of engagement in discussions of socio-cultural issues during college contributes to the outcomes of understanding of diversity and self-awareness, by racial/ethnic group, after controlling for

students' gender and pre-college experience with diversity, and to identify any racial/ethnic and gender differences in students' interaction patterns. Chapter 2 will provide a review of current literature related to the themes relevant to this study, including literature examining students' experiences with diversity, as well as self-awareness.

## CHAPTER 2

### REVIEW OF LITERATURE

There is a great deal of research on the effects of diversity and diverse interactions in higher education. This review of literature will first provide an overview of research findings that relate to interaction across difference and conversations about diversity, the two concepts measured by the discussions of socio-cultural issues scale. Next, literature that addresses understanding of diversity and self-awareness will be discussed. Then an overview of the evidence from past studies that suggests the importance of pre-college experience with diversity in relationship to students' patterns of interaction in college as well as their levels of understanding of diversity will be presented. Finally, this chapter will explore the patterns by race and gender documented in results from previous research.

#### Interaction Across Difference

Allport (1954) developed a seminal intergroup contact theory for reducing prejudice that serves as the foundation on which much of the subsequent research on intergroup contact is based. He contended that certain conditions must be present in cross-racial interaction for positive effects (including reduction of prejudice) to occur. Allport proposed "equal status" (p.281) as one of the most important conditions that should be present in any contact situation.

Many researchers interested in studying intergroup contact have built upon Allport's work. A significant amount of research has expanded upon and gone beyond the specific conditions that are expected to enhance the outcomes of prejudice reduction. Pettigrew (1998) noted that a number of studies found positive effects from intergroup

contact even when the circumstances of contact lack Allport's conditions. Indeed, many studies in higher education over the past several decades report a variety of positive outcomes from interaction across difference, without determining whether such conditions (e.g., equal status) were present (A.W. Astin, 1993a, 1993b; Chang, 1999; Gurin et al. 2002; Pascarella & Terenzini, 2005; Whitt et al., 2001). Although Allport's conditions may facilitate positive outcomes, examining the effects of more casual interaction is important as well, given that educators are rarely able to facilitate in-depth experiences for every student. Moreover, it is unrealistic in our society, given the presence of pervasive and ubiquitous systems of oppression and privilege (Takaki, 1993; Tatum, 1997; Zinn, 1999), to expect that people will engage in interactions in which both parties have "equal status."

#### *Focusing on Race*

Many of the studies that examine the effects of students' interaction across difference focus specifically on cross-racial interaction and on racial/ethnic issues instead of other forms of diversity and diverse interactions. This focus is understandable given the historical legacy and the particular salience of race in this country's politics and discourse (Kinder & Sanders, 1996; Sniderman & Piazza, 1993; Sniderman, Tetlock, & Carmines, 1993; Takaki, 1993; Zinn, 1999). Clearly race and ethnicity are still major sources of controversy on college campuses, as evidenced by the recent affirmative action debates and court cases (Gratz, et al. v. Bollinger, et al., 2003; Grutter v. Bollinger, et al., 2003; Gurin, 1999).

Despite this controversy, cross-racial interaction seems to make meaningful contributions to students' attitudes and actions. Over the past decade, several researchers

have conducted studies that demonstrated consistently positive benefits for students who interact more frequently with others of a different race or ethnicity (A.W. Astin, 1993a, 1993b; Antonio, 2001; Chang et al., 2006; Gurin et al., 2002; Hurtado, 2005; Hurtado, Engberg, Landreman, & Ponjuan, 2001; Milem & Umbach, 2003; Sax & Astin, 1998). Not surprisingly, the most consistent outcomes associated with cross-racial interaction are those related to awareness and acceptance of different races/cultures. A.W. Astin (1993a), in his well-known national longitudinal study, found that socializing more frequently across different racial/ethnic groups had strong positive effects on cultural awareness and commitment to promoting racial understanding. Similarly, Chang et al. (2006), in a national longitudinal study of undergraduate students, found that students with higher frequencies of cross-racial interaction reported significantly higher increases in their knowledge of and ability to accept different races/cultures than students who interacted less frequently across race. Even in the presence of a variety of controls, these gains still seemed to prevail, as Antonio (2001) demonstrated. In Antonio's study, students with the highest levels of interracial interaction made the largest gains in cultural knowledge and understanding, regardless of involvement, institutional, or pre-college characteristics. Similarly, Gurin et al. (2002) found that interacting across race or ethnicity had a significant effect on racial/cultural engagement in students.

It is also interesting to note the particular importance of peer to peer interaction as influential for students. Kuh (1995) found that peer interaction was "the single most important influence" on multiple outcome measures, among a variety of potential influences, including faculty contact, academic activities, and work (p. 146). Gurin et al.'s (2002) study seems to support this conclusion. Gurin et al. compared the effects of

informal interactional diversity (interacting with diverse peers) and classroom diversity (learning about diverse groups of people), and found interactional diversity to be more influential on students' levels of racial/cultural engagement than classroom diversity.

In addition to contributing to students' awareness of other races and cultures, studies have found cross-racial interaction to have positive associations with a variety of other outcomes. These outcomes included students' academic skill development and knowledge acquisition (Pascarella & Terenzini, 2005); feminism (supporting women's rights), leadership abilities, interpersonal skills (A.W. Astin, 1993b); intellectual self-concept, social self-concept, satisfaction with college, and retention (Chang, 1999); the development of democratic skills and values (Hurtado et al., 2001), and citizenship engagement (Gurin et al., 2002), in addition to gains in the areas of cognitive and affective development and multiple components of satisfaction (A.W. Astin, 1993b).

### *Beyond Race*

Although the majority of recent literature about interacting across difference focuses on race, several researchers have defined diversity more broadly. Whitt et al. (2001) conducted a national longitudinal study that went beyond looking only at race by using the College Student Experiences Questionnaire (CSEQ) Student Acquaintances Scale to measure interaction across difference. In addition to cross-racial interaction, this scale also measures the frequency with which students interact with those who differ from them in values, interests, or national origin. Whitt et al. found that higher frequencies of interaction with diverse peers were associated with openness to diversity and challenge across the first, second, and third years of college. Whitt et al. explained that "the more likely a student was to interact with diverse peers, the more likely she or

he was to increase in openness to diversity and challenge” (p. 192), even after a variety of controls for pre-college characteristics were applied.

Whitt et al.’s (2001) study corroborates Pascarella et al.’s (1996) finding that diverse student acquaintances had a significant positive effect on students’ levels of openness to diversity and challenge after their first year of college. Most recently, Zúñiga et al. (2005) studied students’ interaction with diverse peers by examining students’ interaction with those from different racial/ethnic or religious backgrounds or with different sexual orientations. The researchers found this cross-group interaction to have a significant positive effect on students’ “level of intention to engage in behaviors that challenge their own intergroup biases and behaviors” (p. 671).

#### *Additional Outcomes*

It is clear from the literature that interaction across difference positively contributes to students’ awareness and understanding of diversity, but also to a variety of other outcomes. Indeed, after reviewing a wide variety of studies in this area, Pascarella and Terenzini (2005) concluded that overall, even after a variety of controls for pre-college and institutional characteristics were applied, interaction with diverse peers has been found to consistently contribute to a great number of developmental outcomes for students, including cognitive development outcomes, knowledge acquisition, principled moral reasoning, and self-rated skills after college.

#### *Conversations About Diversity*

In addition to measuring interaction across difference, some researchers have also measured the effects of engaging in conversations *about* diversity with peers, looking at conversation content in addition to the identities of participants with which one might be



having conversations. These conversations have been measured differently in various studies. However, most researchers have found positive associations with many of the same outcome variables also positively associated with interaction across difference (A.W. Astin, 1993a, 1993b; Chang, 1999; Sax & Astin, 1998).

### *Focusing on Race*

As with interaction across difference, much of the work in this area focuses specifically on conversations about racial or ethnic issues, instead of defining diversity more broadly. Chang (1999) found that even after controls for pre-college characteristics and environmental variables were in place, discussing racial or ethnic issues still had a significant positive association with intellectual self-concept, social self-concept, satisfaction with college, and retention. What is particularly telling about this finding is that intellectual self-concept was the only one of these four variables that remained significant after controls for intermediate outcomes were applied – leading the researchers to the conclusion that discussing racial issues had an “*indirect* effect” (A.W. Astin, as cited in Chang, p. 391) on the other three outcomes.

Astin’s interpretation of this finding – that conversations about racial or ethnic issues had only an “indirect effect” on students - corroborates Nagda, Kim, and Truelove’s (2004) discovery that knowledge-based learning seemed to only reach students “at an abstract level” (p. 209). Nagda et al. measured the degree to which enlightenment learning (learning about diversity issues through content knowledge rather than through direct interactions with diverse peers) affected the outcomes of reducing prejudice and promoting diversity. They compared these results to the outcomes associated with interaction across difference. Nagda et al. concluded that enlightenment

learning, while it seemed to have a positive influence on students' *confidence* in the two outcomes, did not have an influence on *changes* in students' actual levels of prejudice reduction or promoting diversity. It seems from these two studies that more direct contact with diverse others has a stronger relationship with the outcomes measured than does conversation topics or content-based learning.

However, A.W. Astin (1993a) found that students who discussed racial or ethnic issues more often were likely to have higher levels of cultural awareness and commitment to promoting racial understanding. A.W. Astin (1993b) also found other outcomes that were influenced by having discussions about racial or ethnic issues, including libertarianism (rejecting government regulation of behavior), feminism, analytical and problem-solving skills, and interpersonal skills. Perhaps most interesting is that A.W. Astin (1993a, 1993b) found that, unlike interacting with diverse peers, discussions about racial or ethnic issues contributed to students' commitment to developing a meaningful philosophy of life. In short, having discussions about diversity issues seemed to influence students' attitudes, independent of their actual contact with diverse peers, at least in some cases. This demonstrates that it is important to expand understanding of the contribution of these discussions, which was a major goal of this study.

### *Beyond Race*

A few researchers have examined the conversation topics about diversity beyond just racial or ethnic issues. Pascarella et al. (1996) found that topics of conversations with other students and information in conversations with other students had significant positive effects on students' levels of openness to diversity and challenge after their first

year of college. Similarly, Whitt et al. (2001) also went beyond race in the way they chose to measure the content of students' conversations. They chose to use the CSEQ Information in Conversations Scale, which measures the degree to which the content of students' conversations includes discussions about social issues, differences in culture, and ethics, among other topics. They discovered that students who had more frequent conversations that emphasized "different ways of thinking and understanding" (p. 188) were more likely to have higher scores on the outcome variable of openness to diversity and challenge. Although the contribution was small, it was statistically significant.

It is clear that interacting with diverse peers as well as conversing about social issues can significantly contribute to students' attitudes and actions. When both of these constructs have been measured in a study, their effects have been similar in most cases. However, there are some important differences, particularly in relation to students' interest in developing a coherent set of principles (a meaningful philosophy of life). More research on the nature of conversation topics would add considerably to the depth of this body of literature. In addition, more research that goes beyond just racial and ethnic issues and interaction is needed in both of these constructs.

### Understanding of Diversity

Researchers have frequently examined outcome variables related to students' understanding of diversity, including students' openness to diversity and concern about promoting diversity. As discussed previously, the frequency of interaction with diverse peers is one of the strongest predictors of higher levels of diversity appreciation and understanding (Antonio, 2001; A.W. Astin, 1993a, 1993b; Chang et al., 2006; Gurin et al., 2002; Nagda et al., 2004). Conversations *about* diverse social issues also seem to

influence this outcome, whether directly or indirectly (A.W. Astin, 1993a, 1993b; Chang, 1999; Whitt et al., 2001). Researchers have also identified additional variables, including the diversity orientation of the faculty, attending college away from home, and socioeconomic status, among others, that have been shown to predict levels of cultural awareness and understanding (A.W. Astin, 1993b; Sax & Astin, 1998; Pascarella & Terenzini, 2005).

Although A.W. Astin (1993b) focused his analysis of diversity exclusively on race/ethnicity in his nationwide study, he demonstrated that both the frequency with which students discussed racial or ethnic issues and the frequency with which students socialized with peers from different ethnic or racial backgrounds were positively associated with the outcomes of promoting racial understanding, and cultural awareness. After controls were applied for a variety of pre-college and environmental characteristics, A.W. Astin found that these relationships were still significant. Sax and Astin (1998) also found that socializing across race/ethnicity and discussing racial and ethnic issues were correlated with cultural awareness and a commitment to promoting racial understanding.

In their 2001 study, Whitt et al. also examined students' interactions, as well as topics of conversations, and found results similar to those of A.W. Astin (1993b), although Whitt et al.'s study defined diversity more broadly, not just focusing on race/ethnicity. Nagda et al. (2004) determined that while content-based learning did not have a significant relationship with the importance of promoting diversity, encounters with diverse peers did. Although these measures were slightly different from those used by Whitt et al., the studies analyzed similar issues. However, Whitt et al. found different results, in that the number of diverse acquaintances students reported as well as the

frequency with which they engaged in conversations about diverse topics were both significant positive influences on the outcome of openness to diversity and challenge. Whitt et al. found that these results held true across students' first, second, and third years of college, even after controlling for other influences, including pre-college experience with diversity. The difference between the results of these two studies could be due to the fact that they used different measures of types of conversations. Nagda et al.'s study measured content-based knowledge, which included simply learning about an issue, but not necessarily being personally involved in discussing it. Whitt et al.'s study, on the other hand, measured the topics of conversations in which the students themselves were engaged, such as "current events in the news" and "different life styles and customs" (p. 181), among other topics.

Findings from Antonio's (2001) study seem to support those of A.W. Astin (1993a, 1993b). Antonio, through his research, found socializing across race to be the *most* important factor in increasing students' levels of cultural knowledge, and furthermore, produced evidence that interracial contact is perhaps more influential in making these gains in cultural awareness than is attending a cultural awareness workshop.

#### *Understanding of Diversity as an Outcome*

Although interaction across difference and conversations about diversity seem to consistently influence outcomes similar to understanding of diversity, there are other factors that have also been found to contribute to these types of outcomes. These factors include an institutional emphasis on diversity, a faculty emphasis on diversity (A.W. Astin, 1993a; Sax & Astin, 1998), the number of ethnic and women's studies courses

students take, attending workshops on cultural awareness (A.W. Astin, 1993a), attending college away from home, peer SES, and a student's humanities orientation (A.W. Astin, 1993b), among others. In fact, A.W. Astin (1993b) found that almost all variables he tested predicted to some degree, at statistically significant levels, students' attitudes about race in their senior year. This suggests that a wide range of experiences, coursework, interpersonal contact, discussions, and interests are important in developing an understanding of diversity, an assertion corroborated by Pascarella and Terenzini (2005) in their most recent review of higher education research.

### Self-Awareness

It is clear that many environmental factors in college have the potential to contribute to students' gains in awareness and understanding of diversity (Pascarella & Terenzini, 2005). There is much less information about the impact of personal factors, however, such as self-awareness. As King and Baxter Magolda (2005) argued, having well developed interpersonal and intrapersonal skills is critical to developing skills in interacting interculturally. Self-awareness is an important element of effective intrapersonal skills.

The Higher Education Research Institute (HERI, 1996) developed the Social Change Model of Leadership Development, which consists of three levels – Personal, Group, and Society, all of which contain values that are critical components of leadership for social change. H.A. Astin (1996) described consciousness of self, one of the personal values in the model, as “a fundamental value...because it constitutes the necessary condition for realizing all the other values in the model” (p. 6). In other words, being

aware of oneself, one's attitudes, beliefs, and values is crucial if one is to meaningfully engage with others in working together towards social change.

### *Contributing Factors*

As part of Pettigrew's (1998) theory of intergroup contact, he argued that intergroup contact, at its best, can provide insight for "ingroups" and "outgroups." Through interaction with members of outgroups, members of ingroups come to realize that their traditions and ways of moving through the world are not the only customs and norms that exist – that other people move through the world in different ways. This realization can lead to ingroup members re-examining their own culture and traditions (Pettigrew). In other words, the more interaction with other groups someone has – groups that are different from them – the more one is forced to examine her or his own customs, beliefs, and behavior and realize that these customs and behavior are not the only ways to function.

The contention that self-awareness or deeper awareness of one's own culture can be sparked by intergroup contact is one that many researchers corroborate, especially those who study intergroup dialogue programs. Alimo, Kelly, and Clark (2002), in their qualitative study on the outcomes of students participating in an intergroup dialogue program, found that most students in the program changed their perception of society and of themselves as a result of the program. The researchers documented that "sharing and hearing *personal stories*" (p. 51) was critical to students' growth in these areas. Similarly, Nagda et al. (2004), who also studied the effects of "encounter" between students engaged in an intergroup dialogue experience, found that students began to think more

critically about systems of oppression, and further, became more aware of their own privileges and realities and how they fit into these systems.

Although intentionally designed intergroup dialogue experiences have been shown to contribute positively to participants' awareness of others (Alimo, et al., 2002; Clark, 2002; Nagda, et al., 2004; Nagda & Zúñiga, 2003; Schoem, 2003; Zúñiga, Nagda, & Sevig, 2002), the question of whether levels of self-awareness and self-understanding can also be significantly influenced by more casual types of contact with peers remains. One caution in interpreting findings related to self-awareness is the possible effect of class standing. Kuh (1999) found that more than 75% of students reported making progress in "self-understanding" during their time in college. This finding suggests that the development of self-understanding could also be a product of simply growing older and more mature.

However, in their study of the development of critical consciousness in university educators, Landreman, Rasmussen, King, and Jiang (2007) found that "exposure to diverse experiences and/or critical incidents triggered self-reflection [in participants], wherein they attempted to make sense of the dissonance they felt in their surroundings, and in many cases come to terms with their multiple identities" (p. 20). The researchers listed "self-reflection" as a part of Phase I (Awareness Raising) of the model they developed as a result of the study. This seems to fit with Ortiz and Rhoad's (2000) framework for multicultural education, in which the experiences and goals of each step cause students to explore and reexamine how they view society, how they interact with others, and how they view themselves.



### *Related Constructs*

*Self-confidence.* Although there are few studies of intergroup interaction and conversations about diversity that measure the effect of these activities on self-awareness, and very few that measure it using the consciousness of self construct from the Social Change Model of Leadership Development, researchers have measured a variety of other closely related constructs. One such construct is self confidence. Chang et al. (2006) found that, unlike students who interact across race infrequently, students who interact more frequently across race show significant gains in social self-confidence. In a related study, Chang (1999) discovered that socializing with peers from different racial or ethnic groups and discussing racial or ethnic issues positively affected students' self-reported ratings of intellectual self-concept and social self-concept. A.W. Astin (1993b) used leadership as one of his outcome measures, which was significantly affected by cross-racial interaction and conversations about racial/ethnic issues. He defined leadership by combining three self-report ratings, one of which was social self-confidence.

Although Antonio (2001) found similar results to A.W. Astin (1993b) and Chang (1999), which were later corroborated by Chang (2006), he also uncovered some results that seem to contradict what one might expect. Antonio, like A.W. Astin (1993b), measured leadership ability as one of his outcome variables, defining leadership as a combination of ratings that ask students about their self-perceived leadership ability, social self-confidence, and public speaking ability, all of which deal with levels of self-confidence. He found that leadership ability was positively correlated with interracial interaction, much like Chang's (2006) findings that cross-racial interaction influences social self-confidence. However, Antonio also found other factors that were significant

predictors of leadership ability, including entering college with high levels of materialism, higher socio-economic status, more conservative political views, and primarily homogeneous friendships. In addition, Antonio found that having a strong commitment to racial understanding was a predictor of leadership ability, but only for students who reported having primarily same-race friends.

Antonio's (2001) findings can perhaps be explained by drawing upon the idea of self-awareness. Students who stay in homogeneous circles likely do not have their views challenged as often as those who interact across difference more often. Therefore, because they are supported and encouraged by those who share their viewpoints, it makes sense that they might feel more self-confident. However, when students interact across difference more often, they are more likely to have their views of the world challenged. According to the models put forth by Landreman et al. (2007) and Ortiz and Rhoads (2000), this would prompt students to engage in more self-reflection and increase their levels of self-awareness. However, as they become more self-aware and more conscious of their values in relation to others, self-confidence might not be as high, at least during the period in which they are coming to a better understanding of their positionality in relation to different types of interaction partners.

*Social skills.* Other constructs closely related to self-awareness include social or interpersonal skills. In order to effectively interact with others, one must have some degree of self-awareness (King & Baxter Magolda, 2005). Chang et al. (2004) also attempted to make this link. They observed that cross-racial interaction adds value to students' social skills, and hypothesized that this might occur because interacting across race may cause students to "reexamine their assumptions and beliefs" (p. 545). A.W.

Astin (1993b) also found that cross-racial interaction had a positive influence on students' interpersonal skills. Similarly, Kuh (1995) found that one of the greatest influences on students' levels of interpersonal competence (of which self-awareness is a part) was peer interaction.

*Developing a meaningful philosophy of life.* One other variable that could be considered somewhat related to self-awareness is developing a meaningful philosophy of life, a variable that A.W. Astin (1993a, 1993b) analyzed. He found that discussing racial or ethnic issues had a strong positive effect on students' self-reported commitment to developing a meaningful philosophy of life. He interpreted this finding by questioning whether discussing issues of race, ethnicity, and culture might be a chance for students to confront "existential dilemmas" (A.W. Astin, 1993a, p. 47).

Theorists have noted the importance of being aware of one's values, attitudes and positionality in developing effective cross-cultural communication skills (King & Baxter Magolda, 2005) and an awareness of multicultural groups (Pope, Reynolds, & Mueller, 2004). The self-reflection that often triggers new levels of self-awareness may result from the cognitive dissonance individuals are likely to experience in diverse interactions (Landreman et al., 2007). However, although researchers have made some connections between ideas similar to self-awareness and diverse interactions and conversations, it is clear that these links require further examination.

### Other Contributing Factors

#### *Previous Experience with Diversity*

Although evidence points to positive outcomes as a result of engaging with diverse peers and discussing diversity during college, a variety of other factors could

possibly be influencing these results, the most notable of which are the attitudes about and experience with diversity with which students enter college. As Braddock (1985) contended, segregation tends to perpetuate itself. Similarly, Pettigrew (1998) pointed out, one's past viewpoints and experiences will, without question, influence whether one will seek out interaction with diverse peers or avoid that interaction. Pascarella and Terenzini (2005) also supported this point, noting that students who interact frequently across race or participate in diversity workshops tend to already be open to diversity when they begin college.

Some researchers have also found pre-college attitudes about or experience with diversity to be a strong predictor of students' openness to or understanding of diversity (Hurtado et al., 2001; Milem & Umbach, 2003; Milem, Umbach, & Liang, 2004; Whitt et al., 2001), while many others chose to control for these pre-college attitudes or experience, knowing them to be a strong influence (Chang 1999; Gurin et al., 2002; Hurtado, 2005; Zúñiga et al., 2005). In fact, Pettigrew (1998) explained that "the deeply prejudiced" not only avoid contact with diverse peers, but also resist any positive effects from that contact when it does occur (p. 80). Whitt et al. corroborated Pettigrew's point by looking at it from a different angle. They found pre-college openness to diversity and challenge to be the strongest predictor of students' openness to diversity and challenge across the first three years of college.

