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Intergroup Contact through Study Abroad: An Investigation of Effects of Study Abroad on Student Engagement with Racial and Religious Diversity

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INTergroup contact through study abroad: An investigation of effects of study abroad on student engagement with racial and religious diversity

A Thesis
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
Applied Sociology

by
Rachel Anne Hanson
May 2017

Accepted by:
Dr. William Haller, Committee Chair
Dr. Catherine Mobley
Dr. Sharon Nagy
ABSTRACT

This study examines the effects of participation in study abroad on undergraduate students’ engagement with racial and religious diversity to identify outcomes and patterns that support the prominent goals in higher education of promoting global learning and enhancing inclusion and diversity on university campuses. Based on the framework of intergroup contact theory, I use hierarchical regression models to analyze data from the National Survey of Student Engagement collected at Clemson University in 2013 and 2015. Among undergraduate seniors, participation in study abroad is significantly associated with greater engagement with topics related to racial and religious diversity, and engagement with diverse peers. The results corroborate previous findings that study abroad has significant effects on students’ perspectives and behaviors, and suggest that the prejudice reduction effects of intergroup contact that may result from study abroad experiences generalize to subsequent interactions on students’ home campuses.
DEDICATION

I dedicate this thesis to my Grandpa Rod. Rodney Earl Greiner grew up as a poor kid in rural Nebraska during the Great Depression, and passed on during the final year of my graduate work a world traveler who had visited scores of countries with his wife, my grandmother, Ruth Brunskill Greiner. As a long-time philanthropist and member of Rotary International, he was an early model to me for building friendships around the world and across cultures, and he was steadfast and persistent in maintaining them over the decades. As this research has prompted me to think more and more about the power of intercultural experiences to broaden our perspectives and wash away prejudices, I was touched that Rod’s final weeks of life were happily punctuated by visits and video calls with decades-old friends from around the globe: Colombia, Mexico, Japan and England, to name just a few. What a transformation!
ACKNOWLEDGEMENTS

I owe acknowledgements and immeasurable gratitude to the many people who have helped me along the way to completing this degree:

To my father, who never hinted that I should expect anything other than to complete a master’s degree, and inspired the intellectual curiosity and drive to be ever-learning that undergirds everything I do.

To my mother, who has always challenged me to set aside my self-imposed limitations, and who led our family through the early travels that set me on the path of global exploration that yielded this research, and so many other adventures and achievements.

To Prof. John Williams, who led me and many other students on, what I now understand to be, supremely well-designed and perspective-changing study abroad programs.

To the Sociology and Anthropology Department faculty at Clemson University, including Dr. Sharon Nagy, Dr. Bill Haller, Dr. Catherine Mobley, Dr. Bill Wentworth, Dr. Ye Luo; and Dr. Tami Eitle (Montana State University) for their caring encouragement, and wise, gentle guidance.
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CHAPTER ONE
INTRODUCTION

Internationalization of higher education has become a priority in the United States and across the globe in recent decades, and study abroad has received increased attention and investment as the primary vehicle for achieving that goal. According to the 2016 report from the Institute for International Education (IIE), the number of American students who received credit for study abroad during the 2014/15 academic year increased by 2.9 percent from the previous year to 313,415. And the report notes that that number has increased by approximately 52 percent since 2005. That number represents 1.5 percent of enrolled students, and about 10 percent of all graduates (Open Doors 2016; NAFSA 2016).

Study abroad is frequently invoked as a high-impact way to foster global learning and develop global competencies (Murphy 2014). Indeed, a majority of university alumni who participated in study abroad indicate that it was their most important undergraduate experience for developing global engagement, and many also name it as among the most pivotal experiences of their college career and even lifetime (Paige et al. 2009).