### *Race/Ethnicity*

Another factor that seems to influence differences in levels of educational outcomes related to understanding of diversity is racial/ethnic background. Many researchers have noted significant differences in patterns of interaction and in outcome

measures between White students and students of color (Antonio, 2001; Chang et al., 2004; Gurin et al., 2002; Kuh, 2003; Milem & Umbach, 2003; Nagda et al., 2004; Washington, 2004; Whitt et al., 2001), and among a variety of different racial groups (Washington). It is not surprising that differences in interaction patterns and outcomes have been found, considering the different ways in which people experience diversity. As Milem and Umbach noted, students come to campus “from very different backgrounds with varying levels of experience in engaging others who are different than they are” (p. 622). Given this information, it is important to examine differences in interaction and outcomes by race/ethnicity.

*Differences in frequencies of interaction.* One such difference is that students of color tend to be more likely to interact across race. Chang et al. (2004) discovered that being White was the strongest negative pre-college predictor of the frequency with which students interacted cross-racially in college. Conversely, Chang et al. (2004) found that students of color were consistently much more likely to interact cross-racially than White students, regardless of the institutional level of diversity, or the type of interaction in which students engaged.

It makes sense that White people would be less likely to interact with those different from them racially or culturally. As the racial and cultural majority in this country, many White people, especially those who have grown up in relatively homogeneous communities, may simply not have had as many opportunities to interact with people from different races and cultures. For example, Milem and Umbach (2003) found in their study of a large public institution that more than 75% of the entering White students in 2000 came from “nearly all-White neighborhoods, schools, and peer groups”

(p. 622). They found White students to be the “least likely to be prepared to engage diversity while in college” (p. 622). In addition, Chang et al. (2004) noted that, particularly at predominantly White institutions, White students still have fewer opportunities to interact cross-racially once they are in college.

Not only are White students likely to have fewer opportunities to interact across difference, but many are uninterested or actively resistant to engaging in these types of interactions or discussions (Baxter Magolda, 1997; Levine & Cureton, 1998b). People of color, on the other hand, often do not have a choice in whether or not they interact with those who are racially or culturally different from them. As oppressed and underrepresented populations, even if they live in homogeneous communities, people of color are more likely to come into contact with White people as they move through society. Washington (2004), in her multi-institutional study of cross-racial and cross-ethnic interaction patterns, found that all groups of color had “substantial interaction with Whites” (p. 85), regardless of geographic location. Again, a great deal of information exists about students’ interaction patterns cross-racially. What is not as well-known, however, is how students from different racial/ethnic backgrounds compare with regards to their interaction patterns across other types of difference.

*Differences in outcomes.* If White students are less likely to interact across difference than students of color, and if interaction across difference has been shown to be a significant predictor of students’ levels of understanding of diversity, it logically follows then that White students and students of color will likely differ in their levels of understanding of diversity. This does, in fact, appear to be true. Whitt et al. (2001) found that during the first two years of college, independent of other factors, White students

were significantly less likely to increase in levels of openness to diversity and challenge than were their peers of color.

However, although (or perhaps because) White students seem to enter college with lower levels of understanding of diversity and less experience interacting across difference, those who interact more frequently with diverse peers in college make greater gains in their diversity and cultural awareness, as well as in other educational outcomes such as complexity of thinking (Gurin et al., 2002; Pascarella & Terenzini, 2005) and post-graduate degree aspirations (Gurin, 1999), among others.

One puzzling result that seems inconsistent with the rest of the research in this area comes from Whitt et al.'s (2001) study, in which the researchers found differences between White students and students of color across the first two years of college, but that these differences in levels of openness to diversity and challenge were not significant after the second year of college. They speculated that this could be a result of individual perceptions and institutional characteristics, neither of which were measured in their study.

Wilmarth (2004) conducted a study that also produced curious results regarding differences in appreciation of difference by race. Results indicated no significant differences based on race among students' self-perceived levels of appreciation of difference. However, participants in this study were not selected randomly. The data were based on responses from only 198 students in four service-learning classes at the same university; no control group was used. Since the students who chose to take a service-learning class likely have interests and attitudes that are more similar than those of

students selected randomly, it cannot be concluded that these results are representative of the general student population at that university.

Although there is extensive information about interaction and outcome patterns for cross-racial interaction between students of color and White students, there is very little information about how distinct populations of color might differ from one another in these respects (e.g. Asian American students, African American/Black students, Latino/a students, American Indian students). Furthermore, there is also very little evidence that shows how White students and students of color differ in interaction patterns and outcomes with respect to other elements of diversity beyond race, such as religion or political orientation. One might assume that because people of color usually have more practice interacting across race than White people, these skills would transfer to interaction across other areas of difference as well. Preliminary analyses of data from the MSL did indicate racial/ethnic differences in self-awareness. Dugan, Jacoby, Gasiorowski, Jones, and Kim (2007) revealed that African American/Black students had significantly higher scores on the consciousness of self scale than did their peers in all other racial/ethnic groups.

### *Gender*

Gender is another significant factor related to students' frequency of interactions and conversations, as well as outcomes, at least in some studies. Several researchers have documented significant differences between men and women in their studies (Hurtado et al., 2001; Nagda et al., 2004; Whitt et al., 2001; Wilmarth, 2004; Zuniga et al., 2005). Women in general seem to be more open to diversity and have a greater interest in social justice issues, in addition to being more influenced by engagement in discussions and



activities about diversity and interactions across difference. Zuniga et al., controlling for other variables, found that the women in their study were more motivated to “reduce their own prejudices” and to “promote inclusion and social justice” (p. 668) than the men, and Hurtado et al. (2001) found women more likely to “place importance on social action engagement” (p. 16). Similarly, Whitt et al. discovered that in the second and third years of college, when taking other influences into account, women were significantly more open to diversity and challenge than men. That women are more likely to be open to diversity and promote social justice makes sense in light of Gilligan’s (1982) contention that women’s “identity is defined in a context of relationship and judged by a standard of responsibility and care” (p. 160).

Although there is minimal research on differences in scores between men and women with regard to the values of the Social Change Model of Leadership Development, it would naturally follow from the links others have established between self-awareness, identity development, and interacting with diverse others (Chickering & Reisser, 1993; King & Baxter Magolda, 2005; Landreman et al., 2007) that women would be more likely to have higher levels of self-awareness. In fact, in Dugan’s (2006b) study, one of the first studies that analyzed these constructs using the SRLS, he found that college women did indeed have significantly higher levels of self-awareness than did college men. Although this finding is significant, Dugan (2006b) used data from only one institution. Haber (2006), using MSL data from another institution, found that undergraduate women and men did *not* differ significantly in their levels of self-awareness. Most recently, however, Hawthorne Calizo, Cilente, and Komives (2007), using the national MSL data set, corroborated Dugan’s (2006b) findings. Their study

revealed that women's scores on the consciousness of self scale were statistically significantly higher than those of men. It further revealed, however, that the impact of discussions of socio-cultural issues on self-awareness was greater for men than for women.

### *Other Factors*

Race, gender, and pre-college levels of experience with and attitudes towards diversity seem to be the most consistent factors that contribute to students' openness to diversity and interaction patterns. To address these findings in the literature, this study examined the amount of variance in the outcome variables predicted by discussions of socio-cultural issues, while controlling for gender and pre-college experience with diversity. Analyses were run for each of six racial/ethnic groups to account for racial/ethnic differences.

Students' age was also found to be a significant factor in predicting students' openness to diversity (Whitt et al., 2001). Although this study did not control for age directly, the data set does contain a random sample of students that are spread fairly evenly across all four academic classes, which should mitigate this factor, at least in part. However, there are a variety of other factors that have been found to influence students' levels of openness to or understanding of diversity that this study did not address. These factors include students' perceptions of campus climate (Whitt et al.), participation in cultural awareness workshops (Whitt et al.), structural diversity of the campus (Chang, 1999; Chang et al., 2006), and types of activities in which students are involved on campus (Chang et al., 2006), among others.

## Limitations of Prior Research

Although extensive research exists in the areas of intergroup relations and diversity appreciation, there are several limitations to consider and questions that still remain. The first is the relative lack of current and generalizable data. Most multi-institutional studies that examined these issues in depth, even those that have been published recently, used data that are at least decade old (Antonio, 2001; A.W. Astin, 1993a, 1993b; Chang, 1999; Chang et al., 2006; Gurin et al., 2002; Gurin et al., 2003; Pascarella et al., 1996; Sax & Astin, 1998; Whitt et al., 2001). Those studies that did use more recent data are much smaller, making the results more difficult to generalize (Washington, 2004; Wilmarth, 2004). Because of the major issues and events that have affected public opinion in the United States in the past decade, such as the attack on the World Trade Center, the wars in Iraq and Afghanistan, increasing political polarization, and debates about affirmative action, among others, it is plausible that that analysis of more current data contains new information.

Second, although the majority of studies reviewed in this chapter compared interaction patterns and outcomes by race, few were able to investigate differences among distinct groups of color; most researchers, because of the relatively smaller numbers of students of color who participated in their studies, were able to compare only White students to students of color. Although this comparison is an important one, and one that has indicated significant differences, there are a number of potential differences *between* racial and ethnic groups of color, as evidenced by the findings of Hawthorne Calizo et al. (2007) and Washington (2004), that very few researchers have been able to examine.

Third, many studies that explored diverse interactions focused exclusively on cross-racial interaction (Antonio, 2001; Chang, 1999; Chang et al., 2004; Chang et al., 2006; Gurin et al., 2002, Sax & Astin, 1998; Washington, 2004). Although race is certainly a relevant and salient issue to study, it is not the only dimension of identity worth investigating. Other important dimensions to examine include political and values orientations and religion, as well as discussions about broader topics such as multiculturalism and justice. Fourth, only a handful of studies have assessed students' levels of self-awareness, and even fewer have analyzed this construct's relationship to diverse interactions and understanding of diversity. As self-awareness has been linked theoretically to effective cross-cultural communication and intercultural maturity (King & Baxter Magolda, 2005), in addition to being stressed as a critical piece of emergent leadership paradigms (HERI, 1996; Kouzes & Posner, 2003), researching its connection with empirical data provides valuable and current information.

This study addressed these limitations in previous research by using data from the MSL, one of the most current and largest national data sets that measured the constructs in which I am interested. I compared interaction patterns and outcomes by racial/ethnic groups, measured diverse interactions that go beyond race, and analyzed students' levels of self-awareness as they related to diverse interactions and conversations.

### Summary

This review of literature provided an overview of research findings that relate to intergroup contact, including interaction across difference and conversations about diversity. It also discussed what is known and not known about the factors that contribute to an understanding of diversity and self-awareness, and analyzed some particularly

significant factors: pre-college experience with diversity, race/ethnicity, and gender.

Limitations of prior research were also discussed. The next chapter will outline the methods utilized in examining the research questions.

## CHAPTER 3

### METHODOLOGY

This chapter will present the research design and methodology of this study, including sampling strategy, instrumentation, reliability and validity testing, data collection, and data analysis.

#### Purpose and Hypotheses

The purpose of this study was to examine the extent to which the frequency of engagement in discussions of socio-cultural issues during college contributes to the outcomes of understanding of diversity and self-awareness, after controlling for students' gender and pre-college experience with diversity, and to identify any racial/ethnic and gender differences in students' interaction patterns.

#### *Hypotheses*

Based on the literature reviewed for this study, the following null hypotheses were proposed to address the research questions outlined below:

1. How much of the variance in students' levels of understanding of diversity and self-awareness is explained by the frequency with which undergraduate students engage in discussions of socio-cultural issues during college, by race/ethnicity, after controlling for gender and pre-college experience with diversity?

*Hypothesis 1a:* For each of six racial/ethnic groups, the frequency with which undergraduate students engage in discussions of socio-cultural issues, after controlling for gender and pre-college experience with diversity, does not significantly contribute to explaining variance in students' understanding of diversity.

*Hypothesis 1b:* For each of six racial/ethnic groups, the frequency with which undergraduate students engage in discussions of socio-cultural issues, after controlling for gender and pre-college experience with diversity, does not significantly contribute to explaining variance in students' self-awareness.

2. What, if any, racial/ethnic or gender differences exist in students' frequency of discussions of socio-cultural issues in college?

*Hypothesis 2:* There are no racial/ethnic or gender differences in students' frequency of engagement in discussions of socio-cultural issues.

### Research Design

I chose to use an *ex post facto* research design for this correlational study, using secondary data collected during the spring of 2006 as a part of the Multi-Institutional Study of Leadership (MSL), a national study of undergraduate students at 52 institutions of higher education across the country (Komives & Dugan, 2006a). The purpose of the MSL was to contribute to the national knowledge base about leadership values and development in college students, using a theoretical framework based in the Social Change Model of Leadership Development (HERI, 1996). In addition, the MSL research team sought to create a national normative data set for the Socially Responsible Leadership Scale (SRLS) originally developed by Tyree (1998), a scale that measures the eight values of the Social Change Model of Leadership Development.

The Conceptual Framework of the MSL was based on A.W. Astin's (1993b) I-E-O (Inputs-Environment-Outcomes) College Impact Model, which outlines the types of data that should be collected in rigorous educational research. This model includes Inputs, which consist of students' pre-college characteristics such as demographics, high

school experiences, and attitudes and beliefs with which students enter college.

Environmental variables measure students' involvement and experiences during college, and include extracurricular activities, classes taken, discussions of socio-cultural issues, and relationships with peers and faculty. Outcome variables measure students' attitudes, beliefs, skills, and characteristics after their experiences in a college environment; in the MSL, these included the SRLS scales, and the leadership efficacy and understanding of diversity scales, among others.

Although the MSL used A.W. Astin's (1993b) I-E-O College Impact Model as its conceptual framework, the study does not represent a true I-E-O design, in that all data were collected at one point in time. Students were asked in the MSL instrument to reflect back upon their skills and experiences prior to attending college and rate themselves retrospectively, to report their activities while in college, and to rate themselves on each of the outcome variable scales. Were this a true I-E-O design, students would have been given a pre-test before starting college, and then a post-test at the end of their time in college.

I chose to use data from the MSL for several reasons. First, it specifically measured the constructs I was interested in examining. The MSL survey instrument included scales for all of the constructs on which this study is based, including a discussions of socio-cultural issues scale, an understanding of diversity scale, and a consciousness of self scale, which was used to measure self-awareness. The MSL is the first multi-institutional study to measure the eight constructs that make up the Social Change Model of Leadership Development (consciousness of self being one of these constructs). Second, this national data set is one of the largest data sets currently



available. With 63,095 respondents from institutions across the country, the MSL has data that are more likely to be generalizable than data from a smaller data set or from a single institution. Third, the MSL data were collected in 2006, so the information is current and will therefore have relevant implications for current practice. Finally, the scales on the MSL instrument have been tested multiple times for reliability and validity, and have been found consistently to be reliable and valid.

### Sampling Strategy

The MSL research team utilized sampling strategies for both selecting institutions and selecting students. A purposeful sampling technique was used to select the institutions for this study. Of the more than 150 institutions that applied to participate in the study, 55 were chosen to participate (two of which withdrew from the study before data collection began, and one of which was unable to complete the study, bringing the total number to 52). Participating institutions were selected from the pool of applicants to represent a broad range of types of schools and student populations, including public and private schools, community colleges and research institutions; historically Black colleges and universities, Hispanic serving institutions, women's colleges, and predominantly White institutions; schools from a variety of geographical locations; schools that offered different levels of leadership programming, and schools that represented each Carnegie Type.

The research team obtained simple random samples of undergraduate students from each institution in order to ensure maximum generalizability; however, for institutions with student populations of less than 4,000, the entire student body was sampled. For larger schools, sample sizes for each school were calculated based on a

desired 95% confidence interval with margin of error of  $\pm 3$ , and an anticipated 25-35% return rate, which is a typical range for web-based surveys (Crawford, Couper, & Lamias, 2001). In order to yield a 30% response rate, the minimum number of students needed for each school's random sample was increased by 70%. The entire national sample, which contains the total population and random samples from each of the 52 participating institutions, consisted of 165,701 students. Of the students sampled, 63,095 responded, yielding an overall response rate of 38%.

### Instrument and Measures

#### *Instrument*

The MSL survey instrument was developed by the MSL research team and consisted of a variety of different scales, pre-college inputs, and environmental and demographic variables. The survey (see Appendix A for full MSL instrument) contained a series of questions that asked about students' pre-college experience and characteristics, questions about types of college involvement and activities, and outcome variables, including a revised version of the Socially Responsible Leadership Scale, originally created by Tyree (1998). A few scales were obtained with permission from other sources, including the diversity pre-test (used to measure pre-college experience with diversity), and the discussions of socio-cultural issues scale, which were originally used in the National Study of Living-Learning Programs (NSLLP; Inkelas, 2004; Inkelas, Vogt, Longerbeam, Owen, & Johnson, 2006), and the understanding of diversity scale, which is a modified version of the appreciation of diversity scale used in the NSLLP. The survey was administered online, because of the ease of access to large numbers of students, a

lower cost, and the complicated skip patterns that might have been particularly confusing on a paper version of the survey.

*Development of the SRLS.* The SRLS, a major component of the MSL instrument which contains the consciousness of self scale used to measure self-awareness, was tested originally by Tyree (1998), as a part of her development of the entire SRLS. In developing the SRLS, Tyree first explored each of the eight constructs associated with the Social Change Model of Leadership Development and created 291 survey items that could be used to measure students' self-perceptions about the extent to which each construct applied to them. Tyree first invited several colleagues to review the items for any wording that might be culturally biased or developmentally inappropriate. She then gathered a group of 21 leadership experts and undergraduate students for a rater exercise in which each participant assigned each of the 291 items to the construct that most closely matched it. After the 291 items were reduced to 202 items as a result of the rater exercise, Tyree then administered this 202-item pilot version of the SRLS twice to two groups of 101 and 80 students respectively (71 of whom completed it twice).

Tyree (1998) then used the results from this administration of the pilot version to test for reliability and validity of the instrument, in addition to exploring the social desirability of the scale items and eliminating items that were significantly correlated with the Crowne-Marlow Social Desirability Scale. The Crowne-Marlowe Social Desirability Scale measures the degree to which items might be considered socially desirable by respondents; if students perceive items to be socially desirable, they might respond to these items in a way that is incongruent with their actual beliefs, therefore potentially skewing the results. Tyree removed the 59 items she found to be significantly

correlated with the Crowne-Marlowe scale. Through this process, Tyree was able to reduce the SRLS even further to a 103-item scale. Finally, she randomly sampled 675 students to take her final 103-item version; 342 students responded. These results were used to test for reliability of the revised version of the instrument. Factor analysis was used to determine the content validity of each construct (Tyree, 1998).

Appel-Silbaugh (2005) then condensed Tyree's (1998) 103-item SRLS to an 83-item revised SRLS scale (SRLS-R). Dugan (2006a, 2006b) was able to further reduce the length to a 68-item scale (SRLS-R2) by using Tyree's (1998) 103-item version of the SRLS, and performing a principal component analysis for each scale.

*Pilot tests.* The MSL research team tested its survey instrument for both content and construct validity once it was developed. In October 2005, an initial pilot test of the survey instrument was conducted using a convenience sample of 14 undergraduate students at the University of Maryland who represented varying degrees of involvement on campus. Each of the students participated in an exit interview to share his or her impression of the clarity of the questions and of the time required to complete the survey. These data were used to determine initial face validity for the instrument, as well as to gauge the approximate time needed to complete it. The original instrument took the participants an average of 30 minutes to complete, which students found to be too long. Additionally, a few minor changes to the wording of some questions were made, based on participants' feedback about clarity.

A second pilot test of the entire web-based version of the survey instrument, which included the SRLS-R, was conducted in December 2005 with a 3,411 student random sample at the University of Maryland. The research team was interested in

observing at what points students stopped taking the survey, to see if further reduction in the number of questions was necessary and possible. Eighty eight percent of the 782 students who responded to the survey completed the entire survey instrument. Because of this 12% dropoff rate, the research team reanalyzed the Cronbach alphas from Tyree's (1998) and Dugan's (2006a, 2006b) examination of SRLS data to investigate the possibility of further reducing the number of items in this scale. It was determined the SRLS could be further reduced to a 68-item scale (SRLS-R2) without sacrificing its internal consistency. The SRLS-R2 was then used in the final MSL instrument.

### *Measures*

The specific variables and scales that I used from this instrument include race/ethnicity, gender, the diversity pre-test, and the discussions of socio-cultural issues, understanding of diversity, and consciousness of self scales.

*Demographic variables.* To obtain information on students' gender, students were asked to check male, female, or transgender. For race/ethnicity, students were given a number of options and asked to check all that apply. For the purposes of this study, race has been collapsed into six groupings: White students (students who checked *only* White), Black students (students who checked African American, Black), Latino/Latina students (including students who checked Mexican American, Chicano; Puerto Rican; Cuban American; and/or Other Latino American), Asian American students (including students who checked Asian American, Asian; Native Hawaiian; and/or Pacific Islander), American Indian students (including students who checked American Indian and/or Alaskan Native), and Multiracial students (who checked Multiracial and/or any combination of the other categories). Refer to Table 3.1 for demographic variable coding.

Table 3.1

*Demographic Variables*

| Variable   | Question | Coding   |
|--|----------|--|
| Gender   | Q28      | 1=Female<br>2=Male   |
| Racial or Ethnic Background<br>(Mark all that apply) | Q31      | 1=White/Caucasian<br>2=African American/Black<br>3=American Indian/Alaska Native<br>4=Asian American/Asian<br>5=Native Hawaiian/Pacific Islander<br>6=Mexican American/Chicano<br>7=Puerto Rican<br>8=Cuban American<br>9=Other Latino<br>10=Multiracial or multiethnic<br>11=Race/ethnicity not included<br>above |

*Discussions of socio-cultural issues.* Using a 4-point Likert-type scale, the discussions of socio-cultural issues scale (see Table 3.2 for scale items) asked students to rate the frequency with which they engage in each of the activities listed. The discussions of socio-cultural issues scale was taken, with permission, from the NSLLP survey. Therefore, this scale had already been tested for reliability and validity for the purposes of the NSLLP study. The NSLLP research team determined content validity through a review of the scales and items by 15 living-learning program administrators. Construct validity was established through factor analysis, a review of “similarities within construct themes” and “dissimilarities across construct themes” (Longerbeam, 2005, p. 99) and studies of group differences (Longerbeam). The Cronbach alpha value for this scale as tested for the NSLLP was .86 (Komives & Dugan, 2006a). The discussions of socio-cultural issues scale then produced a Cronbach alpha of .90 in the December 2005 MSL pilot (Komives & Dugan, 2006a). Internal consistency for the discussions of socio-cultural issues scale was also computed using the MSL national data set. Reliability was .90. When calculated using the sample for this study reliability was again .90, indicating that the items in this scale demonstrated high internal consistency.

I ran an exploratory factor analysis of the six-item discussions of socio-cultural issues scale, to determine whether it was reasonable to split this scale into two smaller three-item scales: a scale that measured interaction across difference, which would have been measured by items 16b, 16d, and 16f of the discussions of socio-cultural issues scale, and a scale that measured conversations about diversity, which would have been measured by items 16a, 16c, and 16e. This analysis was conducted because the six-item discussions of socio-cultural issues scale seemed to be measuring two separate

Table 3.2

*Discussions of Socio-Cultural Issues Scale*

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*16. During interactions with other students outside of class, how often have you done each of the following in an average school year? (Circle one for each).*

1=Never

2=Sometimes

3=Often

4=Very Often

16a. Talked about different lifestyles/customs

16b. Held discussions with students whose personal values were very different from your own

16c. Discussed major social issues such as peace, human rights, and justice

16d. Held discussions with students whose religious beliefs were very different from your own

16e. Discussed your views about multiculturalism and diversity

16f. Held discussions with students whose political opinions were very different from your own

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constructs: one construct that examined the types of people with whom one interacts, and the other, the content of conversations in which one engages. Separating this scale into the two smaller scales, if the factor analysis had confirmed these factors, would have allowed for comparison with other studies that measured interaction and conversation topics separately.

The factor analysis revealed the presence of only one component with an eigenvalue greater than one. This component explained 67.7% of the variance, and the scree plot showed a clear break after this first component. Therefore, the decision was made to retain the six-item discussions of socio-cultural issues scale as one scale in further analyses. See Appendix B for the factor analysis factor matrix.

*Pre-college experience with diversity.* Pre-college experience with diversity was measured using the diversity pre-test scale, which consisted of two items that asked students to rate their level of comfort with the activities listed (see Table 3.3 for scale items). This scale was also taken, with permission, from the NSLLP survey, and was tested for reliability and validity using the same process that was used in testing the discussions of socio-cultural issues scale. The Cronbach alpha value for this scale remained consistent at .88 in both the NSLLP and the December 2005 MSL pilot (Komives & Dugan, 2006a). Internal consistency for the diversity pre-test scale was also computed using the national data set and the sample for this study. Reliability of this scale was again .88 for both the national data set and the sample for this study, indicating high internal consistency among the items in the scale.

Table 3.3

*Diversity Pre-Test Scale*

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9. Looking back to before you started college, how often did you engage in the following activities. (Circle one response for each.)

1=Never

2=Sometimes

3=Often

4=Very Often

9h. Getting to know people from backgrounds different than your own

9i. Learning about cultures different from your own

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*Understanding of diversity.* The understanding of diversity outcome scale contained three questions that asked students to rate the extent to which they agreed or disagreed with the statements given (see Table 3.4 for scale items). This scale was also taken, with permission, from the NSLLP survey, and had been tested for reliability and validity for the purposes of the NSLLP study using the same process described for the discussions of socio-cultural issues and diversity pre-test scales. The Cronbach alpha value for this scale as tested for the NSLLP was .73 (Komives & Dugan, 2006a).

The Cronbach alpha value for the understanding of diversity scale in the December 2005 MSL pilot was .26 (Komives & Dugan, 2006a). This value was low because of a mistake in the way the question was formatted; a neutral choice was inserted by accident into the pilot version for these forced choice questions, and this affected the reliability. The mistake was rectified in the final version. The understanding of diversity scale was also reduced from a four-item scale to a three-item scale in the final version of the MSL instrument because of problems in the wording of one of the items (S. R. Komives, personal communication, December 7, 2006). Internal consistency for this scale was also calculated using the national data set. Reliability was .73. Reliability was .72 when computed using the sample for this study.

*Self-awareness.* Self-awareness was measured using the consciousness of self scale, one of the eight scales included in the SRLS-R2, which consisted of nine items that students were asked to rank on a 5-point Likert scale (see Table 3.5 for scale items). A total score for the consciousness of self scale was calculated by summing a participant's responses to the nine items in this scale. The Cronbach alpha values for the consciousness of self scale in the two phases of the SRLS pilot study referenced in the discussion of the

Table 3.4

*Understanding of Diversity Scale*

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21. Please indicate the extent to which you agree or disagree with the following statements. (Circle one response for each.)

1=Strongly Disagree

2=Disagree

3=Agree

4=Strongly Agree

21a. Since coming to college, I have learned a great deal about other racial/ethnic groups

21b. I have gained a greater commitment to my racial/ethnic identity since coming to college

21d. Since coming to college, I have become aware of the complexities of inter-group understanding

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Table 3.5

*Consciousness of Self Scale*

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18. Please indicate your agreement or disagreement with the following items by choosing the number that most closely represents your opinion about that statement. (Circle one response for each.)

1 = Strongly disagree

2 = Disagree

3 = Neutral

4 = Agree

5= Strongly Agree

4. I am able to articulate my priorities

6. *I have low self esteem*

9. I am usually self confident

18. The things about which I feel passionate have priority in my life

22. I know myself pretty well

34. I could describe my personality

41. I can describe how I am similar to other people

56. *Self-reflection is difficult for me*

59. I am comfortable expressing myself

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*Note: Negative response items are in italics. All negative response items were reverse scored.*

MSL instrument were .86 and .82, respectively. Internal consistency for each of the eight constructs in Tyree's final 103-item instrument produced a Cronbach alpha of .82 for the consciousness of self scale. Factor analysis was used to determine the content validity (Tyree, 1998).

The Cronbach alpha value for the consciousness of self scale was .78 in Appel-Silbaugh's (2005) test of her 103-item SRLS-R, and .79 in Dugan's (2006a, 2006b) test of the SRLS-R2. The Cronbach alpha value in the December 2005 MSL pilot was .83 (Komives & Dugan, 2006a). Internal consistency was also computed using the national data set; this scale produced a value of .79. Reliability was also calculated using the sample for this study; in this computation the scale again produced a Cronbach alpha value of .79. The scores for the consciousness of self scale were calculated by summing participants' scores from the nine individual items in this scale.

#### Data Collection

The MSL research team obtained Institutional Review Board (IRB) approval for the national study in October 2005 and provided the necessary information to contacts at participating institutions so that each campus could also be granted IRB approval for their specific campus. The Survey Science Group (SSG) managed the MSL data and distribution of the web-based instrument. All data collection took place between February and April of 2006. Each participating institution was assigned a specific three-week period during which their data would be collected, and the research team took care to ensure that institutions' data collection periods did not coincide with any school holidays or other large web-based survey data collection periods. Participating institutions were

encouraged to offer incentives that would be raffled to students who completed the survey and to market the survey and these incentives on their campus prior to and during their campus's data collection period. National incentives were also raffled to all students who participated.

Sampled students received an email at the beginning of their campus's pre-determined three-week data collection period that invited them to participate in the study. The email format and content were based on a template the MSL team provided that schools modified to include their campus-specific incentives (see Appendix C for participant invitation email template). The emails provided students with unique, randomly assigned identification numbers, and directed them to a secure website to complete the online survey. The unique identification numbers that students entered protected confidentiality by separating students from their email address in the data set. Students were asked for consent before the survey began (see Appendix D for participant informed consent template). The entire survey took approximately 20 minutes to complete. Non-respondents and partial respondents were sent three reminder emails about the study within their school's three week data collection period.

#### Data Analysis

This study received IRB approval in March 2007 (Appendix E). In analyzing the MSL data for the purposes of this study, I used a data set that included the 50,378 students who took the MSL instrument and also completed 90% or more of the SRLS-R2. This was a parameter set by the MSL research team to ensure that the results of the SRLS-R2 data would not be skewed. This data set is somewhat smaller than the entire national sample because I chose to exclude those individuals who did not complete 90 %

or more of the SRLS-R2, which includes the consciousness of self scale that was a part of this study.

The sample I began with for this study consisted of the 50,378 randomly selected students who took the MSL instrument and completed 90% or more of the SRLS-R2. The data set I received had already been cleaned – outliers and graduate students had been removed. I first removed several populations of students from the data set because they were not relevant to the purposes of this study. I removed all respondents who identified as transgender from the data set, as the number of transgendered respondents was too small to compare to other gender groups and draw any meaningful conclusions. I then coded females as “0” and males as “1” in the dataset. Next, because this study focused on racial/ethnic groups in a United States context, international students needed to be removed. Given the United States’ unique history involving race relations (Takaki, 1993; Tatum, 1997; Zinn, 1999) and of the specific construction of race in a United States context (Omi & Winant, 1994), grouping international students with students who had grown up in the United States would not make sense. Therefore, I eliminated all respondents who identified themselves as being in the United States on a student visa. Finally, I removed any students who checked “Not Included” for race/ethnicity, as the scope of this study was to examine the experiences and outcomes for the six racial/ethnic groups identified earlier in this chapter. For the purposes of this study, 48,118 of the responses in the sample were useable.

After I cleaned the data I ran an exploratory factor analysis on the two smaller scales I proposed, to determine if splitting the discussions of socio-cultural issues scale was reasonable. I then performed Cronbach alphas to test the reliability of all scales. In

preparation for running a series of hierarchical regressions to test my first two hypotheses, I then examined the level of multicollinearity among the three independent variables - gender, pre-college experience with diversity, and discussions of socio-cultural issues - in the first research question.

According to Pallant (2005), multiple regression can be used to explore the amount of variance in a dependent variable explained by a group of independent variables, as well as the amount of “unique variance” explained by each independent variable (p. 141). Based on findings from the literature and the nature of the first research question, I performed a series of hierarchical multiple regressions – one for each racial/ethnic group – for each of the two dependent variables, understanding of diversity and self-awareness, in order to explore the amount of variance predicted by the independent variables in my hypothesis, while accounting for racial/ethnic differences.

Hypothesis 1a stated that the frequency with which undergraduate students engage in discussions of socio-cultural issues, after controlling for gender and pre-college experience with diversity, does not significantly contribute to explaining the variance in students’ understanding of diversity. To test this hypothesis, I entered the sum of each student’s scores on the understanding of diversity scale as the dependent variable. Gender, one of the control variables, was entered in the first regression block. Although most independent variables in a multiple regression are continuously scaled, Pallant (2005) explained that dichotomous variables can also be used. In this study, gender was coded as a dichotomous variable. The sum of each student’s scores for pre-college experience with diversity was entered in the second block as the other control variable, and the sum of each student’s scores for discussions of socio-cultural issues was entered



in the third block as the third independent variable. I then performed this regression for each of the racial/ethnic groups in this study, both to account for the fact that race/ethnicity has been shown to influence students' interaction patterns and attitudes about diversity, and also to investigate how discussions of socio-cultural issues relate to outcomes for each group individually.

Hypothesis 1b stated that for each of six racial/ethnic groups, the frequency with which undergraduate students engage in discussions of socio-cultural issues, after controlling for gender and pre-college experience with diversity, does not significantly contribute to explaining the variance in students' self-awareness. To test this hypothesis, I followed the same steps outlined above for testing hypothesis 1a, but used self-awareness as the dependent variable. See Table 3.6 for relevant variables.

Hypothesis 2 stated that there are no racial/ethnic or gender differences in students' frequency of engagement in discussions of socio-cultural issues. To test this hypothesis, I performed a two-way Analysis of Variance (ANOVA), using race/ethnicity and gender as the independent variables, and discussions of socio-cultural issues as the dependent variable.

### Summary

This chapter outlined the design of this study, including sampling strategy, instrumentation, data collection, and plans for data analysis. Chapter 4 will detail the results of these statistical analyses.

Table 3.6

*Independent and Dependent Variables for Hierarchical Multiple Regressions*

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Independent Variables

Block 1: Input Variable

Gender

Block 2: Input Variable

Pre-College Experience with Diversity

Block 3: Environmental  
Variable

Discussions of Socio-Cultural Issues

Dependent Variables

Output Variables

Understanding of Diversity

Self-Awareness

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## CHAPTER 4

### RESULTS

The purpose of this study was to examine the extent to which the frequency of engagement in discussions of socio-cultural issues during college contributes to the outcomes of understanding of diversity and self-awareness, after controlling for students' gender and pre-college experience with diversity. This study also examined any racial/ethnic and gender differences in students' interaction patterns. This chapter will first describe demographics of the participants in this study, present the results of some preliminary analyses, and then introduce the results of the data analyses that were conducted according to the hypotheses and methods outlined in Chapter 3.

#### Demographic Description of Participants

Of the 48,118 participants in this study, women were almost two-thirds of the sample; 61.7% identified as female, and 37.9% identified as male. With regard to racial/ethnic background, the sample consisted of a majority of White students, who were almost three-fourths of the sample (73.9%). Multiracial and Asian American students comprised the next largest groups represented, at 8.3% and 7.0%, respectively. African American/Black and Latino/Latina students were 5.5% and 4.4% of the sample, respectively, and American Indian students comprised the smallest proportion, at 0.3% of the sample. In terms of academic class standing, respondents were spread fairly evenly across classes, with freshmen, sophomores, juniors, and seniors each comprising between 21-28% of the overall sample. Students who marked "other" for class standing (including fifth or sixth year seniors) were 1.2% of the sample. Table 4.1 presents the demographic characteristics of respondents in this study.

Table 4.1

*Demographic Characteristics of Respondents*

| Respondent Demographics<br>( <i>N</i> = 48,118) | N      | Percent |
|---|--------|---------|
| <b>Gender</b>                                   |        |         |
| Female  | 29,702 | 61.7%   |
| Male  | 18,225 | 37.9%   |
| Missing Cases                                   | 191    | 0.4%    |
| <b>Race/Ethnicity</b>                           |        |         |
| African American/Black                          | 2,651  | 5.5%    |
| American Indian                                 | 127    | 0.3%    |
| Asian American                                  | 3,389  | 7.0%    |
| Latino/Latina                                   | 2,128  | 4.4%    |
| Multiracial                                     | 3,990  | 8.3%    |
| White   | 35,568 | 73.9%   |
| Missing Cases                                   | 265    | 0.5%    |
| <b>Academic Class Standing</b>                  |        |         |
| Freshman  | 11,026 | 22.9%   |
| Sophomore                                       | 10,408 | 21.6%   |
| Junior  | 12,461 | 25.9%   |
| Senior  | 13,626 | 28.3%   |
| Other   | 596    | 1.2%    |
| Missing Cases                                   | 1      | 0.0%    |

## Preliminary Analyses

### *Analyzing Intercorrelation between Variables*

The relationships between pre-college experience with diversity (as measured by the diversity pre-test scale), discussions of socio-cultural issues, understanding of diversity, and self-awareness (as measured by the consciousness of self scale) were investigated using Pearson product-moment correlation coefficient. The correlations between all of the scales were relatively small, particularly between the diversity pre-test scale and the understanding of diversity scale. The correlation coefficients are presented in Table 4.2.

### *Pre-College Experience with Diversity and Discussions of Socio-Cultural Issues*

Students' pre-college experience with diversity was assessed using the diversity pre-test scale. This scale consisted of two items that asked students to reflect on the frequency with which they interacted with people from different backgrounds and learned about different cultures prior to college. The instructions for both items began with, "Looking back to before you started college, how often did you engage in..." and provided students with four response choices: Never (1), Sometimes (2), Often (3), and Very Often (4). Scores for this scale were calculated by taking the sum of each participant's responses for the two items. Overall, respondents reported a mean of 5.59 ( $SD=1.69$ ) within a range of 2-8 of total possible scores. Scores among respondents ranged from 2-8. Table 4.3 represents the mean and standard deviations of students' pre-college experience with diversity by race/ethnicity. African American/Black and Multiracial students had the highest means on this scale, and White students had the lowest.

Table 4.2

*Pearson Product-Moment Correlations Between Measures (N = 48,118)*

| Measures                     | Diversity<br>Pre-Test | Diversity<br>Discussions | Appreciation<br>of Diversity | Consciousness<br>of Self |
|------------------------------|-----------------------|--------------------------|------------------------------|--------------------------|
| Diversity<br>Pre-Test        | 1.00                  | .31**                    | .08**                        | .17**                    |
| Diversity<br>Discussions     |                       | 1.00                     | .28**                        | .29**                    |
| Appreciation<br>of Diversity |                       |                          | 1.00                         | .16**                    |
| Consciousness<br>of Self     |                       |                          |                              | 1.00                     |

\*\*  $p < .01$

Table 4.3

*Summary of Means and Standard Deviations for Pre-College Experience with Diversity and Discussions of Socio-Cultural Issues, by Racial/Ethnic Group and Gender*  
(*N* = 48,118)

| Scale  | Mean  | SD   |
|--|-------|------|
| Pre-college experience with diversity<br>(possible range of scores: 2-8) |       |      |
| African American/Black ( <i>n</i> =2,649)                                | 6.28  | 1.69 |
| American Indian ( <i>n</i> =127)   | 5.82  | 1.63 |
| Asian American ( <i>n</i> =3,389)  | 6.19  | 1.62 |
| Latino/Latina ( <i>n</i> =2,127)   | 6.14  | 1.73 |
| Multiracial ( <i>n</i> =3,989)   | 6.28  | 1.65 |
| White ( <i>n</i> =35,561)  | 5.37  | 1.64 |
| Females  | 5.65  | 1.70 |
| Males  | 5.51  | 1.67 |
| Overall  | 5.59  | 1.69 |
| Discussions of socio-cultural issues<br>(possible range of scores: 6-24) |       |      |
| African American/Black ( <i>n</i> =2,649)                                | 16.72 | 4.74 |
| American Indian ( <i>n</i> =126)   | 16.02 | 4.98 |
| Asian American ( <i>n</i> =3,387)  | 15.63 | 4.58 |
| Latino/Latina ( <i>n</i> =2,126)   | 16.44 | 4.79 |
| Multiracial ( <i>n</i> =3,989)   | 17.56 | 4.64 |
| White ( <i>n</i> =35,556)  | 16.35 | 4.50 |
| Females  | 16.55 | 4.56 |
| Males  | 16.22 | 4.55 |
| Overall  | 16.42 | 4.56 |

Students' frequency of engagement in discussions of socio-cultural issues was assessed using the discussions of socio-cultural issues scale. This scale consisted of six items that asked students to report the frequency with which they interacted with people from different backgrounds and engaged in conversations about diversity and multiculturalism. The instructions for each item began with, "During interactions with other students outside of class, how often have you done each of the following in an average school year?" and provided students with four response choices: Never (1), Sometimes (2), Often (3), and Very Often (4). Scores for the discussions of socio-cultural issues scale were calculated by taking the sum of each participant's responses for the six items in the scale. Overall, the mean for respondents was 16.42 within a range of total possible scores of 6-24 ( $SD=4.56$ ). Scores among respondents also ranged from 6-24. Table 4.3 represents the mean scores and standard deviations of this measure of students' frequency of discussions of socio-cultural issues during college by race/ethnicity and by gender. In this scale Multiracial students had the highest mean, and American Indian students had the lowest.

### Testing of Hypotheses

This section will present the results of the analyses performed to test each hypothesis, based on the two research questions for this study.

#### *Predicting Understanding of Diversity*

*Hypothesis 1a:* The frequency with which undergraduate students engage in discussions of socio-cultural issues, after controlling for gender and pre-college experience with diversity, does not significantly contribute to explaining students' understanding of diversity.

A series of six linear hierarchical multiple regression analyses - one for each racial/ethnic group - were conducted to test this hypothesis. The predictor variables



included gender, pre-college experience with diversity, and the discussions of socio-cultural issues scale, and the criterion variable was the understanding of diversity scale. Multicollinearity was assessed for each racial/ethnic group. When running the linear hierarchical multiple regression analyses, variance inflation factors (VIF) were obtained for each predictor variable block. None of the VIF values for any of the predictor variables in any of the regressions exceeded a value of 1.165. According to Pallant (2005), VIF values greater than 10 are a cause for concern and indicate multicollinearity. Since all VIF values in these analyses were below the threshold of 10, it was reasonable to assume that multicollinearity was not present.

#### *African American/Black Students*

Each of the three predictor variables was entered into the regression analysis in separate blocks. Gender, a control variable, was entered in the first block, pre-college experience with diversity, the other control variable, in the second, and the discussions of socio-cultural issues scale in the third. Table 4.4 summarizes the results. This regression analysis indicated that, for African American/Black students, gender did not account for a significant amount of variance in understanding of diversity. The addition of the second block, containing pre-college experience with diversity, explained .06% of the variance cumulatively,  $R^2 = .007$ , adj.  $R^2 = .006$ ,  $R^2$  change = .007,  $p < .001$ , although pre-college experience with diversity was a negative predictor of understanding of diversity. Discussions of socio-cultural issues explained the largest proportion of variance, 9.5%,  $R^2 = .102$ , adj.  $R^2 = .101$ ,  $R^2$  change = .095,  $p < .001$ . Although pre-college experience with diversity explained a significant amount of variance in the second block, it was not significant in the third block, after discussions of socio-cultural issues was entered. This

Table 4.4

*Summary of Hierarchical Multiple Regression Equation for Predictors of Understanding of Diversity in African American/Black students (N = 2,651)*

| Regression Blocks                        | $\beta$  | $R^2$   | Adj. $R^2$ | $R^2$ Change | F (df)           |
|--|----------|---------|------------|--------------|------------------|
| <i>Block 1</i>                           |          | .000    | .000       | .000         | .015 (1, 2640)   |
| 1. Gender                                | .002     |         |            |              |                  |
| <i>Blocks 1 &amp; 2</i>                  |          | .007*** | .006       | .007***      | 9.216 (1, 2639)  |
| 1. Gender                                | -.001    |         |            |              |                  |
| 2. Pre-College Experience with Diversity | -.083*** |         |            |              |                  |
| <i>Blocks 1, 2, &amp; 3</i>              |          | .102*** | .101       | .095***      | 99.602 (1, 2638) |
| 1. Gender                                | -.011    |         |            |              |                  |
| 2. Pre-College Experience with Diversity | -.021    |         |            |              |                  |
| 3. Diversity Discussions                 | .325***  |         |            |              |                  |

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

discrepancy indicates a possibility of shared variance, and suggests that discussions of socio-cultural issues, entered in the last block, had a stronger relationship with understanding of diversity than did pre-college experience with diversity. In total, 10.1% of the variance in understanding of diversity was explained by the regression equation ( $p < .001$ ).

#### *American Indian Students*

Each of the three predictor variables was entered into the regression analysis in separate blocks, in the same order as they were for the first regression. Details of this regression analysis are presented in Table 4.5. The first and second blocks, containing the control variables, did not explain a significant amount of variance in understanding of diversity in American Indian students. However, the third block, containing the discussions of socio-cultural issues scale, explained 8.8% of the variance,  $R^2 = .108$ , adj.  $R^2 = .086$ ,  $R^2$  change = .088,  $p < .01$ . Overall, the entire regression equation explained 8.6% of the variance in understanding of diversity.