At Clemson University, 1,456 students studied abroad in the 2014/15 academic year, which was an increase of approximately 46 percent since 2010/11 (Study Abroad Office 2016). The current four-year strategic plan, ClemsonForward 2020, includes aims to integrate global learning outcomes into the curriculum and to eventually establish a Global Learning Institute – both goals include study abroad as a component (Clemson University 2016a). The Global Learning Task Force, established to develop an
implementation and assessment plan for global learning has defined global learning this way:

Global learning is the educational process through which students acquire the knowledge, skills, and attitudes that enable them to:

- develop global self-awareness,
- acquire capacity for global perspective-taking,
- analyze global systems,
- respect the variety of beliefs, practices, and perspectives within the U.S. and around the world,
- demonstrate personal, social, and global responsibility,
- and apply this knowledge to their lives and careers in a global society (Global Learning Task Force 2016).

Clemson’s strategic plan also includes goals for diversity and campus climate. The plan sets forth as one aim to recruit and retain a larger number of undergraduate and graduate students, and faculty from underrepresented populations. Likewise, the mission of the campus Office for Inclusion and Equity is “to create a diverse community that welcomes people of different races, cultures, ages, genders, sexual orientation, religions, socioeconomic levels, political perspectives, abilities, opinions, values and experiences” (Clemson University 2016b). Among other measures, the Campus Climate survey will be used as an indicator of progress toward this aim (Clemson University 2016a). The 2012 results from that survey revealed that 270 participants (6 percent) had considered leaving the university on account of an issue related to diversity, inclusion, appreciation of difference, etc.; and 14 percent of those were African American (Division of Student
Affairs 2012). Recent events and activities in the Clemson community and the nation at large also highlight the ongoing issues related to inclusion and diversity. As Clemson’s family grows and as the broader demographic landscape of the U.S. changes, it is imperative that students develop the skills to gracefully and thoughtfully navigate interactions with peers from different racial, ethnic, and religious groups. It is possible that the strategic goals of expanding study abroad and integrating global learning, and creating a more inclusive and diverse campus community can be mutually supportive.

In this thesis, I review the research on study abroad outcomes in order to identify gaps in the literature; explore how the intergroup contact theory of prejudice reduction can be applied to help explain outcomes related to the study abroad experience; and consider the extent to which study abroad may impact the returning students’ intellectual and social engagement with diverse peers and topics related to diversity.
CHAPTER TWO
LITERATURE & THEORETICAL FRAMEWORK

Study Abroad Literature

The literature on the impacts of study abroad is broad and diverse, just like study abroad itself. American students have been studying abroad for decades, but the attention paid to promoting study abroad in colleges and universities, and to fostering global competencies has increased since the mid-1980s; and the 9/11 attacks brought renewed focus to the need for global awareness (Commission on the Abraham Lincoln Study Abroad Fellowship Program 2005).

Additionally, the kinds of programs available to students have diversified, and the recent trend has been toward shorter trips (Commission on the Abraham Lincoln Study Abroad Fellowship Program 2005). Typically, students desiring to study abroad choose from among year-long, semester, and short-term (eight weeks or less) programs that are administered through faculty at their home university, through a third-party provider or other university, or through a bilateral exchange agreement with a university abroad. Trends over the last two decades show that fewer and fewer students are studying abroad for the full academic year, and more are opting for programs of less than one academic quarter (Dwyer 2002). Data from the Institute for International Education confirms that 56.6 percent of study abroad participants in 2009/10 completed programs of eight weeks or less, and 39.4 percent participated in semester- or one of two quarter-long programs (Open Doors 2011). In their most recent publicly available data, the proportion of students on short-term programs had risen to 63.1 percent, an increase of 6.5 percent; meanwhile,
the number of students on semester- and year-long programs decreased by 5.1 and 1.4 percent, respectively (Open Doors 2016). All of these types of programs also vary widely in duration, depth of immersion, emphasis on language acquisition, location, and intentionality of design.