#### *Asian American Students*

Each of the three predictor variables was entered into the regression analysis in separate blocks, in the same order as they were for the previous regressions. The results of this analysis are outlined in Table 4.6. For Asian American students, being female, in the first block, contributed positively to understanding of diversity, although it explained only 0.4% of the variance,  $R^2 = .004$ , adj.  $R^2 = .04$ ,  $R^2$  change = .004,  $p < .001$ . Entering pre-college experience with diversity, in the second block, significantly added 1.4% to the total variance,  $R^2 = .019$ , adj.  $R^2 = .018$ ,  $R^2$  change = .014,  $p < .001$ . The addition of the third block, containing discussions of socio-cultural issues, significantly contributed

Table 4.5

*Summary of Hierarchical Multiple Regression Equation for Predictors of Understanding of Diversity in American Indian students (N=127)*

| Regression Blocks                        | $\beta$ | $R^2$  | Adj. $R^2$ | $R^2$ Change | F (df)          |
|--|---------|--------|------------|--------------|-----------------|
| <i>Block 1</i>                           |         |        |            |              |                 |
| 1. Gender                                | -.094   | .009   | .001       | .009         | 1.111 (1, 124)  |
| <i>Blocks 1 &amp; 2</i>                  |         | .019   | .003       | .010         | 9.216 (1, 2639) |
| 1. Gender                                | -.098   |        |            |              |                 |
| 2. Pre-College Experience with Diversity | .102    |        |            |              |                 |
| <i>Blocks 1, 2, &amp; 3</i>              |         | .108** | .086       | .088**       | 4.905 (1, 122)  |
| 1. Gender                                | -.081   |        |            |              |                 |
| 2. Pre-College Experience with Diversity | .032    |        |            |              |                 |
| 3. Diversity Discussions                 | .306**  |        |            |              |                 |

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

Table 4.6

*Summary of Hierarchical Multiple Regression Equation for Predictors of Understanding of Diversity in Asian American Students (N = 3,389)*

| Regression Blocks                             | $\beta$  | $R^2$   | Adj. $R^2$ | $R^2$ Change | F (df)            |
|---|----------|---------|------------|--------------|-------------------|
| <i>Block 1</i>                                |          | .004*** | .004       | .004***      | 14.971 (1, 3383)  |
| 1. Gender                                     | -.066*** |         |            |              |                   |
| <i>Blocks 1 &amp; 2</i>                       |          | .019*** | .018       | .014***      | 32.422 (1, 3382)  |
| 1. Gender                                     | -.057**  |         |            |              |                   |
| 2. Pre-College Experience with Diversity      | .120***  |         |            |              |                   |
| <i>Blocks 1, 2, &amp; 3</i>                   |          | .088*** | .087       | .069***      | 109.070 (1, 3381) |
| 1. Gender                                     | -.056**  |         |            |              |                   |
| 2. Pre-College Experience with Diversity      | .013     |         |            |              |                   |
| 3. Diversity Discussions                      | .284***  |         |            |              |                   |
| * $p < .05$<br>** $p < .01$<br>*** $p < .001$ |          |         |            |              |                   |

6.9% of the variance above and beyond the control variables,  $R^2 = .088$ , adj.  $R^2 = .087$ ,  $R^2$  change = .069,  $p < .001$ . As was the case with African American/Black students, pre-college experience with diversity lost its significance in the third block, after discussions of socio-cultural issues was entered. In total, 8.7% of the total variance in understanding of diversity was explained by this regression equation ( $p < .001$ ).

#### Latino/Latina Students

Each of the three predictor variables was entered into the regression analysis in separate blocks, in the same order as they were for previous regressions. Table 4.7 highlights the results. As was true of Asian American students, the first and second blocks, containing the control variables, significantly contributed to explaining proportions of the variance, but the amount of variance they explained was relatively small. Being female explained 0.3%,  $R^2 = .003$ , adj.  $R^2 = .003$ ,  $R^2$  change = .003,  $p < .01$ , and pre-college experience with diversity explained an additional 0.6%,  $R^2 = .009$ , adj.  $R^2 = .008$ ,  $R^2$  change = .006,  $p < .01$ . Discussions of socio-cultural issues, entered in the third block, explained an additional 9.8% of the variance,  $R^2 = .107$ , adj.  $R^2 = .106$ ,  $R^2$  change = .098,  $p < .001$ . Once again, pre-college experience with diversity was not significant in the third block, suggesting the presence of shared variance with discussions of socio-cultural issues; discussions of socio-cultural issues explained the greatest part of the variance that contributed to understanding of diversity. For Latino/Latina students, approximately 10.6% of the total variance in understanding of diversity was explained by the regression equation ( $p < .001$ ), although most of this variance was explained by the third block.

Table 4.7

*Summary of Hierarchical Multiple Regression Equation for Predictors of Understanding of Diversity in Latino/Latina Students (N = 2,128)*

| Regression Blocks                        | $\beta$ | $R^2$   | Adj. $R^2$ | $R^2$ Change | F (df)           |
|--|---------|---------|------------|--------------|------------------|
| <i>Block 1</i>                           |         | .003**  | .003       | .003**       | 6.927 (1, 2118)  |
| 1. Gender                                | -.057** |         |            |              |                  |
| <i>Blocks 1 &amp; 2</i>                  |         | .009*** | .008       | .006**       | 9.481 (1, 2117)  |
| 1. Gender                                | -.053*  |         |            |              |                  |
| 2. Pre-College Experience with Diversity | .075**  |         |            |              |                  |
| <i>Blocks 1, 2, &amp; 3</i>              |         | .107*** | .106       | .098***      | 84.827 (1, 2116) |
| 1. Gender                                | -.047*  |         |            |              |                  |
| 2. Pre-College Experience with Diversity | -.034   |         |            |              |                  |
| 3. Diversity Discussions                 | .332*** |         |            |              |                  |

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

### *Multiracial Students*

Each of the three predictor variables was entered into the regression analysis in separate blocks, in the same order as they were for previous regressions. The results of this analysis can be found in Table 4.8. Individually, being female explained 1.4% of the variance,  $R^2 = .014$ , adj.  $R^2 = .013$ ,  $R^2$  change = .014,  $p < .001$ , and pre-college experience with diversity was a negative predictor of 0.1% of the variance after controlling for gender,  $R^2 = .015$ , adj.  $R^2 = .014$ ,  $R^2$  change = .001,  $p < .05$ . Discussions of socio-cultural issues again explained the largest amount of variance. Discussions of socio-cultural issues, after controlling for both gender and pre-college experience with diversity, explained an additional 7.8% of the variance in understanding of diversity. In this regression equation, all three variables remained significant in the third block,  $R^2 = .093$ , adj.  $R^2 = .092$ ,  $R^2$  change = .078,  $p < .001$ . The entire regression analysis explained 9.2% of the total variance in understanding of diversity for Multiracial students.

### *White Students*

Each of the three predictor variables was entered into the regression analysis in the same order as in previous regressions. The results of this analysis can be found in Table 4.9. The regression equation revealed that for White students, being female significantly predicted only 0.4% of the variance in understanding of diversity,  $R^2 = .004$ , adj.  $R^2 = .004$ ,  $R^2$  change = .004,  $p < .001$ . The addition of pre-college experience with diversity, the second control variable, only added a small amount of variance to the portion that was explained by the first block alone, and was a negative predictor of understanding of diversity. Although significant, pre-college experience with diversity explained only 0.1% of the variance in understanding of diversity,  $R^2 = .005$ , adj.



Table 4.8

*Summary of Hierarchical Multiple Regression Equation for Predictors of Understanding of Diversity in Multiracial Students (N = 3,990)*

| Regression Blocks                        | $\beta$  | $R^2$   | Adj. $R^2$ | $R^2$ Change | F (df)            |
|--|----------|---------|------------|--------------|-------------------|
| <i>Block 1</i>                           |          | .014*** | .013       | .014***      | 55.315 (1, 3977)  |
| 1. Gender                                | -.117*** |         |            |              |                   |
| <i>Blocks 1 &amp; 2</i>                  |          | .015*** | .014       | .001*        | 30.129 (1, 3976)  |
| 1. Gender                                | -.115*** |         |            |              |                   |
| 2. Pre-College Experience with Diversity | .035*    |         |            |              |                   |
| <i>Blocks 1, 2, &amp; 3</i>              |          | .093*** | .092       | .078***      | 135.228 (1, 3975) |
| 1. Gender                                | -.103*** |         |            |              |                   |
| 2. Pre-College Experience with Diversity | -.045**  |         |            |              |                   |
| 3. Diversity Discussions                 | .290***  |         |            |              |                   |

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

Table 4.9

*Summary of Hierarchical Multiple Regression Equation for Predictors of Understanding of Diversity in White students (N = 35,568)*

| Regression Blocks                             | $\beta$  | $R^2$   | Adj. $R^2$ | $R^2$ Change | F (df)              |
|---|----------|---------|------------|--------------|---------------------|
| <i>Block 1</i>                                |          | .004*** | .004       | .004***      | 139.493 (1, 35515)  |
| 1. Gender                                     | -.063*** |         |            |              |                     |
| <i>Blocks 1 &amp; 2</i>                       |          | .005*** | .005       | .001***      | 88.329 (1, 35514)   |
| 1. Gender                                     | -.061*** |         |            |              |                     |
| 2. Pre-College Experience with Diversity      | -.032*** |         |            |              |                     |
| <i>Blocks 1, 2, &amp; 3</i>                   |          | .084*** | .084       | .079***      | 1085.073 (1, 35513) |
| 1. Gender                                     | -.054*** |         |            |              |                     |
| 2. Pre-College Experience with Diversity      | -.059*** |         |            |              |                     |
| 3. Diversity Discussions                      | .296***  |         |            |              |                     |
| * $p < .05$<br>** $p < .01$<br>*** $p < .001$ |          |         |            |              |                     |

$R^2 = .005$ ,  $R^2$  change = .001,  $p < .001$ . The third block, containing the discussions of socio-cultural issues scale, explained an additional 7.9% of the variance above and beyond the control variables,  $R^2 = .084$ , adj.  $R^2 = .084$ ,  $R^2$  change = .079,  $p < .001$ . As was the case with Multiracial students, all three predictor variables remained significant in the third block. The overall regression equation explained 8.4% of the variance in understanding of diversity ( $p < .001$ ), although discussions of socio-cultural issues ( $p < .001$ ) explained the majority of this variance.

### *Summary*

After reviewing the results from each of these six regressions, the decision was made to reject null hypothesis 1a, because discussions of socio-cultural issues explained a significant amount of variance in the levels of self-awareness for every racial/ethnic group, above and beyond the variance explained by the control variables. The amount of variance explained was small in the case of gender and pre-college experience with diversity in most of these racial/ethnic groups, but the frequency of discussions of socio-cultural issues showed substantive as well as statistical significance. These results demonstrate that students' frequency of discussions of socio-cultural issues do significantly contribute to the students' understanding of diversity. Table 4.10 presents a summary of the results of all six regressions.

Table 4.10

*Understanding of Diversity: Standardized Betas for Complete Regression Equations*

|                            | Gender   | Pre-college<br>Experience<br>With Diversity | Discussions of<br>Socio-Cultural Issues |
|----------------------------|----------|---|---|
| African American/<br>Black | -.011    | -.021                                       | .325***                                 |
| American Indian            | -.081    | .032  | .306**                                  |
| Asian American             | -.056*   | .013  | .284***                                 |
| Latino/Latina              | -.047*   | .034  | .332***                                 |
| Multiracial                | -.103*** | -.045**                                     | .290***                                 |
| White                      | -.054*** | -.059***                                    | .296***                                 |

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

### *Predicting Self-Awareness*

*Hypothesis 1b:* The frequency with which undergraduate students engage in discussions of socio-cultural issues, after controlling for gender and pre-college experience with diversity, does not significantly contribute to explaining students' self-awareness.

A series of six linear hierarchical multiple regression analyses - one for each racial/ethnic group - were conducted to test this hypothesis. The predictor variables included gender, pre-college experience with diversity, and the discussions of socio-cultural issues scale, and the criterion variable was self-awareness, which was measured using the consciousness of self scale. Since multicollinearity was assessed in the first set of regression analyses and the predictor variables for this next set of analyses were the same, multicollinearity was not a concern for any of the tests.

#### *African American/Black Students*

Each of the three predictor variables was entered into the regression analysis in separate blocks, in the same order as the previous regressions. The results of this analysis can be found in Table 4.11. For African American/Black students, this analysis revealed that gender did not account for a significant amount of variance in self-awareness. However, both pre-college experience with diversity and discussions of socio-cultural issues did significantly explain portions of the total variance. Pre-college experience with diversity, in the second block, contributed 3.7% of the variance,  $R^2 = .037$ , adj.  $R^2 = .036$ ,  $R^2$  change = .037,  $p < .001$ , and remained significant in the third block. Discussions of socio-cultural issues contributed an additional 4.5% of the variance,  $R^2 = .082$ , adj.  $R^2 = .081$ ,  $R^2$  change = .045,  $p < .001$ . Overall, the entire regression equation explained approximately 8.1% of the variance in self-awareness ( $p < .001$ ).

Table 4.11

*Summary of Hierarchical Multiple Regression Equation for Predictors of Self-Awareness in African American/Black Students (N = 2,651)*

| Regression Blocks                             | $\beta$ | $R^2$   | Adj. $R^2$ | $R^2$ Change | F (df)           |
|---|---------|---------|------------|--------------|------------------|
| <i>Block 1</i>                                |         | .000    | .000       | .000         | .446 (1, 2638)   |
| 1. Gender                                     | -.013   |         |            |              |                  |
| <i>Blocks 1 &amp; 2</i>                       |         | .037*** | .036       | .037***      | 50.431 (1, 2637) |
| 1. Gender                                     | -.022   |         |            |              |                  |
| 2. Pre-College Experience with Diversity      | .192*** |         |            |              |                  |
| <i>Blocks 1, 2, &amp; 3</i>                   |         | .082*** | .081       | .045***      | 78.333 (1, 2636) |
| 1. Gender                                     | -.029   |         |            |              |                  |
| 2. Pre-College Experience with Diversity      | .119*** |         |            |              |                  |
| 3. Diversity Discussions                      | .224*** |         |            |              |                  |
| * $p < .05$<br>** $p < .01$<br>*** $p < .001$ |         |         |            |              |                  |

### *American Indian Students*

Each of the three predictor variables was entered into the regression analysis in separate blocks, in the same order as the previous regressions. Table 4.12 presents a summary of these results. The first block, containing gender, was not significant. The addition of the second block containing pre-college experience with diversity, explained 5.6% of the variance,  $R^2 = .062$ , adj.  $R^2 = .046$ ,  $R^2$  change = .065,  $p < .05$ . When entered in the third block, discussions of socio-cultural issues explained an additional 6% of the variance, above and beyond the variance explained by pre-college experience with diversity,  $R^2 = .122$ , adj.  $R^2 = .100$ ,  $R^2$  change = .060,  $p < .01$ . Pre-college experience with diversity and discussions of socio-cultural issues were both significant in the third block. The entire regression equation explained approximately 10% of the variance in self-awareness for American Indian students.

### *Asian American Students*

Each of the three predictor variables was entered into the regression analysis in separate blocks, in the same order as the previous regressions. The results of this analysis can be found in Table 4.13. The first block, which consisted of gender, although significant, only explained 0.2% of the variance,  $R^2 = .002$ , adj.  $R^2 = .001$ ,  $R^2$  change = .002,  $p < .05$ . The addition of the second block, containing pre-college experience with diversity, explained an additional 6.1% of the variance,  $R^2 = .063$ , adj.  $R^2 = .062$ ,  $R^2$  change = .061,  $p < .001$ . Discussions of socio-cultural issues, when entered in the third block after controlling for both gender and pre-college experience with diversity, contributed an additional 8.9% of the variance in self-awareness. Although being female was significant in the first block, it lost its significance in the second block. For Asian

Table 4.12

*Summary of Hierarchical Multiple Regression Equation for Predictors of Self-Awareness in American Indian Students (N=127)*

| Regression Blocks                             | $\beta$ | $R^2$  | Adj. $R^2$ | $R^2$ Change | F (df)         |
|---|---------|--------|------------|--------------|----------------|
| <i>Block 1</i>                                |         |        |            |              |                |
| 1. Gender                                     | -.076   | .006   | -.002      | .006         | .720 (1, 124)  |
| <i>Blocks 1 &amp; 2</i>                       |         | .062*  | .046       | .056**       | 4.033 (1, 123) |
| 1. Gender                                     | -.084   |        |            |              |                |
| 2. Pre-College Experience with Diversity      | .236**  |        |            |              |                |
| <i>Blocks 1, 2, &amp; 3</i>                   |         | .122** | .100       | .060**       | 5.627 (1, 122) |
| 1. Gender                                     | -.070   |        |            |              |                |
| 2. Pre-College Experience with Diversity      | .178*   |        |            |              |                |
| 3. Diversity Discussions                      | .252**  |        |            |              |                |
| * $p < .05$<br>** $p < .01$<br>*** $p < .001$ |         |        |            |              |                |



Table 4.13

*Summary of Hierarchical Multiple Regression Equation for Predictors of Self-Awareness in Asian American Students (N = 3,389)*

| Regression Blocks                        | $\beta$ | $R^2$   | Adj. $R^2$ | $R^2$ Change | F (df)            |
|--|---------|---------|------------|--------------|-------------------|
| <i>Block 1</i>                           |         | .002*   | .001       | .002*        | 5.235 (1, 3375)   |
| 1. Gender                                | -.039*  |         |            |              |                   |
| <i>Blocks 1 &amp; 2</i>                  |         | .063*** | .062       | .061***      | 112.722 (1, 3374) |
| 1. Gender                                | -.020   |         |            |              |                   |
| 2. Pre-College Experience with Diversity | .248*** |         |            |              |                   |
| <i>Blocks 1, 2, &amp; 3</i>              |         | .151*** | .151       | .089***      | 200.607 (1, 3373) |
| 1. Gender                                | -.019   |         |            |              |                   |
| 2. Pre-College Experience with Diversity | .127*** |         |            |              |                   |
| 3. Diversity Discussions                 | .322*** |         |            |              |                   |

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

American students, this regression equation explained approximately 15.1% of the total variance in self-awareness.

#### *Latino/Latina Students*

Each of the three predictor variables was entered into the regression analysis in separate blocks, in the same order as the previous regressions. The results of this analysis are presented in Table 4.14. As was the case with African American/Black and American Indian students, gender was not significantly associated with self-awareness. Pre-college experience with diversity, entered in the second block, independently explained 4.8% of the variance,  $R^2 = .048$ , adj.  $R^2 = .047$ ,  $R^2$  change = .048,  $p < .001$ , and remained significant in the third block. When entered in the third block, discussions of socio-cultural issues explained 6.1% of the variance, after controlling for gender and pre-college experience with diversity,  $R^2 = .109$ , adj.  $R^2 = .108$ ,  $R^2$  change = .061,  $p < .001$ . Overall, the entire regression equation explained approximately 10.8% of the variance in self-awareness.

#### *Multiracial Students*

Each of the three predictor variables was entered into the regression analysis in separate blocks, in the same order as the previous regressions. The results of this analysis are outlined in Table 4.15. This regression analysis explained approximately 9.5% of the total variance in self-awareness for Multiracial students. Gender, the control variable in the first block, although a significant contributor to the total variance (being female contributed positively to self-awareness), only explained 0.4%,  $R^2 = .004$ , adj.  $R^2 = .003$ ,  $R^2$  change = .004,  $p < .001$ . Pre-college experience with diversity, entered in the second block, significantly explained an additional 2.9% of the variance,  $R^2 = .033$ , adj.  $R^2 =$

Table 4.14

*Summary of Hierarchical Multiple Regression Equation for Predictors of Self-Awareness in Latino/Latina Students (N = 2,128)*

| Regression Blocks                             | $\beta$ | $R^2$   | Adj. $R^2$ | $R^2$ Change | F (df)           |
|---|---------|---------|------------|--------------|------------------|
| <i>Block 1</i>                                |         | .000    | .000       | .000         | .868 (1, 2116)   |
| 1. Gender                                     | -.020   |         |            |              |                  |
| <i>Blocks 1 &amp; 2</i>                       |         | .048*** | .047       | .048***      | 53.547 (1, 2115) |
| 1. Gender                                     | -.008   |         |            |              |                  |
| 2. Pre-College Experience with Diversity      | .219*** |         |            |              |                  |
| <i>Blocks 1, 2, &amp; 3</i>                   |         | .109*** | .108       | .061***      | 86.245 (1, 2114) |
| 1. Gender                                     | -.004   |         |            |              |                  |
| 2. Pre-College Experience with Diversity      | .133*** |         |            |              |                  |
| 3. Diversity Discussions                      | .261*** |         |            |              |                  |
| * $p < .05$<br>** $p < .01$<br>*** $p < .001$ |         |         |            |              |                  |

Table 4.15

*Summary of Hierarchical Multiple Regression Equation for Predictors of Self-Awareness in Multiracial Students (N = 3,990)*

| Regression Blocks                             | $\beta$  | $R^2$   | Adj. $R^2$ | $R^2$ Change | F (df)            |
|---|----------|---------|------------|--------------|-------------------|
| <i>Block 1</i>                                |          | .004*** | .003       | .004***      | 14.542 (1, 3980)  |
| 1. Gender                                     | -.060*** |         |            |              |                   |
| <i>Blocks 1 &amp; 2</i>                       |          | .033*** | .032       | .029***      | 67.257 (1, 3979)  |
| 1. Gender                                     | -.048**  |         |            |              |                   |
| 2. Pre-College Experience with Diversity      | .171***  |         |            |              |                   |
| <i>Blocks 1, 2, &amp; 3</i>                   |          | .096*** | .095       | .063***      | 140.118 (1, 3978) |
| 1. Gender                                     | -.037*   |         |            |              |                   |
| 2. Pre-College Experience with Diversity      | .099***  |         |            |              |                   |
| 3. Diversity Discussions                      | .261***  |         |            |              |                   |
| * $p < .05$<br>** $p < .01$<br>*** $p < .001$ |          |         |            |              |                   |

.032,  $R^2$  change = .029,  $p < .001$ . Discussions of socio-cultural issues, entered in the third block, independently contributed 6.3% of the variance, above and beyond the variance explained by the control variables. All three predictor variables were significant in the third block. The entire regression analysis cumulatively explained approximately 9.5% of the total variance in self-awareness ( $p < .001$ ).

#### *White Students*

Each of the three predictor variables was again entered into the regression analysis in the same order as in previous equations. The results of this analysis are presented in Table 4.16. Although significant, gender alone (being female) explained only a very small portion of the variance, 0.1%,  $R^2 = .001$ , adj.  $R^2 = .001$ ,  $R^2$  change = .001,  $p < .001$ . Entering the second block, which contained pre-college experience with diversity, contributed an additional 2.9% of variance,  $R^2 = .030$ , adj.  $R^2 = .030$ ,  $R^2$  change = .029,  $p < .001$ . Discussions of socio-cultural issues, in the third block, accounted for an additional 5.4% of the variance in self-awareness, above and beyond the variance explained by gender and pre-college experience with diversity. As was the case with Multiracial students, all three predictor variables were significant in the third block. Overall, for White students, this regression equation accounted for 8.4% of the variance in self-awareness ( $p < .001$ ).

#### *Summary*

After reviewing the results from each of these six regressions, the decision was made to reject null hypothesis 1b, because discussions of socio-cultural issues explained a significant amount of variance in the levels of self-awareness for every racial/ethnic group, above and beyond the variance explained by the control variables. As was the case

Table 4.16

*Summary of Hierarchical Multiple Regression Equation for Predictors of Self-Awareness in White Students (N = 35,568)*

| Regression Blocks                             | $\beta$  | $R^2$   | Adj. $R^2$ | $R^2$ Change | F (df)              |
|---|----------|---------|------------|--------------|---------------------|
| <i>Block 1</i>                                |          | .001*** | .001       | .001***      | 31.377 (1, 35516)   |
| 1. Gender                                     | -.030*** |         |            |              |                     |
| <i>Blocks 1 &amp; 2</i>                       |          | .030*** | .030       | .029***      | 543.601 (1, 35515)  |
| 1. Gender                                     | -.024*** |         |            |              |                     |
| 2. Pre-College Experience with Diversity      | .170***  |         |            |              |                     |
| <i>Blocks 1, 2, &amp; 3</i>                   |          | .084*** | .084       | .054***      | 1087.994 (1, 35514) |
| 1. Gender                                     | -.018**  |         |            |              |                     |
| 2. Pre-College Experience with Diversity      | .094***  |         |            |              |                     |
| 3. Diversity Discussions                      | .246***  |         |            |              |                     |
| * $p < .05$<br>** $p < .01$<br>*** $p < .001$ |          |         |            |              |                     |

with the first hypothesis, gender explained little or no variance in levels of self-awareness, as measured by the consciousness of self scale. Discussions of socio-cultural issues had a substantively as well as statistically significant relationship to respondents' self-awareness. Students' pre-college experiences with diversity also had a significant effect on self-awareness. Table 4.17 presents a summary of the results of all six regressions.

Table 4.17

*Self-Awareness: Standardized Betas for Complete Regression Equations*

|                            | Gender  | Pre-college<br>Experience<br>With Diversity | Discussions of<br>Socio-Cultural Issues |
|----------------------------|---------|---|---|
| African American/<br>Black | -.029   | .119***                                     | .224***                                 |
| American Indian            | -.070   | .178*                                       | .252**                                  |
| Asian American             | -.019   | .127***                                     | .322***                                 |
| Latino/Latina              | -.004   | .133***                                     | .261***                                 |
| Multiracial                | -.037*  | .099***                                     | .261***                                 |
| White                      | -.018** | .094***                                     | .246***                                 |

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$



### *Differences in Frequency of Discussions of Socio-Cultural Issues*

*Hypothesis 2:* There are no differences by gender or race/ethnicity in students' frequency of engagement in discussions of socio-cultural issues during college.

A univariate two-way analysis of variance (ANOVA) was conducted to test this hypothesis, using gender and race/ethnicity as independent variables and discussions of socio-cultural issues as the dependent variable.

#### *Differences by Race/Ethnicity and Gender*

In this two-way ANOVA, the main effect for gender was not significant, but a statistically significant main effect for race,  $F(5, 47817) = 68.59, p < .001$ , was obtained. However, because a statistically significant interaction effect for gender and race/ethnicity,  $F(5, 47817) = 4.03, p < .01$ , was also present, the main effect for race was not analyzed. Likely due in part to the large sample used for this study, the interaction effect size was small (partial eta squared = .000), indicating that the actual differences in the values were minimal. However, Trusty, Thompson, and Petrocelli (2004) noted that "small effect sizes for very important outcomes can be extremely important, as long as they are replicable" (p. 109). Therefore, because the interaction effect was significant, a series of one-way analyses of variance (ANOVA) were performed to examine where the differences are, but these results should be interpreted cautiously due to the possibility that they might have little practical significance.

*Differences by race/ethnicity.* First, two one-way analyses of variance (ANOVA) were conducted – one for females alone and one for males alone - to further examine the possible differences in frequency of discussions of socio-cultural issues by race/ethnicity. There was a statistically significant difference in total scores by race/ethnicity,  $F(5,$

29636) = 49.59,  $p < .001$ , for female students, although the effect size was small (partial eta squared = .008).

Next, post hoc comparisons using the Tukey HSD test were conducted to examine where the significant differences were. Table 4.18 contains the results of the first ANOVA and the post hoc comparisons for females, by race/ethnicity. This test indicated that the total mean score for female Multiracial students on the discussions of socio-cultural issues scale ( $M=17.77$ ,  $SD=4.65$ ) was statistically significantly higher than the mean scores for all other racial/ethnic groups: American Indian female students ( $M=16.20$ ,  $SD=5.17$ ), Asian American female students ( $M=15.75$ ,  $SD=4.56$ ), African American/Black female students ( $M=16.58$ ,  $SD=4.79$ ), Latina students ( $M=16.56$ ,  $SD=4.83$ ), and White female students ( $M=16.48$ ,  $SD=4.49$ ). In contrast, Asian American female students had statistically significantly lower scores than most other racial/ethnic groups, specifically White female students, African American/Black female students, Latina students, and Multiracial female students.

The second ANOVA, which measured differences in frequency of discussions of socio-cultural issues for males, by race/ethnicity, produced statistically significant difference in scores by race/ethnicity,  $F(5, 18181) = 27.62$ ,  $p < .001$ , although the effect size was small (partial eta squared = .008). Again, post hoc comparisons using the Tukey HSD test were conducted to examine where the significant differences were for males. Table 4.19 presents the results of the ANOVA and post hoc comparisons for males. This test indicated that the total mean score for African American/Black males ( $M=17.06$ ,  $SD=4.62$ ) was statistically significantly higher than the mean score for Asian American males ( $M=15.46$ ,  $SD=4.60$ ), Latino males ( $M=16.20$ ,  $SD=4.71$ ), and White males

Table 4.18

*Multiple Comparison Tests for Females: Differences in Frequency of Discussions of Socio-Cultural issues by Race/Ethnicity (N=29,642)*

| Race/ethnicity                          | Mean                | SD   | F(df)            | p    |
|---|---------------------|------|------------------|------|
| African American/<br>Black<br>(n=1,878) | 16.58 <sup>ac</sup> | 4.79 | 49.59 (5, 29636) | .000 |
| American Indian<br>(n=82)               | 16.20 <sup>c</sup>  | 5.17 |                  |      |
| Asian American<br>(n=1,977)             | 15.75 <sup>b</sup>  | 4.56 |                  |      |
| Latina<br>(n=1,381)                     | 16.56 <sup>ac</sup> | 4.83 |                  |      |
| Multiracial<br>(n=2,519)                | 17.77 <sup>ad</sup> | 4.65 |                  |      |
| White<br>(n=21,805)                     | 16.48 <sup>ac</sup> | 4.49 |                  |      |
| Total<br>(n=29,642)                     | 16.55               | 4.56 |                  |      |

*a = significantly different ( $p < .001$ ) than means with superscript b*

*c = significantly different ( $p < .001$ ) than means with superscript d*

Partial eta squared (effect size) = .008

Note: Discussions of socio-cultural issues scores ranged from 6-24

Table 4.19

*Multiple Comparison Tests for Males: Differences in Frequency of Discussions of Socio-Cultural issues by Race/Ethnicity (N=18,187)*

| Race/ethnicity                        | Mean                 | SD   | F(df)            | p    |
|---------------------------------------|----------------------|------|------------------|------|
| African American/<br>Black<br>(n=771) | 17.06 <sup>ade</sup> | 4.62 | 27.62 (5, 18181) | .000 |
| American Indian<br>(n=44)             | 15.70                | 4.66 |                  |      |
| Asian American<br>(n=1,410)           | 15.46                | 4.60 |                  |      |
| Latino<br>(n=744)                     | 16.20 <sup>d</sup>   | 4.71 |                  |      |
| Multiracial<br>(n=1,469)              | 17.19 <sup>ade</sup> | 4.60 |                  |      |
| White<br>(n=13,749)                   | 16.14 <sup>d</sup>   | 4.51 |                  |      |
| Total<br>(n=18,187)                   | 16.21                | 4.55 |                  |      |

*a = significantly higher than White*

*b = significantly higher than African American/Black*

*c = significantly higher than American Indian*

*d = significantly higher than Asian American*

*e = significantly higher than Latino*

Partial eta squared (effect size) = .008

Note: Discussions of socio-cultural issues scores ranged from 6-24

( $M=16.14$ ,  $SD=4.51$ ). Asian American males, conversely, had a mean score that was statistically significantly lower than that of African American/Black males, Latino males, Multiracial males ( $M=17.19$ ,  $SD=4.60$ ), and White males. Additionally, Multiracial males had a mean score that was statistically significantly higher than that of Asian American males, Latino males, and White males.

*Differences by gender.* Six one-way analyses of variance (ANOVA) were conducted – one for each racial group - to further examine the relationship between gender and the frequency of discussions of socio-cultural issues. Table 4.20 contains the results of these tests, which measured differences in frequency of discussions of socio-cultural issues for each racial/ethnic group, by gender. There were statistically significant differences in scores by gender for three of the racial/ethnic groups. For African American/Black students,  $F(1, 2647) = 5.63$ ,  $p=.018$ , males reported higher frequencies of discussions than did females, whereas for Multiracial students,  $F(1, 3986) = 14.27$ ,  $p=.000$ , and White students,  $F(1, 35552) = 47.55$ ,  $p=.000$ , females reported higher frequencies than males. However, the effect size for each was small once again. Partial eta squared values were, .002, .004, and .001 respectively.

After reviewing the results from each of these analyses, the decision was made to reject null Hypothesis 2 corresponding to the second research question, because statistically significant differences by race/ethnicity and gender were found in the frequency of discussions of socio-cultural issues.

#### Additional Analyses

Analyzing the results of the tests discussed above led to further questioning of possible differences in the outcome variables by gender and among racial/ethnic groups.

Table 4.20

*ANOVA Results for Each Racial/Ethnic Group for Differences in Frequency of Discussions of Socio-Cultural issues by Gender*

| Race/ethnicity         | Mean  | SD   | F(df)           | p       |
|------------------------|-------|------|-----------------|---------|
| African American/Black |       |      |                 |         |
| Female (n=1,878)       | 16.58 | 4.79 | 5.63(1, 2647)   | .018*   |
| Male (n=771)           | 17.06 | 4.62 |                 |         |
| Total (N=2,649)        | 16.72 | 4.74 |                 |         |
| American Indian        |       |      |                 |         |
| Female (n=82)          | 16.20 | 5.17 | .27(1, 124)     | .600    |
| Male (n=44)            | 15.70 | 4.66 |                 |         |
| Total (N=126)          | 16.02 | 4.98 |                 |         |
| Asian American         |       |      |                 |         |
| Female (n=1,977)       | 15.75 | 4.56 | 3.33(1, 3385)   | .068    |
| Male (n=1,410)         | 15.46 | 4.60 |                 |         |
| Total (N=3,387)        | 15.63 | 4.58 |                 |         |
| Latino/Latina          |       |      |                 |         |
| Female (n=1,381)       | 16.56 | 4.83 | 2.67(1, 2123)   | .102    |
| Male (n=744)           | 16.20 | 4.71 |                 |         |
| Total (N=2,125)        | 16.43 | 4.79 |                 |         |
| Multiracial            |       |      |                 |         |
| Female (n=2,519)       | 17.77 | 4.65 | 14.27(1, 3986)  | .000*** |
| Male (n=1,469)         | 17.19 | 4.60 |                 |         |
| Total (N=3,988)        | 17.56 | 4.64 |                 |         |
| White                  |       |      |                 |         |
| Female (n=21,805)      | 16.48 | 4.49 | 47.55(1, 35552) | .000*** |
| Male (n=13,749)        | 16.14 | 4.51 |                 |         |
| Total (N=35,554)       | 16.35 | 4.50 |                 |         |

\*  $p < .05$  \*\*\*  $p < .001$

Note: Discussions of Socio-Cultural Issues scores ranged from 6-24

Partial eta squared (effect size) for African American/Black = .002

Partial eta squared (effect size) for American Indian = .002

Partial eta squared (effect size) for Asian American = .001

Partial eta squared (effect size) for Latino/Latina = .001

Partial eta squared (effect size) for Multiracial = .004

Partial eta squared (effect size) for White = .001

In order to further explore these potential differences, an additional univariate two-way analysis of variance (ANOVA) was conducted for each of the two outcome variables – understanding of diversity and self-awareness - to compare differences in scores. Gender and race/ethnicity were used as independent variables.

### *Understanding of Diversity*

In this ANOVA, statistically significant main effects for both gender,  $F(1, 47788) = 15.58, p < .001$ , and for race/ethnicity,  $F(5, 47788) = 357.97, p < .001$ , were obtained. However, because of the presence of a statistically significant interaction effect for gender and race/ethnicity,  $F(5, 47788) = 5.45, p < .001$ , only the interaction effect was further analyzed. Again, likely due in part to the large sample used for this study, the effect size was small (partial eta squared = .001), indicating that the actual differences in the values were minimal. However, because of the significant interaction effect, further one-way analyses of variance (ANOVA) were performed, but should be interpreted with caution.

*Differences by race/ethnicity.* First, two one-way analyses of variance (ANOVA) were conducted – one for females alone and one for males alone - to further examine the relationship between race/ethnicity and the frequency of discussions of socio-cultural issues. There was a statistically significant difference in scores by race/ethnicity,  $F(5, 29610) = 257.324, p < .001$ , for female students, with a medium effect size (partial eta squared = .042). Next, post hoc comparisons using the Tukey HSD test were conducted to examine where the significant differences were. This test revealed that the total mean score for White female students on the understanding of diversity scale ( $M=8.12, SD=1.67$ ) was statistically significantly lower than the mean scores for all other female

racial/ethnic groups. Both African American/Black females ( $M=9.13$ ,  $SD=1.71$ ) and Latino females ( $M=9.13$ ,  $SD=1.77$ ) had statistically significantly higher mean scores than Asian American females ( $M=8.80$ ,  $SD=1.69$ ), Multiracial females ( $M=8.60$ ,  $SD=1.84$ ), and White females. Asian American females had scores that were statistically significantly higher than both Multiracial and White female students. Table 4.21 contains the results of these multiple comparison tests.

Next, a one-way analysis of variance (ANOVA) was conducted for males. There was a statistically significant difference in scores by race/ethnicity,  $F(5, 18178) = 137.282$ ,  $p < .001$ , for male students as well, with a medium effect size (partial eta squared = .036). Post hoc comparisons using the Tukey HSD test were conducted to examine where the significant differences were. This test revealed that the total mean score for White male students on the understanding of diversity scale ( $M=7.90$ ,  $SD=1.74$ ) was statistically significantly lower than the mean scores for African American/Black males ( $M=9.14$ ,  $SD=1.78$ ), Asian American males ( $M=8.56$ ,  $SD=1.81$ ). Latino males ( $M=8.91$ ,  $SD=1.93$ ), and Multiracial males ( $M=8.14$ ,  $SD=1.97$ ). Similar to the pattern that emerged with females, both African American/Black and Latino males had statistically significantly higher mean scores than Asian American, Multiracial, and White males. Additionally, Asian American males had statistically significantly higher scores than Multiracial and White males. Table 4.22 shows the results of these multiple comparison tests.

*Differences by gender.* Next, six one-way analyses of variance (ANOVA) were conducted – one for each racial group - to further examine potential differences in understanding of diversity by gender. Table 4.23 contains the results of these tests, which



Table 4.21

*Multiple Comparison Tests for Females: Differences in Understanding of Diversity by Race/Ethnicity (N=29,616)*

| Race/ethnicity                          | Mean                 | SD   | F(df)              | p    |
|---|----------------------|------|--------------------|------|
| African American/<br>Black<br>(n=1,876) | 9.13 <sup>be</sup>   | 1.71 | 257.324 (5, 29610) | .000 |
| American Indian<br>(n=83)               | 8.86 <sup>d</sup>    | 1.40 |                    |      |
| Asian American<br>(n=1,976)             | 8.80 <sup>bfgi</sup> | 1.69 |                    |      |
| Latino<br>(n=1,377)                     | 9.13 <sup>bhk</sup>  | 1.77 |                    |      |
| Multiracial<br>(n=2,515)                | 8.60 <sup>bflj</sup> | 1.84 |                    |      |
| White<br>(n=21,789)                     | 8.12 <sup>ac</sup>   | 1.67 |                    |      |
| Total<br>(n=29,616)                     | 8.31                 | 1.73 |                    |      |

*a = significantly different ( $p < .001$ ) than means with superscript b*

*c = significantly different ( $p < .01$ ) than means with superscript d*

*e = significantly different ( $p < .001$ ) than means with superscript f*

*g = significantly different ( $p < .001$ ) than means with superscript h*

*i = significantly different ( $p < .01$ ) than means with superscript j*

*k = significantly different ( $p < .001$ ) than means with superscript l*

Partial eta squared (effect size) = .042

Note: Understanding of diversity scores ranged from 4-12

Table 4.22

*Multiple Comparison Tests for Males: Differences in Understanding of Diversity by Race/Ethnicity (N=18,184)*

| Race/ethnicity                        | Mean                 | SD   | F(df)              | p    |
|---------------------------------------|----------------------|------|--------------------|------|
| African American/<br>Black<br>(n=770) | 9.14 <sup>bc</sup>   | 1.78 | 137.282 (5, 18184) | .000 |
| American Indian<br>(n=44)             | 8.59                 | 1.57 |                    |      |
| Asian American<br>(n=1,411)           | 8.56 <sup>bde</sup>  | 1.81 |                    |      |
| Latino<br>(n=746)                     | 8.91 <sup>bfg</sup>  | 1.93 |                    |      |
| Multiracial<br>(n=1,466)              | 8.14 <sup>bdgh</sup> | 1.97 |                    |      |
| White<br>(n=13,747)                   | 7.90 <sup>a</sup>    | 1.74 |                    |      |
| Total<br>(n=18,184)                   | 8.07                 | 1.81 |                    |      |

*a = significantly different ( $p < .001$ ) than means with superscript b*

*c = significantly different ( $p < .001$ ) than means with superscript d*

*e = significantly different ( $p < .001$ ) than means with superscript f*

*g = significantly different ( $p < .001$ ) than means with superscript h*

Partial eta squared (effect size) = .036

Note: Understanding of diversity scores ranged from 4-12

Table 4.23

*ANOVA Results for each Racial/Ethnic Group for Differences in Understanding of Diversity Scores by Gender*

| Race/ethnicity         | Mean | SD   | F(df)              | p       |
|------------------------|------|------|--------------------|---------|
| African American/Black |      |      |                    |         |
| Female (n=1,876)       | 9.13 | 1.71 | .016 (1, 2644)     | .899    |
| Male (n=770)           | 9.14 | 1.78 |                    |         |
| Total (N=2,646)        | 9.13 | 1.73 |                    |         |
| American Indian        |      |      |                    |         |
| Female (n=83)          | 8.86 | 1.40 | .942 (1, 125)      | .334    |
| Male (n=44)            | 8.59 | 1.57 |                    |         |
| Total (N=127)          | 8.76 | 1.46 |                    |         |
| Asian American         |      |      |                    |         |
| Female (n=1,976)       | 8.80 | 1.69 | 14.963 (1, 3385)   | .000*** |
| Male (n=1,411)         | 8.56 | 1.81 |                    |         |
| Total (N=3,387)        | 8.70 | 1.74 |                    |         |
| Latino                 |      |      |                    |         |
| Female (n=1,377)       | 9.13 | 1.77 | 6.573 (1, 2121)    | .010*   |
| Male (n=746)           | 8.91 | 1.93 |                    |         |
| Total (N=2,123)        | 9.05 | 1.83 |                    |         |
| Multiracial            |      |      |                    |         |
| Female (n=2,515)       | 8.60 | 1.84 | 54.560 (1, 3979)   | .000*** |
| Male (n=1,466)         | 8.14 | 1.97 |                    |         |
| Total (N=3,981)        | 8.43 | 1.90 |                    |         |
| White                  |      |      |                    |         |
| Female (n=21,789)      | 8.12 | 1.67 | 138.910 (1, 35534) | .000*** |
| Male (n=13,747)        | 7.90 | 1.7  |                    |         |
| Total (N=35,536)       | 8.04 | 1.70 |                    |         |

\* $p < .05$     \*\*\* $p < .001$

Note: Understanding of diversity scores ranged from 4-12

Partial eta squared (effect size) for Asian American = .004

Partial eta squared (effect size) for Latino = .003

Partial eta squared (effect size) for Multiracial = .014

Partial eta squared (effect size) for White = .004

measured differences in understanding of diversity scores for each racial/ethnic group, by gender. There were statistically significant differences in scores by gender for Asian American students,  $F(1, 3385) = 14.963, p = .000$ , Latino/Latina students,  $F(1, 2121) = 6.573, p = .010$ , Multiracial students,  $F(1, 3979) = 54.560, p = .000$ , and White students,  $F(1, 35554) = 138.910, p = .000$ , although the effect size for each was small, once again: partial eta squared values were .004, .003, .014, and .004, respectively. For each of these racial/ethnic groups, females reported higher scores than males.

### *Self-Awareness*

*Differences by race/ethnicity and gender.* In this ANOVA, there was not a significant interaction effect. Because Levene's Test of Equality of Error Variances was significant ( $p < .001$ ), a more conservative significance level was set in interpreting the ANOVA results. Therefore, the main effect for gender ( $p < .05$ ) was not examined further because its significance level did not meet the more conservative  $p < .01$  criteria.

However a statistically significant main effect for race/ethnicity,  $F(5, 47780) = 86.582, p < .001$ , was obtained. Again, likely due in part to the large sample used for this study, the effect size was small (partial eta squared = .009), indicating that the actual differences in the values were minimal. Post hoc multiple comparison tests were performed to explore this main effect, but should be interpreted with caution.

In order to further assess the differences in self-awareness among the different racial/ethnic groups, a one-way analysis of variance (ANOVA) was conducted. There was a statistically significant difference in scores by race/ethnicity,  $F(5, 47790) = 91.862, p < .001$ , with a small effect size (partial eta squared = .010). Next, post hoc comparisons using the Tukey HSD test were conducted to examine where the significant

differences were. This test revealed that the total mean score for African American/Black students on the self-awareness scale ( $M=36.37$ ,  $SD=4.70$ ) was statistically significantly higher than the mean scores for Asian American ( $M=34.14$ ,  $SD=4.86$ ), Latino/Latina ( $M=35.63$ ,  $SD=4.68$ ), Multiracial ( $M=35.91$ ,  $SD=4.67$ ), and White ( $M=35.70$ ,  $SD=4.46$ ) students. In contrast, Asian American students had scores that were statistically significantly lower than the scores of any other racial group, including American Indian students ( $M=35.87$ ,  $SD=4.45$ ). Both African American/Black students ( $M=9.13$ ,  $SD=1.71$ ) and Latino students ( $M=9.13$ ,  $SD=1.77$ ) had statistically significantly higher mean scores than Asian American students ( $M=8.80$ ,  $SD=1.69$ ), Multiracial students ( $M=8.60$ ,  $SD=1.84$ ), and White students. Table 4.24 summarizes these results.

### Summary

This chapter presented the results of the analyses that were conducted to address the two research questions that guided this study. Null hypothesis 1a was rejected because discussions of socio-cultural issues explained a significant amount of variance in the levels of understanding of diversity for every racial/ethnic group, above and beyond the variance explained by the control variables. Similarly, null hypothesis 1b was also rejected because discussions of socio-cultural issues explained a significant amount of variance in the levels of self-awareness for every racial/ethnic group, above and beyond the variance explained by the control variables. Null hypothesis 2 was also rejected because statistically significant differences by race and gender in the frequency of discussions of socio-cultural issues were found. Chapter 5 will discuss some of the implications for these findings, and suggest future directions for research.