The research on impacts and outcomes is dominated primarily by small studies of individual programs at institutions across the United States and Europe, and their conclusions are as mixed as the types of programs they seek to evaluate. Almost across the board, these investigations are not guided by any well-defined theoretical frameworks. A few particular designs dominate the literature. Several of the larger studies aim to measure the short- and long-term impacts of study abroad experiences by surveying alumni, and in some cases, comparing those alumni to a control group that did not study abroad as undergraduates. The smaller, single-program and single-institution studies generally employ pretest-posttest designs, or a comparison between a study abroad cohort and a control group. Definitions of the outcomes also vary across the scholarly literature and across institutional and program mission statements.

**Study abroad outcomes**

This study aims to examine outcomes of study abroad specific to students’ intellectual and social engagement with diverse topics and persons. These particular variables are encompassed in larger concepts found in the literature measuring changes that occur for students through study abroad experience. Specific measures vary across the published research, but the most prominent concepts employed with roughly congruent meaning are: global awareness, global competence, intercultural competence, intercultural
development, global engagement, global citizenship, global citizen identity and intercultural sensitivity. They all refer broadly to students’ capacity and choices to integrate into their lives ideas, cultural features, and people from contexts beyond that of their upbringing or home culture. The operationalization of these concepts include components such as civic engagement, lifestyle changes, knowledge application and production, engagement with internationally-oriented activities, understanding complex global issues, knowledge of cultures and languages, perspective-taking, and global self-awareness. Embedded in some of these definitions and in some instances explored separately are the concepts of relativistic appreciation of diversity, comfort with diversity, and engagement with diverse peers. Because those specific to changes in attitudes about diversity and interaction with diversity are of particular relevance and interest to this study, they will each be discussed in separate sections below.

*Positive effects from Study Abroad*

The literature reveals positive impacts from study abroad across many outcomes, even after controlling for demographics and other student experiences, suggesting that studying abroad has both major social and individual benefits (Paige et al. 2010; Murphy et al. 2014; Salisbury, An and Pascarella 2013). Global engagement, the participation of students and alumni in activities and interactions with an international component, constitutes one category of outcomes that scholars have endeavored to measure. In one large study, students’ responses indicated that study abroad was among the most salient features of their undergraduate experience and of their lives, and that they also often attributed their growth in global engagement to those study abroad experiences (Paige et
al. 2009; Paige et al. 2010). And this attribution was echoed in another qualitative study examining students’ perceptions of the meaning and process of developing global citizen identity; students indicated that study abroad experiences had the largest effect on global citizen identity development (Hendershot and Sperandio 2009).

Several investigations revealed positive outcomes from various study abroad programs using a measure developed for the Study Abroad for Global Engagement (SAGE) Study, one of the larger studies from the literature, conducted by the University of Minnesota. The instrument included questions regarding five components of global engagement: civic engagement, voluntary simplicity, philanthropy, knowledge production and social entrepreneurship (Paige et al. 2010). An additional study added to this list engagement with internationally oriented activities for personal enjoyment or leisure (Murphy et al. 2014). The research shows that study abroad has a definitive positive effect on voluntary simplicity and purchasing decisions – the choice to maintain a simpler lifestyle and to be a socially responsible consumer. Among participants in one study, 67% of the study abroad alumni indicated that their study abroad experience influenced them to make such lifestyle and consumption choices (Murphy et al. 2014). And participants in a study attempting to define global citizenship through student responses revealed that activism and social responsibility were outcomes of the development of global citizen identity (Hendershot and Sperandio 2009).

Additionally, study abroad seems to shape professional and educational directions for students. Alumni of study abroad programs pursue graduate work at a higher rate than the national average, and many indicate that study abroad experiences significantly
influenced their educational and occupational choices. Study abroad alumni are also more likely to publish work with an international or intercultural orientation, though they do not produce knowledge, generally, at a higher rate than other alumni. In the philanthropy category, study abroad alumni were found to be more likely to volunteer for certain types of organizations, and to make monetary donations to those same organizations than their non-study abroad peers. And study abroad participants demonstrated higher levels of participation in civic engagement activities, especially those civic activities with international importance (Paige et al. 2010; Murphy et al. 2014).