Table 4.24

*Multiple Comparison Tests: Differences in Self-Awareness by Race/Ethnicity (N=47,796)*

| Race/ethnicity                          | Mean                | SD   | F(df)             | p    |
|---|---------------------|------|-------------------|------|
| African American/<br>Black<br>(n=2,644) | 36.37 <sup>a</sup>  | 4.70 | 91.862 (5, 47790) | .000 |
| American Indian<br>(n=127)              | 35.87 <sup>ec</sup> | 4.45 |                   |      |
| Asian American<br>(n=3,379)             | 34.14 <sup>bd</sup> | 4.86 |                   |      |
| Latino<br>(n=2,122)                     | 35.63 <sup>bc</sup> | 4.68 |                   |      |
| Multiracial<br>(n=3,985)                | 35.91 <sup>bc</sup> | 4.67 |                   |      |
| White<br>(n=35,539)                     | 35.70 <sup>bc</sup> | 4.46 |                   |      |
| Total<br>(n=47,796)                     | 35.64               | 4.55 |                   |      |

*a = significantly different ( $p < .001$ ) than means with superscript b*

*c = significantly different ( $p < .01$ ) than means with superscript d*

Partial eta squared (effect size) = .010

Note: Self-awareness scores ranged from 5-45

## CHAPTER 5

### DISCUSSION

The primary purpose of this study was to explore the relationships between students' frequency of engagement in discussions of socio-cultural issues during college and their levels of self-awareness and understanding of diversity. The following research questions guided this study:

1. How much of the variance in students' levels of understanding of diversity and self-awareness is explained by the frequency with which undergraduate students engage in discussions of socio-cultural issues during college, by race/ethnicity, after controlling for gender and pre-college experience with diversity?
2. What, if any, racial/ethnic or gender differences exist in students' frequency of discussions of socio-cultural issues in college?

This chapter will present a summary and discussion of the results of the statistical analyses conducted to address the hypotheses associated with the two research questions, as well as the results of several additional tests that were performed post hoc to explore racial/ethnic and gender differences in students' understanding of diversity and self-awareness. Limitations of the study will then be discussed. Finally, I will discuss implications for professional practice and offer suggestions for future research.

#### Summary and Discussion of Findings

The tests conducted as a part of this study revealed a number of significant results, indicating that all three null hypotheses should be rejected. This section will summarize and discuss the results of the analyses performed to test each hypothesis.

### *Predicting Understanding of Diversity*

Six hierarchical multiple regressions were performed – one for each racial/ethnic group – to determine the amount of variance explained, collectively and independently, by three variables. These regressions revealed the degree of association between the control variables (race/ethnicity and gender) and discussions of socio-cultural issues, and understanding of diversity. Hypothesis 1a was rejected, because discussions of socio-cultural issues explained a significant amount of variance in the levels of understanding of diversity in each analysis, above and beyond that explained by the control variables, and each of the six regression equations were found to be significant overall. The discussion that follows relates to the differences and similarities in the results among racial/ethnic groups.

*Gender.* Previous studies have identified gender as a significant contributor to students' interaction patterns and openness to diversity (Hurtado et al., 2001; Nagda et al., 2004; Whitt et al., 2001; Wilmarth, 2004; Zuniga et al., 2005), which is why it was chosen as a control variable for this study. However, in this study gender did not explain a substantial amount of the variance in understanding of diversity for any racial/ethnic group in this series of regressions. Although being female reached statistical significance among Asian American ( $p < .001$ ), Latino/Latina ( $p < .01$ ), Multiracial ( $p < .001$ ), and White students ( $p < .001$ ), the amount of variance explained was minimal: 0.4%, 0.3%, 1.4%, and 0.4%, respectively. Gender did not significantly contribute to the variance in understanding of diversity for either African American/Black or American Indian students.



These seemingly contradictory results could perhaps be explained by the way in which this study measured understanding of diversity as compared to the way in which other studies measured similar constructs. For example, the scale that Whitt et al. (2001) used to measure openness to diversity contained a series of items that asked students about their level of enjoyment in learning about and talking with people who are different from them. In contrast, the understanding of diversity scale used in this study contained a series of items that asked students about their level of understanding and awareness of racial/ethnic diversity, which is slightly different from openness and enjoyment. Although both of these constructs are important, they tap different dimensions of attitudes toward diversity. The scale used in this study seems to address a more fundamentally important issue – that of understanding. Whether or not people enjoy experiencing diversity doesn't necessarily indicate whether they understand and respect it. Perhaps women's tendency to be more relationship-focused (Gilligan, 1982) contributes to the fact that women are more likely than men to enjoy or be open to diversity. As Rhoads (1997) explained, women's development is often "characterized by connectedness" (p. 46). However, gender does not appear to have the same influence on students' *understanding* of diversity, as shown by the results of this study.

*Pre-college experience with diversity.* Pre-college experience with and attitudes towards diversity have also been shown to be significant predictors of students' openness to diversity (Hurtado et al., 2001; Milem & Umbach, 2003; Milem, Umbach, & Liang, 2004; Whitt et al., 2001). In fact, Whitt et al. found students' openness to diversity prior to college to be the strongest predictor of students' openness to diversity and challenge across the first three years of college. However, as was the case with gender, this study

found only minimal levels of variance in understanding of diversity explained independently by pre-college experience with diversity, and in most cases, it was a negative predictor. This variable negatively predicted the smallest amount of variance in understanding of diversity for Multiracial ( $p < .05$ ) and White ( $p < .001$ ) students, contributing 0.1% of the variance for each. It explained slightly more for African American/Black students, 0.7% ( $p < .001$ ), Asian American students, 1.4% ( $p < .001$ ), and Latino/Latina students, 0.6% ( $p < .01$ ), although it was again a negative predictor. For American Indian students, pre-college experience with diversity was not significantly associated with understanding of diversity.

Again, these seemingly contradictory results could likely be explained, at least in part, by the differences in the constructs being measured. Although openness to diversity and understanding of diversity could be considered similar, there are clear differences in the items that make up these scales. There are also slight differences in how pre-college experience is measured. Most previous research has been based on measures of students' pre-college attitudes about or openness to diversity, whereas this study measured students' retrospective behavioral experience with diversity prior to college. Furthermore, given the extremely low correlation between the scale used to measure pre-college experience with diversity and understanding of diversity, it may be that this pre-test measured something other than understanding, which would help explain the negative relationship found for many of the racial/ethnic groups.

*Discussions of socio-cultural issues.* Both interaction across difference and conversations about diversity have been shown by researchers to be associated with openness to and awareness of diversity (A.W. Astin, 1993a; Pascarella et al., 1996; Whitt

et al., 2001). This study corroborated these findings. Discussions of socio-cultural issues, which measured the frequency with which students engage in discussions about diversity and interact with students who hold different socio-cultural views, significantly contributed to the variance in understanding of diversity for each of the six racial/ethnic groups studied, above and beyond the variance predicted by the two control variables. The portions of variance accounted for were also substantially larger portions than those contributed by the control variables, for all of the racial/ethnic groups. Discussions of socio-cultural issues independently contributed 9.5% of the variance in understanding of diversity for African American/Black students ( $p < .001$ ), 8.8% for American Indian students ( $p < .001$ ), 6.9% for Asian American students ( $p < .001$ ), 9.8% for Latino/Latina students ( $p < .001$ ), 7.8% for Multiracial students ( $p < .001$ ), and 7.9% for White students ( $p < .001$ ).

*Overall findings.* Overall, the regression equation was significant for every racial/ethnic group, explaining between 8.6% (for American Indian students) and 10.1% (for African American/Black students) of the variance in understanding of diversity. Discussions of socio-cultural issues emerged as the most influential predictor in the regression equation for each of the racial/ethnic groups, although small amounts of variance were contributed by the control variables for most of the racial/ethnic groups. This study provides additional support for the relationship between diverse interactions and understanding of diversity. These results illustrate that discussions of socio-cultural issues are important in predicting understanding of diversity. It can likely be inferred that engaging in these discussions will foster students' understanding of diversity.

This study has also illuminated the fact that much of the variance (89.4% - 91.6%) in understanding of diversity remains unexplained by this regression equation. Previous research has established that several other factors, not assessed in this study, are significant contributors to students' openness to or understanding of diversity. These factors include institutional policies, campus climate and culture, and structural diversity (Chang, et al., 2002; Chang et al., 2006; Gurin et al., 2002; Milem & Umbach, 2003; Washington, 2004), an institutional and/or faculty emphasis on diversity (A.W. Astin, 1993a; Sax & Astin, 1998), attending workshops on cultural awareness, and the number of ethnic and women's studies courses taken (A.W. Astin, 1993a), among others.

#### *Predicting Self-Awareness*

Six hierarchical multiple regressions were performed – one for each racial/ethnic group – to determine the amount of variance explained, collectively and independently, by three variables. These regressions revealed the degree of association between the control variables (race/ethnicity and gender) and discussions of socio-cultural issues, and self-awareness. Hypothesis 1b was rejected, because discussions of socio-cultural issues explained a significant amount of variance in the levels of self-awareness in each analysis, above and beyond that explained by the control variables, and each of the six regression equations were found to be significant overall. The discussion that follows relates to the differences and similarities in the results among racial/ethnic groups.

*Gender.* Theorists have established links between self-awareness, identity development, and interacting with diverse others (Chickering & Reisser, 1993; King & Baxter Magolda, 2005; Landreman et al., 2007) Hawthorne Calizo et al. (2007) found that college females had significantly higher self-awareness scores than did their male

counterparts. In this study, however, although being female was a significant predictor of variance in self-awareness for Asian American ( $p < .05$ ), Multiracial ( $p < .001$ ), and White students ( $p < .001$ ), the proportion of variance explained for each of these groups was minimal: 0.2% for Asian American students, 0.4% for Multiracial students, and 0.1% for White students. Gender did not contribute significantly to the variance in self-awareness for African American/Black, American Indian, or Latino/Latina students.

*Pre-college experience with diversity.* Little research has been conducted on the relationship between students' pre-college experience with diversity and their levels of self-awareness, but this control variable was included because of its established influence on students' frequency of engagement in diverse interactions (Pascarella & Terenzini, 2005; Pettigrew, 1998). Interestingly, this variable emerged as a significant predictor of variance in self-awareness for every racial/ethnic group. Pre-college experience with diversity independently predicted 3.7% of the variance for African American/Black students ( $p < .001$ ), 5.6% for American Indian students ( $p < .01$ ), 6.1% for Asian American students ( $p < .001$ ), 4.8% for Latino/Latina students ( $p < .01$ ), 2.9% for Multiracial students ( $p < .05$ ), and 2.9% for White students ( $p < .001$ ). In contrast with the minor relationship that was revealed between pre-college experience and understanding of diversity, these results suggest that students' interactions prior to college are somewhat more strongly correlated with their awareness of self.

*Discussions of socio-cultural issues.* Pettigrew (1998) argued that the more one interacts with people who are different from him or herself, the more self-aware one becomes. The idea that diverse interactions contribute to increased levels of self-awareness has been substantiated by a number of researchers involved in studying the

effects of intergroup dialogue (Alimo, Kelly, & Clark, 2002; Nagda et al., 2004).

However, although many researchers have studied outcomes associated with intergroup dialogue experiences, little was known about the frequency of a wider variety of types of interactions, and whether interactions outside a controlled environment would also contribute to students' self-awareness. The results from this study indicate that discussions of socio-cultural issues do significantly contribute to students' self-awareness. After controlling for both gender and pre-college experience with diversity, discussions of socio-cultural issues independently predicted a significant portion of variance in self-awareness for every racial group. This variable seemed to be particularly influential for Asian American students, predicting 8.9% of the variance ( $p < .001$ ). For African American/Black students, it predicted 4.5% ( $p < .001$ ), for American Indian students 6% ( $p < .01$ ), for Latino/Latina students 6.1% ( $p < .001$ ), for Multiracial students 6.3% ( $p < .001$ ), and for White students, 5.4% ( $p < .001$ ).

*Overall findings.* When examining the entire regression equation for predictors for self-awareness, the equation was significant for every racial/ethnic group, collectively explaining between 8.1% (African American/Black students) and 15.1% (Asian American students) of the variance in self-awareness. Both pre-college experience with diversity and discussions of socio-cultural issues emerged as influential predictors in the regression equation for each of the racial/ethnic groups, although small amounts of variance were contributed by gender for White, Asian American, and Multiracial students. It is clear that the types of interactions that happen prior to college are important contributors to self-awareness. For some groups, like American Indian students, they appear to be almost as important as the frequency of discussions of socio-cultural issues

in college. This study also affirms that casual interactions, as many of the discussions of socio-cultural issues may be, can also be influential in students' development of self-awareness. However, this study has also illuminated the fact that much of the variance (84.9% - 91.9%) in self-awareness remains unexplained by this regression equation.

Although not measured in this study, one possible factor that might explain additional variance in self-awareness could be students' respective stages of personal development. For example, using Kegan's (1982) developmental model as a framework, there are notable differences in how one might construct and understand one's own values and beliefs, depending on which stage of the model one was in. In Kegan's third stage, the meaning-making process takes place externally, whereas in the fourth stage, one establishes a greater sense of self. Love and Guthrie (1999), in their application of Kegan's model, theorized that most students transition into the third order of consciousness as they begin college but note Kegan's projection that much of the adult population does not advance to the fourth order. Based on these conjectures, most college students would then be either in stage three or stage four, or in a transition phase between the two. The developmental stages in which students find themselves during college, in Kegan's model or in others, would likely have an effect on their levels of self-awareness.

#### *Differences in Frequency of Discussions of Socio-Cultural Issues*

A univariate two-way analysis of variance (ANOVA) was conducted to test the second hypothesis, using gender and race/ethnicity as independent variables and discussions of socio-cultural issues as the dependent variable. This ANOVA revealed a significant interaction effect between race/ethnicity and gender. Then, two one-way analyses of variance were conducted – one for females alone and one for males alone -

and post hoc tests were performed to explore where the differences were. One-way ANOVAs were then performed for each racial/ethnic group.

*Differences by race/ethnicity.* To explore differences by race/ethnicity, two one-way analyses of variance (ANOVA) were conducted – the first for females alone and the second for males alone. Post hoc Tukey HSD tests were then conducted to further assess group differences. The ANOVA for females yielded significant results. Consequently, post hoc multiple comparison Tukey HSD tests were performed to further explore the significant differences present. The multiple comparison tests revealed that Multiracial female students had statistically significantly higher frequencies of discussions of socio-cultural issues than any other female racial/ethnic group. It also revealed that Asian American female students had statistically significantly lower frequencies of discussions of socio-cultural issues than White, African American/Black, Latino/Latina, and Multiracial female students.

The ANOVA for males was also significant. Post hoc multiple comparison Tukey HSD tests were then conducted to further assess significant differences by race/ethnicity. The post hoc tests indicated a striking similarity between males and females with regard to differences in race/ethnicity on the dependent variable: Multiracial male students had statistically significantly higher frequencies of discussions of socio-cultural issues than White, Asian American, and Latino/Latina male students. Asian American male students had statistically significantly lower frequencies of discussions of socio-cultural issues than White, African American/Black, Latino/Latina, and Multiracial male students.

Since most studies that have examined diverse interactions have aggregated the data from all students of color in the study, it is difficult to draw meaningful conclusions



about the differences in frequency of discussions of socio-cultural issues by race/ethnicity. Although there is little research on the interaction patterns of multiracial students, higher frequencies of discussions for Multiracial males and females can perhaps be explained in part by the increased opportunities Multiracial students may have had to interact with people from multiple cultural backgrounds, given that they have family members from two or more racial backgrounds. However, caution should be exercised in generalizing these results too widely, as the Multiracial students in this study represent a wide variety of combinations of racial, ethnic, and cultural backgrounds.

Chang et al. (2004) found that students of color were consistently much more likely to interact cross-racially than White students. Although the discussions of socio-cultural issues scale does not measure cross-racial interaction exclusively, it would be reasonable to infer that White students might have lower frequencies of diverse interactions than other racial/ethnic groups. However, this study revealed that Asian American students had the lowest frequencies. One possible contributing factor that might explain the lower frequencies for Asian American students could be that, although the term “Asian American” encompasses a great deal of heterogeneity in nationalities and cultures (Hune, 2002), one cultural value that many Asian American groups seem to have in common is harmony; valued behaviors often include accommodation, and “maintaining harmonious interpersonal relationships” by avoiding confrontation (Kodama, McEwen, Liang, & Lee, 2002). Given that conversations with those who have different values, political orientations, or religions, and conversations about diversity issues involve sensitive topics and can often become heated, perhaps these are conversations that Asian American students are more likely to avoid.

*Differences by gender.* To explore differences by gender, six one-way analyses of variance (ANOVA) were conducted – one for each racial group. These tests revealed statistically significant differences in the frequency of discussions of socio-cultural issues by gender for three of the six racial/ethnic groups, illuminating some of the differences by gender within groups of color that have not been studied as frequently. For both Multiracial and White students, females engaged in discussions of socio-cultural issues at statistically significantly higher rates than males. For African American/Black students, it was the opposite. African American/Black males reported statistically significantly higher frequencies of discussions of socio-cultural issues than did African American/Black females. There were no significant differences in frequency of discussions of socio-cultural issues between males and females for American Indian, Asian American, and Latino/Latina students. As the current literature does not provide grounding for a meaningful explanation of these differences, exploring them further through qualitative research would contribute valuable information to the knowledge base. Much of the research on differences in communication styles that have shown women to be more social and motivated by relationships than men has been conducted mostly on White females (Gilligan, 1982; Tannen, 1991). The results of this study highlight the possibility that not all racial/ethnic groups have the same gender communication patterns.

#### *Differences in Understanding of Diversity*

A univariate two-way analysis of variance (ANOVA) was conducted to examine the differences in understanding of diversity using gender and race/ethnicity as independent variables and understanding of diversity as the dependent variable. This

ANOVA revealed a significant interaction effect between race/ethnicity and gender. Two one-way analyses of variance were conducted – one for females alone and one for males alone - and post hoc tests were performed to explore where the differences were. One-way ANOVAs were then performed for each racial/ethnic group.

*Differences by race/ethnicity.* Two one-way analyses of variance (ANOVA) were conducted – the first for females alone and the second for males alone. Post hoc Tukey HSD tests were then conducted to further assess group differences. Both the ANOVA for females and the ANOVA for males yielded significant results, so post hoc multiple comparison Tukey HSD tests were performed to further explore the differences. The multiple comparison tests indicated that White women had significantly lower levels of understanding of diversity than women from any other racial/ethnic group. In addition, Black women and Latina women both had scores that were significantly higher than those of White, Asian American, and Multiracial women. Similarly, White men had scores significantly lower than those of African American/Black, Asian American, Latino, and Multiracial men; and Black and Latino men had scores that were significantly higher than those of White, Asian American, and Multiracial men.

That White students have lower levels of understanding of diversity than their peers of color is not surprising. This finding provides added support to findings of previous studies, such as Whitt et al.'s (2001) study, which indicated that White students were significantly less likely to increase their openness to diversity and challenge during the first two years of college than were their peers of color. The less obvious finding relates to comparisons between groups of color, as there is very little information about how distinct populations of color might differ from one another in this area. This study

illuminates the higher scores of African American/Black and Latino students in understanding of diversity than their Asian American, Multiracial, and, in the case of females, American Indian peers.

These findings point to the possibility that African American/Black and Latino/Latina students have distinct experiences that contribute to higher levels of understanding of diversity than other groups. It does appear that these two racial/ethnic groups have some things in common, including, it would seem, less access to higher education. According to the Chronicle of Higher Education Almanac (2005), 20.1% of African/American/Black people and 14.2% of Latino/Latinas in the United states hold either associates or bachelors degrees. These are low percentages compared to the 37.2% of Asian Americans and 28.8% of White people who hold these degrees. Perhaps there are similarities in the experiences of African Americans/Black and Latino/Latina people that are correlated with both their access to higher education and their greater levels of understanding of diversity. Further exploration of these relationships, including correlations with the sociocultural histories of these groups and their experiences with racism would be beneficial. The findings from this study highlight the importance of examining the experiences of distinct groups of color.

*Differences by gender.* To explore differences by gender, six one-way analyses of variance (ANOVA) were conducted – one for each racial group. These tests revealed statistically significant differences in the frequency of discussions of socio-cultural issues by gender for White, Asian American, Latino/Latina, and Multiracial student. For all of these groups, female students had higher levels of understanding of diversity than did their male peers within the same racial/ethnic group. This finding corroborates Whitt et

al.'s (2001) study, which revealed significantly higher levels of openness to diversity and challenge in the second and third years of college for women than men, although Whitt et al. grouped all students of color together.

#### *Differences in Self-Awareness*

A univariate two-way analysis of variance (ANOVA) was conducted to examine the differences in self-awareness using gender and race/ethnicity as independent variables and self-awareness as the dependent variable. This ANOVA revealed a significant main effect for race/ethnicity. Post hoc tests were performed to explore where the differences were.

*Differences by race/ethnicity.* After significance was found in the one-way analysis of variance (ANOVA) that was conducted, post hoc Tukey HSD tests were conducted to further assess group differences. The multiple comparison tests revealed that African American/Black students had statistically significantly higher levels of self-awareness than did Asian American, Latino/Latina, Multiracial, and White students. Additionally, Asian American students had scores that were statistically significantly lower than those of every other racial/ethnic group.

It is possible that Asian American students' lower scores relative to those of students from other racial/ethnic groups reflect the Asian cultural values of collectivism and interdependence (Kodama et al., 2002; Liang, Lee, & Ting, 2002) that might make it difficult for Asian American students to separate an awareness of self from an awareness of others or of a greater whole. It is also possible that the ways in which items in the MSL instrument were worded did not fit the ways in which many Asian American students

understood them. The main effect for gender was not significant for this ANOVA, so differences in self-awareness by gender were not assessed in this study.

### Limitations

Although there are a number of qualities that make this study significant for the field of higher education, there are several limitations that are important to keep in mind. First, although the conceptual framework is based on A.W. Astin's (1993b) Input-Environment-Outcome (I-E-O) College Impact Model, this study is not a true I-E-O design, in that all MSL data were collected at one point in time. Instead of using a longitudinal design in which students would be given a survey before starting college, and then given the same survey at the end of college, the MSL instrument asked students to provide a retrospective view of their pre-college behavior. The challenge is that respondents might mis-remember their earlier behavior in light of changes they may have undergone in college. In fact, Shiffman, Hufford, Hickcox, Paty, Gnys, and Kassel (1997), who conducted a study to test the level of accuracy of recall after a 12-week time lapse, found recall accuracy to be poor. These findings underscore the need for caution in interpreting results that deal with pre-college experiences.

Second, even though the validity of the constructs measured in this study was tested extensively, there were some potential threats to internal and external validity that must be taken into account. One potential threat to internal validity was the lack of control over the physical testing environment or the time of day or week that the survey was taken. This is a drawback of administering a web-based survey. Potential threats to external validity included a population threat, in which the population that responded to the survey may not be representative of the entire population; although a 38% response

rate is good for a web-based survey, little is known about the characteristics of the 62% of students who did not respond. To address this, a non-respondent analysis was conducted at the close of data collection in Spring 2006. This analysis revealed a higher response rate for females than for males, indicating that females were overrepresented. With regard to race/ethnicity, African American/Black students and Latino/Latina students were underrepresented, and American Indian, Asian American, White, and Multiracial students were overrepresented, with the exception of some schools at which response rates were not significantly different among racial/ethnic groups (Survey Sciences Group, 2007). Another threat to external validity was the effect that social desirability could potentially have on how students responded to questions on the survey. As noted in Chapter 3, Tyree (1998) accounted for this threat in the consciousness of self scale by comparing the SRLS items with the Crowne-Marlow social desirability scale.