In an additional category, engagement with internationally-oriented activities for personal enjoyment, Murphy and her colleagues (2014) observed that participants in their study abroad alumni group were more likely than others to engage in every type of activity in the category, such as cooking international cuisine, travelling internationally for pleasure, watching films and listening to music in non-English languages, accessing foreign websites and reading international newspapers and magazines, taking language classes, and hosting international visitors. Overall, study abroad alumni were more likely to engage in activities and behaviors that involve a connection with the people or material products of other cultures (Murphy et al. 2014).

Additional studies include in their definition of global competence or citizenship understanding of complex global issues, ability to apply knowledge and perspective-taking. The findings show that study abroad experience is associated with increases in self-reported understanding of the complexity of global issues and global interdependence – defined as awareness of the interconnectedness of national, international systems –, as well
as the ability to apply knowledge gained from those experiences, and appreciation of alternative perspectives of global issues (Chieffo and Griffiths 2004; Stebleton, Soria and Cherney 2013). A large 2004 study of students in the University System of Georgia, found that study abroad participants had greater knowledge than their peers of global interdependence, as well as world geography, and the strongest positive effect they observed was in functional knowledge (e.g. how to make a phone call while abroad, how to pacify an angry merchant). The same study revealed that students who studied abroad had greater knowledge of cultural relativism, though the effect was modest (Sutton and Rubin 2004). Students also identified becoming aware of different perspectives and ways of responding to issues as an integral component of global citizenship (Hendershot and Sperandio 2009).

A second broad category of outcomes, intercultural development or intercultural competence, is comprised of measures of language ability, intercultural sensitivity, facility adapting to new cultures and working with people from other cultures, and comfort with diverse people. In their 2013 study Stebleton, Soria and Cherney (2013) observed that nearly all types of travel typical of college-age students were associated with a gain in language and cultural competency. Throughout the literature there is consistent support for the hypothesis that study abroad participation is positively related to the ability to adapt to cultural differences, and to work with people from other cultures (Anderson et al. 2008; Forgues 2005; Lowe, Byron and Mennicke 2014; Murphy et al. 2014; Salisbury et al. 2013; Stebleton et al. 2013). Beyond enhanced ability to work with people from other cultures, several studies emphasized students’ comfort doing so, and their general openness to
diverse cultures. Stebleton and his colleagues (2013) found that students who had participated in formal university study abroad programs or service-related travel showed gains in comfort working with people from other cultures.

Four papers specifically ventured to measure the impact of study abroad on engagement with diversity. In a small 2006 study of a food science program to China, Ismail, Morgan and Hayes (2006) observed a statistically significant increase in openness to diversity between a pre-test and post-test given to their students. They observed the largest change in a question about enjoyment of courses that make the student think about things from a different perspective, which corroborates other findings showing gains in perspective-taking. Ismail, Morgan and Hays (2006) note that their results suggest that interaction with diverse peers through study abroad contribute positively to openness to diversity, and that this should be incorporated in the development of study abroad programs. Other research also indicates that study abroad participants do display measurable gains in openness to diversity (Forgues 2005; Lowe et al. 2014; Wortman 2002). In his 2002 dissertation, Wortman (2002) observed significant gains in openness to diversity between a pre-test and post-test among students who had participated in a one-semester study abroad program. However, he explained that there appeared to be no initial change, but that the effect appeared when the top 22.9% of scores were removed from the analysis. Those students who scored highly on the pre-test, particularly, did not display any measurable change in openness and in some cases even showed a slight decline, suggesting that there is ceiling on the effect of study abroad on openness (Wortman 2002). Lowe, Byron and Mennicke (2014) examined study abroad students’ subsequent interracial
interactions. Among the positive effects they identified were increased frequency of engagement with racial diversity, greater willingness to initiate interracial interactions on the part of white students, greater likelihood of seeking out diverse contacts, and increased interest in and commitment to racial diversity on campus. Lastly, they observed that study abroad participants reported that it was easier to make friends, generally, because of their increased ability to understand different perspectives.