Third, the respondents in the sample are not distributed evenly among racial/ethnic and gender groups. The non-respondent analysis found women to be overrepresented. In terms of racial/ethnic groups, the difference in the number of respondents between the largest group, White students ( $n = 35,568$ ) and the smallest group, American Indian students ( $n = 127$ ) is large. Consequently comparisons between groups should be made with caution.

Fourth, as this study was based entirely on self-report data, the possible myriad of ways in which students interpreted the questions asked on the survey instrument cannot be determined. This study centered mainly on experience with and attitudes about diversity, a topic that is defined and understood in a variety of different ways and contexts. Very simply, the ways in which students define “difference” could be extremely

varied and qualitatively different from one another, based on their past experiences and values. These different interpretations would certainly affect how students responded to the questions, which should be taken into account in any interpretation of the results. In addition, the scales used in this study were only able to measure students' perceptions of their behavior, not their actual behavior.

Finally, it should be noted again that many of the effect sizes in this study were small. Although the results should not be discounted, as they may still hold great importance (Trusty, Thompson, & Petrocelli, 2004), they should be interpreted carefully, and all implications and suggestions should be viewed in light of these small effect sizes.

#### Implications for Professional Practice

This study was conducted in an effort to enrich and add to the current literature about diverse interactions. Many researchers have noted the importance of being able to interact effectively in increasingly diverse environments, particularly in the post-college workplace (Milem, 2003; Milem & Hakuta, 2000), but few have had large enough sample sizes to analyze more than two racial/ethnic categories. Theorists have also linked diverse interactions and cultural competence to self-awareness (King & Baxter Magolda, 2005; Landreman et al., 2007; Pope et al., 2004), although there are few empirical studies that link these concepts. This study provided empirical evidence that the frequency of discussions of socio-cultural issues - discussions in which students are interacting across difference and/or engaging in conversations about multiculturalism, diversity, and social justice – is linked to levels of understanding of diversity and self-awareness, across all six racial/ethnic groups in the study. This study also indicated that there are significant



differences in how frequently these discussions occur, by gender and race/ethnicity. Given this information, there are several implications for professional practice.

First, given the significance of discussions of socio-cultural issues in its relationship with both understanding of diversity and self-awareness, creating more opportunities on campus for these discussions to take place is important. This could involve both experiences and residential communities that are intentional about bringing diverse groups of people together, as well as programs that make time for conversations about multiculturalism, diversity, and justice. This could also involve a greater emphasis on structured intergroup dialogue programs, which have been shown to contribute to greater levels of self-awareness and awareness of diversity (Alimo et al., 2002; Clark, 2002; Nagda, et al., 2004; Nagda & Zúñiga, 2003). In addition, incorporating intentional discussions of socio-cultural issues (discussions about social issues, learning about others in the group) into leadership training will be important as well – self awareness and understanding of diversity are important aspects of leadership (HERI, 1996).

Given some of the differential results by racial/ethnic groups, although the temptation to sponsor more diversity workshops and intergroup dialogues is strong, other methods that reach a wider audience should also be explored. Considering that “faculty normative environments” (Hurtado et al., 1999, p. 31) have been shown to have a significant effect on student attitudes about diversity, it would be important that any approaches include working with and encouraging faculty to be more intentional about integrating discussions of socio-cultural issues into academic courses. It may be beneficial to begin with helping faculty members “understand how to become aware of their own attitudes and the effect of these attitudes on the students they teach” (Hurtado

et al., 1999, p. 32). Faculty pedagogy and course content is also an important factor in improving the psychological climate for diversity (Hurtado et al., 1999), given that students spend a considerable amount of time during college in classrooms with faculty members. Convincing faculty members to alter their course content and pedagogy might be difficult. However, results from a study that explored the impact of faculty members' efforts to include course content that was more multicultural in nature indicated positive results among the students in these classes, including increased levels of critical thinking and decreased levels of ethnocentrism (MacPhee, Kreutzer, & Fritz, 1994).

There are many layers of complexity involved, however. Simply increasing the quantity of multicultural programs, or the number of class discussions about diversity issues may, for example, cause some White students who are at earlier stages of their racial identity development (Helms, 1995) to retreat. Therefore, an emphasis on increasing the number of programs that provide space for discussions of socio-cultural issues to happen illuminates the need for experienced facilitators. Not everyone has the skills and experience to facilitate those discussions; without experienced facilitators, discussions of socio-cultural issues and dialogues could become counterproductive (Zúñiga, 1998). Therefore, training and preparation for staff and faculty who would be engaging in these types of programs must be attended to first. This may require additional research on what types of training are the most effective for facilitators and for student participants.

One finding of note is the comparison between the frequency of discussions of socio-cultural issues and the amount of variance in self-awareness it explains for some of the racial/ethnic groups studied. Although Multiracial males and females engage in

discussions of socio-cultural issues significantly more frequently than do students from most other racial groups, discussions of socio-cultural issues predicted less of the variance in self-awareness for Multiracial students than it did for Asian American students, who had the lowest frequencies of discussions of socio-cultural issues. In other words, although Asian Americans may not be engaging in these discussions as frequently as their peers, when they *do* engage in them, it makes a greater difference. Finding out what programs Asian American students might be most likely to attend and working to design more of these experiences would be beneficial. Creating opportunities that are centered on collaboration and community interests rather than individual needs and competition might both attract and benefit more Asian American students (Chew-Ogi & Ogi, 2002), such as providing incentives for involvement in intergroup dialogue experiences, finding ways to integrate discussions of socio-cultural issues into training for student organizations, or working with students to coordinate service-learning projects with local community members.

#### Recommendations for Future Research

This study has contributed to existing research on diverse interactions, and enhanced the information available about the interaction patterns and outcomes of different racial/ethnic groups. However, although the regression equations conducted in this study explained significant amounts of variance in understanding of diversity and self-awareness, a large portion of the total variance in each of these outcomes remains unexplained. Further investigation of other variables that might explain portions of this variance would be extremely helpful, including institution-specific variables that have been shown in other studies to have a significant effect on students' attitudes and

outcomes. These variables might include, but should not be limited to, perceptions of campus climate, structural diversity, and institutional policies (Chang et al., 2002; Chang et al., 2006; Gurin, 1999; Gurin et al., 2002; Milem & Umbach, 2003; Washington, 2004). In addition, it is important to keep in mind that the MSL data represent a wide array of students attending a variety of different types of colleges and universities across the country. Consequently, outcomes may look different for students on different campuses, depending on the campus environment. Comparisons between students who attend different types of institutions were not made in this study. This is another important direction for future research.

Another possible direction for future research is to explore the relationship between stages of racial identity development, engagement in discussions of socio-cultural issues, understanding of diversity, and self-awareness. Given that students in different stages of racial identity development perceive themselves and others in different and sometimes predictable ways (Helms, 1995; Tatum, 1997), it is reasonable to assume that students may be more or less inclined to engage in discussions of socio-cultural issues, and further, may be affected by these interactions in different ways, depending on their stage of racial identity development. By the same token, it is also important to take into account the racial identity development of staff and faculty members who are facilitating discussions of socio-cultural issues; given the stages of racial identity development that Helms outlined, it is reasonable to assume that a facilitator in the earlier stages of racial awareness would have a difficult time facilitating a productive discussion around issues of diversity.

An additional question that emerged relates to the nuances of what outcomes the scales used in this study were actually measuring. The understanding of diversity scale used in this study measured understanding or awareness of diversity, particularly of racial/ethnic diversity. The construct of openness to diversity, which several studies (Pascarella et al., 1996; Whitt et al., 2001) analyzed as an outcome, seems to be slightly different from understanding. A qualitative study that explores the distinctions between these constructs would illuminate some of the differences between these constructs and possible implications for practice.

Yet another area of research that warrants further study is the relationship between discussions of socio-cultural issues and other components of leadership. This study illustrated that discussions of socio-cultural issues were significantly related to self-awareness, a critical element of leadership, according to HERI (1996) and Kouzes and Posner (2002). It would be valuable to explore possible relationships between discussions of socio-cultural issues and other elements of leadership in depth. This exploration could provide useful information regarding programming and leadership development curricula.

Additionally, although this study compared results from six different racial/ethnic groups - more than many studies are able to do (usually because of small samples sizes of groups of color) - it still fell short of capturing the extensive variety of unique racial/ethnic groupings that might play a considerable role in students' interaction patterns and outcomes. The six groups that were analyzed in this study represent people from a wide variety of different backgrounds and cultures. Within each racial/ethnic group, students may have had very different experiences; each "group" represents a

variety of cultures. For example, the Latino/Latina category includes students who reported Mexican American/Chicano, Puerto Rican, Cuban American, and/or other Latino American heritage and the Asian American group represents students who identified as Asian American, Asian, Native Hawaiian, and/or Pacific Islander. In addition, Multiracial students represent any combination of a wide variety of racial and cultural backgrounds. Further quantitative and qualitative research that makes meaning of the experiences of individuals within distinct groups of color would add to understanding about differences that may exist within and between these groups.

Finally, there is a need to find out more about the nature of these discussions of socio-cultural issues. Allport (1954), in his seminal work on intergroup contact theory, contended that positive effects of intergroup contact occur only when certain key conditions are present. Several researchers have found more recently that the quality of interaction across difference was key in producing certain outcomes (Gurin, 1999; Hurtado, 2005), reaffirming that the nature of the interaction is important. Although it is clear from this study and from previous research (Antonio, 2001) that simple contact can still be positive, the types of interactions that are most effective cannot be inferred from those data alone. This study did not examine the significance of location, length, environmental context, or closeness of relationship with the conversation partner, among other possible variables that might provide more information about the types of interactions that are the most effective in predicting certain outcomes. Further research that explores the types of conversations that are most effective in predicting changes in attitudes and behaviors, and the types of conditions under which these effective

conversations take place, would contribute significantly to this area of research and could have critical implications for practice.

### Conclusion

The purpose of this study was to examine the extent to which the frequency of engagement in discussions of socio-cultural issues during college contributes to the outcomes of understanding of diversity and self-awareness, after controlling for students' gender and pre-college experience with diversity, in addition to examining any racial/ethnic and gender differences in students' interaction patterns. The findings from this study revealed that engagement in discussions of socio-cultural issues significantly predicted a portion of the variance in understanding of diversity and self-awareness for every racial/ethnic group, after controlling for gender and pre-college experience with diversity. However, it is clear that there are a number of other variables not examined in this study that influence understanding of diversity and self-awareness, as a large amount of the variance for each outcome remains unexplained by the regression equations used in this study.

A variety of differences emerged in students' interaction patterns and outcomes among different racial/ethnic groups and by gender. Most notably, Asian American students had significantly lower frequencies of discussions of socio-cultural issues and Multiracial students had significantly higher frequencies of discussions of socio-cultural issues than did their peers from other racial/ethnic groups. With regard to understanding of diversity, White students had significantly lower levels than their peers of color. Additionally, African American/Black students had significantly higher levels of self-awareness and Asian American students had significantly lower levels of self-awareness

than did students from other racial/ethnic groups. This study has provided support for the value of engaging in discussions of socio-cultural issues during college. However, further research is still needed to understand the nature of the discussions that are most effective, the differences among various groups of color, and the other factors that contribute to these outcomes.



## Appendix A: MSL Instrument

### MULTI-INSTITUTIONAL STUDY OF LEADERSHIP

Revised 8/01/06 Version 12

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#### NOTE:

This is a paper and pencil version of what will be presented as an on-line web survey. Skip patterns will automatically take the respondent to the appropriate section. Shaded sections/items will be used in split samples and will not be asked of all participants.

#### COLLEGE INFORMATION

1. Did you begin college at your current institution or elsewhere? (Choose One)

- ☐ Started here
- ☐ Started elsewhere

2. Thinking about this academic term, how would you characterize your enrollment? (Choose One)

- ☐ Full-Time
- ☐ Less than Full-Time

3. What is your current class level? (Choose One)

- ☐ First year/freshman
- ☐ Sophomore
- ☐ Junior
- ☐ Senior
- ☐ Graduate student
- ☐ Other

4. Are you currently working OFF CAMPUS?

(Circle one)

YES NO

**If NO skip to #5**

4a. Approximately how many hours do you work off campus in a typical 7 day week?

4b. In your primary off campus position, how frequently do you: (Circle one for each item)

**1 = Never**

**3 = Often**

**2 = Sometimes**

**4 = Very Often**

Perform repetitive tasks..... 1 2 3 4

Consider options before making decisions..... 1 2 3 4

Perform structured tasks..... 1 2 3 4

Have the authority to change the way some things are done..... 1 2 3 4

Coordinate the work of others..... 1 2 3 4

Work with others on a team..... 1 2 3 4

5. Are you currently working ON CAMPUS?

(Circle one)

YES NO

**If NO skip to #6**

5a. Approximately how many hours do you work on campus in a typical 7 day week?

5b. In your primary position, how frequently do you:

(Circle one for each item)

**1 = Never**

**3 = Often**

**2 = Sometimes**

**4 = Very Often**

Perform repetitive tasks..... 1 2 3 4

Consider options before making decisions..... 1 2 3 4

Perform structured tasks..... 1 2 3 4

Have the authority to change the way some things are done..... 1 2 3 4

Coordinate the work of others..... 1 2 3 4

Work with others on a team..... 1 2 3 4

6. In an average academic term, do you engage in any community service?

YES NO

**If NO skip to #7**

In an average academic term, approximately how many hours do you engage in community service? (circle one for each category).

As part of a class

0 1-5 6-10 11-15 16-20 21-25 26-30

With a student organization

0 1-5 6-10 11-15 16-20 21-25 26-30

As part of a work study experience

0 1-5 6-10 11-15 16-20 21-25 26-30

On your own

0 1-5 6-10 11-15 16-20 21-25 26-30

7. Check all the following activities you engaged in during your college experience.

- ☐ Studied abroad
- ☐ Experienced a practicum, internship, field experience, co-op experience, or clinical experience
- ☐ Participated in a learning community or some other formal program where groups of students take two or more classes together.
- ☐ Enrolled in a culminating senior experience (capstone course, thesis etc.)

- None of the above

### YOUR PERCEPTIONS BEFORE ENROLLING IN COLLEGE

8. Looking back to before you started college, how confident were you that you would be successful at the following:  
(Circle one response for each.)

1 = Not at all confident      3 = Confident  
2 = Somewhat confident      4 = Very confident

|  |   |   |   |   |
|--|---|---|---|---|
| Handling the challenge of college-level work.....            | 1 | 2 | 3 | 4 |
| Feeling as though you belong on campus.....                  | 1 | 2 | 3 | 4 |
| Analyzing new ideas and concepts.....                        | 1 | 2 | 3 | 4 |
| Applying something learned in class to the "real world"..... | 1 | 2 | 3 | 4 |
| Enjoying the challenge of learning new material.....         | 1 | 2 | 3 | 4 |
| Appreciating new and different ideas, beliefs.....           | 1 | 2 | 3 | 4 |
| Leading others.....  | 1 | 2 | 3 | 4 |
| Organizing a group's tasks to accomplish a goal.....         | 1 | 2 | 3 | 4 |
| Taking initiative to improve something.....                  | 1 | 2 | 3 | 4 |
| Working with a team on a group project.....                  | 1 | 2 | 3 | 4 |

9. Looking back to before you started college, how often did you engage in the following activities:  
(Circle one response for each.)

1 = Never      3 = Often  
2 = Sometimes      4 = Very Often

|   |   |   |   |   |
|---|---|---|---|---|
| Performing volunteer work.....  | 1 | 2 | 3 | 4 |
| Participating in student clubs/ groups.....                                     | 1 | 2 | 3 | 4 |
| Participating in varsity sports.....  | 1 | 2 | 3 | 4 |
| Took leadership positions in student clubs, groups or sports.....               | 1 | 2 | 3 | 4 |
| Participating in community organizations (e.g. church youth group, scouts)..... | 1 | 2 | 3 | 4 |
| Taking leadership positions in community organizations.....                     | 1 | 2 | 3 | 4 |
| Participating in activism in any form (e.g. petitions, rally, protest).....     | 1 | 2 | 3 | 4 |
| Getting to know people from backgrounds different than your own.....            | 1 | 2 | 3 | 4 |
| Learning about cultures different from your own.....                            | 1 | 2 | 3 | 4 |

Participating in training or education that developed your leadership skills.....1 2 3 4

10. Looking back to before you started college, please indicate your agreement with the following items by choosing the number that most closely represented your opinion about that statement AT THAT TIME:  
(Circle one response for each.)

1 = Strongly disagree      4 = Agree  
2 = Disagree      5 = Strongly Agree  
3 = Neutral

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| Hearing differences in opinions enriched my thinking.....                      | 1 | 2 | 3 | 4 | 5 |
| I had low self esteem.....   | 1 | 2 | 3 | 4 | 5 |
| I worked well in changing environments.....                                    | 1 | 2 | 3 | 4 | 5 |
| I enjoyed working with others toward common goals.....                         | 1 | 2 | 3 | 4 | 5 |
| I held myself accountable for responsibilities I agree to.....                 | 1 | 2 | 3 | 4 | 5 |
| I worked well when I knew the collective values of a group.....                | 1 | 2 | 3 | 4 | 5 |
| My behaviors reflected my beliefs.....   | 1 | 2 | 3 | 4 | 5 |
| I valued the opportunities that allowed me to contribute to my community,..... | 1 | 2 | 3 | 4 | 5 |

I thought of myself as a leader ONLY if I was the head of a group (e.g. chair, president) ... 1 2 3 4 5

11a. Before you started college, how would you describe the amount of leadership experience you have had (e.g., student clubs, performing groups, service organizations, jobs)? Please circle the appropriate number

No experience 1 2 3 4 5 Extensive experience

11b. Before you started college, how often did others give you positive feedback or encourage your leadership ability (e.g., teachers, advisors, mentors)?

Please circle the appropriate number

Never 1 2 3 4 5 frequently

11c. Before you started college, How would you have reacted to being chosen or appointed the leader of a group? Please circle the appropriate number

Very 1 2 3 4 5 very  
uncomfortable comfortable

11d. Before you started college, how often did you see others be effective leaders?

Please circle the appropriate number

Never 1 2 3 4 5 frequently

11e. Before you started college, how often did you think of yourself as a leader

Please circle the appropriate number

Never 1 2 3 4 5 frequently

**YOUR EXPERIENCE IN COLLEGE**

**12. How often have you engaged in the following activities during your college experience?**  
(Circle one for each item)

**1 = Never**                      **3 = Often**  
**2 = Sometimes**              **4 = Very Often**

Paid attention to national issues ..... 1 2 3 4

Paid attention to global issues.....1 2 3 4

Was aware of the current issues facing the community surrounding your institution..... 1 2 3 4

Signed a petition or sent an email about a social or political issue..... 1 2 3 4

Bought or did not buy a product or service because of your views about the social or political values of the company that produces or provides it..... 1 2 3 4

Contacted a public official, newspaper, magazine, radio, or television talk show to express your opinion..... 1 2 3 4

Took part in a protest, rally, march, or demonstration..... 1 2 3 4

**13. Since starting college, how often have you:**

**been an involved member or active participant in college organizations?**

Never 1 2 3 4 5 Much of the time

**held a leadership position in a college organization?** (for example, serving as an officer or a club or organization, captain of an athletic team, first chair in a musical group, section editor of the newspaper, chairperson of a committee)

Never 1 2 3 4 5 Much of the time

**been an involved member or active participant in an off-campus community organization (e.g. PTA, church group)?**

Never 1 2 3 4 5 Much of the time

**held a leadership position in a community organization?** (for example, serving as an officer or a club or organization, leader in a youth group, chairperson of a committee)

Never 1 2 3 4 5 Much of the time

**YOUR STUDENT GROUP INVOLVEMENTS**

**14. Which of the following kinds of student groups have you been involved with during college?**  
(Check all the categories that apply)

- ☐ Academic/ Departmental/ Professional (e.g., Pre-Law Society, an academic fraternity, Engineering Club)
- ☐ Arts/Theater/Music (e.g., Theater group, Marching Band)
- ☐ Campus-wide programming groups (e.g., program board, film series board, a multicultural programming committee)
- ☐ Cultural/ International (e.g., Black Student Union, German Club)
- ☐ Honor Society (e.g., Omicron Delta Kappa [ODK], Mortar Board, Phi Beta Kappa)
- ☐ Living-learning programs (e.g., language house, leadership floors, ecology halls)
- ☐ Leadership (e.g., Peer Leadership Program, Emerging Leaders Program)
- ☐ Media (e.g., Campus Radio, Student Newspaper)
- ☐ Military (e.g., ROTC)
- ☐ New Student Transitions (e.g., admissions ambassador, orientation advisor)
- ☐ Para professional group (e.g., Resident assistants, peer health educators)
- ☐ Political/ Advocacy (e.g., College Democrats, Students Against Sweatshops)
- ☐ Religious (e.g., Campus Crusades for Christ, Hillel)
- ☐ Service (e.g., Circle K, Alpha Phi Omega [APO])
- ☐ Culturally based fraternities and sororities (e.g., National Pan-Hellenic Council (NPHC) groups such as Alpha Phi Alpha Fraternity Inc., or Latino Greek Council groups such as Lambda Theta Alpha)
- ☐ Social fraternities or sororities (e.g. Panhellenic or Interfraternity Council groups such as Sigma Phi Epsilon or Kappa Kappa Gamma)
- ☐ Sports- Intercollegiate or Varsity (e.g., NCAA Hockey, Varsity Soccer)
- ☐ Sports- Club (e.g., Club Volleyball)

- Sports- Leisure or Intramural (ex: Intramural flag football, Rock Climbing)
- Special Interest (ex: Comedy Group)
- Student governance group (ex: Student Government Association, Residence Hall Association, Interfraternity Council) **IF CHECKED go to item 14A**

**14A. Were you involved in your campus-wide student government association? (Circle one) YES NO**

**If No, skip to item 15.**

**Thinking about your student government experience, indicate your level of agreement with the following items:**  
(Circle one response for each.)

- |                       |                    |
|-----------------------|--------------------|
| 1 = Strongly disagree | 4 = Agree          |
| 2 = Disagree          | 5 = Strongly agree |
| 3 = Neutral           |                    |

I found it hard to represent my constituents' concerns..... 1 2 3 4 5

I successfully initiated change on behalf of my constituents (e.g., policy, institutional, or social)..... 1 2 3 4 5

My motivation for involvement was about gaining influence..... 1 2 3 4 5

My motivation for involvement was to receive recognition..... 1 2 3 4 5

My motivation for involvement was to help others..... 1 2 3 4 5

I have witnessed effective constituency-based efforts for change..... 1 2 3 4 5

Effective constituency-based efforts for change have influenced my own actions..... 1 2 3 4 5

I held a constituency-based position prior to this college SGA experience (e.g. high school or other governance group)..... 1 2 3 4 5

Experience with previous constituency based positions did NOT make me more effective in my college SGA work..... 1 2 3 4 5

**15. At any time during your college experience, how often have you been in mentoring relationships where another person intentionally assisted your growth or connected you to opportunities for career and personal development?**  
Indicate how many times

**Student affairs staff**

(e.g., a student organization advisor, career counselor, the Dean of Students, or residence hall coordinator):

..... never once several many

**Faculty** ..... never once several many

**Employers** ..... never once several many

**Community members** ..... never once several many

**Other students** ..... never once several many

**16. During interactions with other students outside of class, how often have you done each of the following in an average school year? (Circle one for each.)**

- |               |                |
|---------------|----------------|
| 1 = Never     | 3 = Often      |
| 2 = Sometimes | 4 = Very Often |

Talked about different lifestyles/ customs..... 1 2 3 4

Held discussions with students whose personal values were very different from your own..... 1 2 3 4

Discussed major social issues such as peace, human rights, and justice..... 1 2 3 4

Held discussions with students whose religious beliefs were very different from your own..... 1 2 3 4

Discussed your views about multiculturalism and diversity..... 1 2 3 4

Held discussions with students whose political opinions were very different from your own..... 1 2 3 4

## DEVELOPING YOUR LEADERSHIP ABILITIES

**17. Since starting college, how many times have you participated in the following types of training or education that developed your leadership skills (ex: courses, Resident Assistant training, organization retreats, job training) (Circle one for each.)**

**17a- Short-Term Experiences** (ex: individual or one-time workshops, retreats, conferences, lectures, or training)  
Never once several many

**17b-Moderate-Term Experiences** (ex: a single course, multiple or ongoing retreats, conferences, institutes, workshops, and/or training)  
Never once several many

**If NEVER skip to 17c:**

Did your experience involve any academic courses?  
YES NO

**If no, skip to 17c**

a. How many leadership courses have you completed?

- b. How many other courses have you taken that contributed to your leadership abilities (e.g. ethics course, personal development courses, management courses)? *Keep in mind you might have taken such a course but it did not contribute to your leadership.*

**17c- Long-Term Experiences** (ex: multi-semester leadership program, leadership certificate program, leadership minor or major, emerging leaders program, living-learning program).  
Never      once      several      many

if NEVER skip to 18

**Which of the following Long-Term Activities did you experience?** (check all that apply)

- ☐ Emerging or New Leaders Program
- ☐ Peer Leadership Program
- ☐ Leadership Certificate Program
- ☐ Multi-Semester Leadership Program
- ☐ Senior Leadership Capstone Experience
- ☐ Residential Living-learning leadership program
- ☐ Leadership Minor
- ☐ Leadership Major
- ☐ Other

### ASSESSING LEADERSHIP DEVELOPMENT

**18. Please indicate your agreement or disagreement with the following items by choosing the number that most closely represents your opinion about that statement.**  
(Circle one response for each.)

*For the statements that refer to a group, think of the most effective, functional group of which you have been a part. This might be a formal organization or an informal study group. For consistency, use the same group in all your responses.*

1 = Strongly disagree      4 = Agree  
2 = Disagree      5 = Strongly Agree  
3 = Neutral

- I am open to others' ideas..... 1 2 3 4 5  
Creativity can come from conflict..... 1 2 3 4 5  
I value differences in others ..... 1 2 3 4 5  
I am able to articulate my priorities..... 1 2 3 4 5  
Hearing differences in opinions enriches my thinking..... 1 2 3 4 5  
I have low self esteem..... 1 2 3 4 5  
I struggle when group members have ideas that are different from mine..... 1 2 3 4 5

- Transition makes me uncomfortable..... 1 2 3 4 5  
I am usually self confident..... 1 2 3 4 5  
I am seen as someone who works well with others..... 1 2 3 4 5  
Greater harmony can come out of disagreement..... 1 2 3 4 5  
I am comfortable initiating new ways of looking at things..... 1 2 3 4 5  
My behaviors are congruent with my beliefs..... 1 2 3 4 5  
I am committed to a collective purpose in those groups to which I belong..... 1 2 3 4 5  
It is important to develop a common direction in a group in order to get anything done..... 1 2 3 4 5  
I respect opinions other than my own..... 1 2 3 4 5  
Change brings new life to an organization..... 1 2 3 4 5  
The things about which I feel passionate have priority in my life..... 1 2 3 4 5  
I contribute to the goals of the group..... 1 2 3 4 5  
There is energy in doing something a new way..... 1 2 3 4 5  
I am uncomfortable when someone disagrees with me..... 1 2 3 4 5  
I know myself pretty well..... 1 2 3 4 5  
I am willing to devote the time and energy to things that are important to me..... 1 2 3 4 5  
I stick with others through difficult times..... 1 2 3 4 5  
When there is a conflict between two people, one will win and the other will lose..... 1 2 3 4 5  
Change makes me uncomfortable..... 1 2 3 4 5  
It is important to me to act on my beliefs... 1 2 3 4 5  
I am focused on my responsibilities..... 1 2 3 4 5  
I can make a difference when I work with others on a task..... 1 2 3 4 5  
I actively listen to what others have to say..... 1 2 3 4 5  
I think it is important to know other people's priorities..... 1 2 3 4 5

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| My actions are consistent with my values.....                            | 1 | 2 | 3 | 4 | 5 |
| I believe I have responsibilities to my community.....                   | 1 | 2 | 3 | 4 | 5 |
| I could describe my personality.....                                     | 1 | 2 | 3 | 4 | 5 |
| I have helped to shape the mission of the group.....                     | 1 | 2 | 3 | 4 | 5 |
| New ways of doing things frustrate me.....                               | 1 | 2 | 3 | 4 | 5 |
| Common values drive an organization.....                                 | 1 | 2 | 3 | 4 | 5 |
| I give time to making a difference for someone else.....                 | 1 | 2 | 3 | 4 | 5 |
| I work well in changing environments.....                                | 1 | 2 | 3 | 4 | 5 |
| I work with others to make my communities better places.....             | 1 | 2 | 3 | 4 | 5 |
| I can describe how I am similar to other people.....                     | 1 | 2 | 3 | 4 | 5 |
| I enjoy working with others toward common goals.....                     | 1 | 2 | 3 | 4 | 5 |
| I am open to new ideas.....  | 1 | 2 | 3 | 4 | 5 |
| I have the power to make a difference in my community.....               | 1 | 2 | 3 | 4 | 5 |
| I look for new ways to do something.....                                 | 1 | 2 | 3 | 4 | 5 |
| I am willing to act for the rights of others.....                        | 1 | 2 | 3 | 4 | 5 |
| I participate in activities that contribute to the common good.....      | 1 | 2 | 3 | 4 | 5 |
| Others would describe me as a cooperative group member.....              | 1 | 2 | 3 | 4 | 5 |
| I am comfortable with conflict.....                                      | 1 | 2 | 3 | 4 | 5 |
| I can identify the differences between positive and negative change..... | 1 | 2 | 3 | 4 | 5 |
| I can be counted on to do my part.....                                   | 1 | 2 | 3 | 4 | 5 |
| Being seen as a person of integrity is important to me.....              | 1 | 2 | 3 | 4 | 5 |
| I follow through on my promises.....                                     | 1 | 2 | 3 | 4 | 5 |
| I hold myself accountable for responsibilities I agree to.....           | 1 | 2 | 3 | 4 | 5 |
| I believe I have a civic responsibility to the greater public.....       | 1 | 2 | 3 | 4 | 5 |
| Self-reflection is difficult for me.....                                 | 1 | 2 | 3 | 4 | 5 |
| Collaboration produces better results.....                               | 1 | 2 | 3 | 4 | 5 |
| I know the purpose of the groups to which I belong.....                  | 1 | 2 | 3 | 4 | 5 |
| I am comfortable expressing myself.....                                  | 1 | 2 | 3 | 4 | 5 |

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| My contributions are recognized by others in the groups I belong to..... | 1 | 2 | 3 | 4 | 5 |
| I work well when I know the collective values of a group.....            | 1 | 2 | 3 | 4 | 5 |
| I share my ideas with others.....  | 1 | 2 | 3 | 4 | 5 |
| My behaviors reflect my beliefs.....                                     | 1 | 2 | 3 | 4 | 5 |
| I am genuine.....  | 1 | 2 | 3 | 4 | 5 |
| I am able to trust the people with whom I work.....                      | 1 | 2 | 3 | 4 | 5 |
| I value opportunities that allow me to contribute to my community.....   | 1 | 2 | 3 | 4 | 5 |
| I support what the group is trying to accomplish.....                    | 1 | 2 | 3 | 4 | 5 |
| It is easy for me to be truthful.....                                    | 1 | 2 | 3 | 4 | 5 |

### THINKING MORE ABOUT YOURSELF

#### 19. How would you characterize your political views? (Mark One)

- ☐ Far left
- ☐ Liberal
- ☐ Middle-of-the-road
- ☐ Conservative
- ☐ Far right

#### 20. In thinking about how you have changed during college, to what extent do you feel you have grown in the following areas? (Circle one response for each.)

1 = Not grown at all      3 = Grown  
2 = Grown somewhat      4 = Grown very much

Ability to put ideas together and to see relationships between ideas.....1 2 3 4

Ability to learn on your own, pursue ideas, and find information you need.....1 2 3 4

Ability to critically analyze ideas and information.....1 2 3 4

Learning more about things that are new to you.....1 2 3 4

#### 21. Please indicate the extent to which you agree or disagree with the following statements. (Circle one response for each.)

1 = Strongly disagree      3 = Agree  
2 = Disagree      4 = Strongly agree

Since coming to college, I have learned a great deal about other racial/ethnic groups.....1 2 3 4

I have gained a greater commitment to my racial/ethnic identity since coming to college .. 1 2 3 4

My campus's commitment to diversity fosters more division among racial/ethnic groups than inter-group understanding ..... 1 2 3 4

Since coming to college, I have become aware of the complexities of inter-group understanding..... 1 2 3 4

### THINKING ABOUT LEADERSHIP

**22. How confident are you that you can be successful at the following:** (Circle one response for each.)

1 = Not at all confident      3 = Confident  
2 = Somewhat confident      4 = Very confident

Leading others..... 1 2 3 4

Organizing a group's tasks to accomplish a goal. 1 2 3 4

Taking initiative to improve something..... 1 2 3 4

Working with a team on a group project..... 1 2 3 4

**23. To what degree do you agree with these items?**

(Circle one response for each.)

1 = Strongly disagree  
2 = Disagree  
3 = neither agree or disagree  
4 = Agree  
5 = Strongly agree

It is the responsibility of the head of a group to make sure the job gets done ..... 1 2 3 4 5

A person can lead from anywhere in the organization, not just as the head of the organization ..... 1 2 3 4 5

I spend time mentoring other group members..... 1 2 3 4 5

I think of myself as a leader ONLY if I am the head of a group (e.g. chair, president) 1 2 3 4 5

Group members share the responsibility for leadership..... 1 2 3 4 5

I am a person who can work effectively with others to accomplish our shared goals..... 1 2 3 4 5

I do NOT think of myself as a leader when I am just a member of a group..... 1 2 3 4 5

Leadership is a process all people in the group do together ..... 1 2 3 4 5

I feel inter-dependent with others in a group. .... 1 2 3 4 5

I know I can be an effective member of any group I choose to join..... 1 2 3 4 5

Teamwork skills are important in all organizations ..... 1 2 3 4 5

The head of the group is the leader and members of the group are followers ..... 1 2 3 4 5

### YOUR COLLEGE CLIMATE

24. Select the number that best represents your experience with your overall college climate

Closed, hostile, intolerant, unfriendly      1 2 3 4 5 6 7      Open, inclusive, supportive, friendly

### BACKGROUND INFORMATION

**25. What were your average grades in High School?** (Choose One)

- ☐ A or A+
- ☐ A- or B+
- ☐ B
- ☐ B- or C+
- ☐ C
- ☐ C- or D+
- ☐ D or lower

26. Did your high school require community service for graduation? (Circle One) ..... YES NO

27. What is your age?

28. What is your gender?

- ☐ Female
- ☐ Male
- ☐ Transgender

29. What is your sexual orientation?

- ☐ Heterosexual
- ☐ Bisexual
- ☐ Gay/Lesbian
- ☐ Rather not say

30. Indicate your citizenship and/ or generation status: (Choose One)

- ☐ Your grandparents, parents, and you were born in the U.S.
- ☐ Both of your parents AND you were born in the U.S.
- ☐ You were born in the U.S., but at least one of your parents was not
- ☐ You are a foreign born, naturalized citizen

- ☐ You are a foreign born, resident alien/ permanent resident
- ☐ You are on a student visa

31. Please indicate your racial or ethnic background. (Mark all that apply)

- ☐ White/Caucasian
- ☐ African American/Black
- ☐ American Indian/Alaska Native
- ☐ Asian American/Asian
- ☐ Native Hawaiian/Pacific Islander
- ☐ Mexican American/Chicano
- ☐ Puerto Rican
- ☐ Cuban American
- ☐ Other Latino American
- ☐ Multiracial or multiethnic
- ☐ Race/ethnicity not included above

32. Do you have a mental, emotional, or physical condition that now or in the past affects your functioning in daily activities at work, school, or home?

Yes      No

**if Yes** Please indicate all that apply:

- ☐ Deaf/Hard of Hearing
- ☐ Blind/Visually Impairment
- ☐ Speech/language condition
- ☐ Learning Disability
- ☐ Physical or musculoskeletal (e.g. multiple sclerosis)
- ☐ Attention Deficit Disorder/ Attention Deficit Hyperactivity Disorder
- ☐ Psychiatric/Psychological condition (e.g. anxiety disorder, major depression)
- ☐ Neurological condition (e.g. brain injury, stroke)
- ☐ Medical (e.g. diabetes, severe asthma)
- ☐ Other

33. What is your current religious affiliation? (Choose One)

- ☐ None
- ☐ Agnostic
- ☐ Atheist
- ☐ Buddhist
- ☐ Catholic
- ☐ Hindu
- ☐ Islamic
- ☐ Jewish
- ☐ Mormon
- ☐ Quaker
- ☐ Protestant (e.g. Baptist, Methodist, Presbyterian)
- ☐ Other
- ☐ Other Christian
- ☐ Rather not say

34. What is your best estimate of your grades so far in college? [Assume 4.00 = A] (Choose One)

- ☐ 3.50 – 4.00
- ☐ 3.00 – 3.49

- ☐ 2.50 – 2.99
- ☐ 2.00 – 2.49
- ☐ 1.99 or less
- ☐ No college GPA

35. What is the HIGHEST level of formal education obtained by any of your parent(s) or guardian(s)? (Choose one)

- ☐ Less than high school diploma or GED
- ☐ High school diploma or GED
- ☐ Some college
- ☐ Associates degree
- ☐ Bachelors degree
- ☐ Masters degree
- ☐ Doctorate or professional degree (e.g., JD, MD, PhD)
- ☐ Don't know

36. What is your best estimate of your parent(s) or guardian(s) combined total income from last year? If you are independent from your parents, indicate your income. (Choose one)

- ☐ Less than \$12,500
- ☐ \$12,500 - \$24,999
- ☐ \$25,000 - \$39,999
- ☐ \$40,000 - \$54,999
- ☐ \$55,000 - \$74,999
- ☐ \$75,000 - \$99,999
- ☐ \$100,000 - \$149,999
- ☐ \$150,000 - \$199,999
- ☐ \$200,000 and over
- ☐ Don't know
- ☐ Rather not say

37. Which of the following best describes where are you currently living while attending college? (Choose one)

- ☐ Parent/guardian or other relative home
- ☐ Other private home, apartment, or room
- ☐ College/university residence hall
- ☐ Other campus student housing
- ☐ Fraternity or sorority house
- ☐ Other

#### INDIVIDUAL CAMPUS ITEMS

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.



## Appendix B: Factor Analysis Factor Matrix

**Factor Matrix<sup>a</sup>**

|   | Factor |
|---|--------|
|   | 1      |
| ENV7A: DIVERSITY:<br>Talked about different<br>lifestyles/customs                     | .743   |
| ENV7B: DIVERSITY:<br>Discussions with<br>students with values<br>different than own   | .816   |
| ENV7C: DIVERSITY:<br>Discussed major<br>social issues                                 | .799   |
| ENV7D: DIVERSITY:<br>Discussions with<br>students with different<br>religious beliefs | .781   |
| ENV7E: DIVERSITY:<br>Discussed views<br>about multiculturalism                        | .807   |
| ENV7F: DIVERSITY:<br>Discussions with<br>students with different<br>political views   | .748   |

Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 4 iterations required.

## Appendix C: Participant Invitation Email Template

### INFORMED CONSENT FORM: RANDOM SAMPLE

#### Multi-Institutional Study of Leadership

*[NOTE: Will be administered in an on line format]*

You have been randomly selected to participate in an important research project being conducted by **[INSERT INSTITUTION NAME]** and the National Clearinghouse for Leadership Programs. The purpose of this research project is to enhance knowledge regarding college student leadership development as well as the influence of higher education on the development of leadership capacities.

If you choose to participate in this important research study, you will be asked to complete an online survey that should take about 20 minutes. On this survey you will be asked questions pertaining to your pre-college and college experiences and attitudes.

- All information collected in this study will be kept confidential. Reports and presentations on the study will be based on grouped data and will not reveal your identity. Data will be collected by an independent contractor specializing in survey collection.
- There are no known risks associated with your participation in this study.
- Your participation is entirely voluntary, and you are free to withdraw from participation at any time. Failure to participate will not result in the loss of any benefit from your institution.
- The research is not designed to help you personally, but the benefits of participation include contributing to research on an important topic.

If you have any questions about participating in this study, please contact **[INSERT INSTITUTION CONTACT NAME]**, your campus' principal investigator, at **[INSERT PHONE NUMBER]** or via email at **[INSERT EMAIL ADDRESS]**.

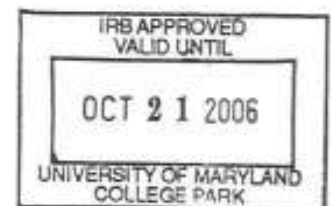
If you have questions about your rights as a research subject or wish to report a research-related injury, please contact the campus Institutional Review Board Office at **[INSERT LOCAL IRB CONTACT INFORMATION]**.

Answering "Yes" indicates that:

- you are at least 18 years of age;
- the research has been explained to you;
- your questions have been fully answered; and
- you freely and voluntarily choose to participate in this research project.

\_\_\_ Yes, I wish to participate in this study and begin the instrument.

\_\_\_ No, I do not wish to participate in this research study.



## Appendix D: Participant Informed Consent Template

Dear [INSTITUTION] student,

[INSTITUTION] has been selected to participate in a national study which will focus on student leadership experiences in college. As an institution, we are very interested in developing leadership among our graduates and hope to learn more about our students' experiences through participation in this study.

You have been randomly selected to participate in this national study! Your participation is VERY important and will contribute a great deal to understanding the college student experience at both [INSTITUTION] and within the context of higher education. This is an amazing opportunity for [INSTITUTION] and we hope you are excited to participate.

Participation is easy and just by completing the survey, you will automatically be eligible for numerous prizes including... [institution will insert incentives here]

What does it mean to participate?

- Participation in the study will involve completing an online survey/questionnaire about your college involvements and your thoughts about leadership.
- The survey should take approximately 20 minutes to complete.
- Your response is completely confidential. Only the researcher will be able to attach your name to your response so please be candid and honest.
- Participation is of course, totally voluntary.

We encourage you now to click on the link below to indicate your consent to participate in the survey. If you have any questions, please contact [INSTITUTION CONTACT PERSON NAME EMAIL and PHONE].

Thank you for your participation!

[INSTITUTION CONTACT PERSON]

CLICK HERE TO BEGIN  
<http://www.....link> for survey

## Appendix E: Institutional Review Board (IRB) Approval



# UNIVERSITY OF MARYLAND

INSTITUTIONAL REVIEW BOARD

2100 Blair Lee Building  
College Park, Maryland 20742-5121  
301.405.4212 TEL 301.314.1475 FAX  
irb@deans.umd.edu  
www.umresearch.umd.edu/IRB

March 16, 2007

### **MEMORANDUM**

#### *Addendum Approval Notification*

**To:** Dr. Susan R. Komives  
John Dugan  
James R. Neumeister  
Julie Owen  
Daniel Ostick  
Jeremy Page  
Tom Segar  
Craig Slack  
Nathan Slife  
Wendy Wagner  
Terry Zacker  
Office of Campus Programs

**From:** Roslyn Edson, M.S., CIP, *RE*  
IRB Manager  
University of Maryland, College Park

**Re:** **IRB Application Number:** 05-0454  
**Project Title:** "The Multi-Institutional Study of Leadership"

**Approval Date Of  
Addendum:** March 16, 2007

**Expiration Date of  
IRB Project Approval:** September 14, 2007

**Application Type:** *Addendum/Modification: Approval of request, submitted to the IRB Office on 12 March 2007, to add the following project for which Katherine Hershey is the student investigator, "Engaging with Diversity: Examining the Relationships between Diverse Interactions and Conversations, and Undergraduate Students' Appreciation of Diversity and Consciousness of Self."*

**Type of Review of  
Addendum:** Expedited

**Type of Research:** Non-exempt

The University of Maryland, College Park Institutional Review Board (IRB) Office approved your IRB application. The research was approved in accordance with the University's IRB policies and procedures and 45 CFR 46, the Federal Policy for the Protection of Human Subjects. Please reference the above-cited IRB application number in any future communications with our office regarding this research.

(continued)

**Recruitment/Consent:** For research requiring written informed consent, the IRB-approved and stamped informed consent document is enclosed. The IRB approval expiration date has been stamped on the informed consent document. Please keep copies of the consent forms used for this research for three years after the completion of the research.

**Continuing Review:** If you want to continue to collect data from human subjects or to analyze private, identifiable data collected from human subjects, after the expiration date for this approval (indicated above), you must submit a renewal application to the IRB Office at least 30 days before the approval expiration date.

**Modifications:** Any changes to the approved protocol must be approved by the IRB before the change is implemented, except when a change is necessary to eliminate an apparent immediate hazard to the subjects. If you would like to modify an approved protocol, please submit an addendum request to the IRB Office. The instructions for submitting an addendum are posted at: [http://www.umresearch.umd.edu/IRB/irb\\_Addendum%20Protocol.htm](http://www.umresearch.umd.edu/IRB/irb_Addendum%20Protocol.htm)

**Unanticipated Problems Involving Risks:** You must promptly report any unanticipated problems involving risks to subjects or others to the IRB Manager at 301-405-0678 or [redson@umresearch.umd.edu](mailto:redson@umresearch.umd.edu).

**Student Researchers:** Unless otherwise requested, this IRB approval document was sent to the Principal Investigator (PI). The PI should pass on the approval document or a copy to the student researchers. This IRB approval document may be a requirement for student researchers applying for graduation. The IRB may not be able to provide copies of the approval documents if several years have passed since the date of the original approval.

**Additional Information:** Please contact the IRB Office at 301-405-4212 if you have any IRB-related questions or concerns.

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