A number of investigations suggest that the duration and depth of international experiences has a significant impact on global engagement outcomes, with depth of international experience showing the most consistent impact (Paige et al. 2010). Stebleton, Soria and Cherney (2013) examined the differential impact of different types of travel experiences on intercultural competencies – which include understanding the complexities of global issues, applying disciplinary knowledge in a global context, having linguistic and cultural competency in one other language, and working with people from other cultures – and found that formal study abroad opportunities, as compared with informal educational travel and recreational travel, resulted in more significant overall self-reported increases in global competencies – which they operationalize as understanding the complexity of global issues, the ability to apply knowledge, language and cultural competency, the ability to work with people from other cultures, and comfort working with people from other cultures. And the results from Chieffo and Griffiths’ (2009) large study of participants short-term programs leads them to assert that even those short study abroad experiences have significant self-perceived impacts for students. The single-program study from Ismail, Morgan and Hayes (2006) revealed similar gains in openness to diversity among their
students as students who had participated in semester-long programs, yet they reiterate that longer-term experiences are better, and emphasize whether long or short, frequent peer interactions are integral to that outcome. Wortman (2002) also found that students in programs that were less integrated in the host culture showed no change in openness to diversity, while students in fully integrated programs demonstrated significant positive changes. He also discovered that students who studied in English-speaking countries showed increases in openness, yet no change was evidence among students who traveled to non-English speaking countries, and there was no explanatory effect from program type or duration in English-speaking countries, suggesting that language capacity is integral to the ability to integrate and thus undergo that change in attitude.

No evidence of effect of Study Abroad

While the evidence for positive effects of study abroad on global engagement, intercultural awareness, language and cultural competence, and interactions with diverse peers is extensive, some inconsistencies appear and indicate neutral and negative results from study abroad. Salisbury, An and Pascarella (2013) explain that the results from their study of longitudinal data from a national study of college students furnishes only marginal support for the relationship between study abroad and intercultural competence, and suggest that study abroad may not be as transformative as educators and administrators often assert. Their data shows that there is minimal impact from study abroad on what they name relativistic appreciation of cultural difference and comfort with that difference, and another pilot study of short-term study abroad found only weak support for the program’s impact on cultural sensitivity (Anderson et al 2006).
Neutral and negative results from the literature point to some factors that may moderate the effect of study abroad, and that reinforce the mediating factors noted above, such as longer duration and greater level of integration in the host culture. In their analysis of the differential impact of various types of international experiences on intercultural competence, Stebleton, Soria and Cherney (2013) found that while informal educational travel did positive impact linguistic and cultural development, travel for recreation actually had a negative association with language acquisition, as well as comfort working with people from other cultures. While many researchers and educators assert that the duration spent abroad is related to intercultural development and global engagement outcomes, Chieffo and Griffith’s (2004) large study of students of short-term study abroad participants showed no correlation between survey responses and previous travel experience, suggesting that the quantity of travel is not a critical factor. And contrary to some of the research, Sutton and Rubin (2004) found that study abroad did not have any effect on two important factors in their analysis: knowledge of interpersonal accommodation, and cultural sensitivity.

Specifically, in the category of awareness of global interdependence, Chieffo and Griffiths (2006) found that there was no difference between study abroad students and other students when asked about their understanding of US trade relationship and foreign manufacturing. They conjecture, however, that these items may have been too specific to expect any college student to know well. They also observed no difference between the two groups with regard to feeling comfortable explaining US foreign policy to someone in another country in 2004, yet there was a statistically significant difference in their 2003
cohort. They suspect this finding may be attributable to the 2003 US invasion of Iraq, which may have put a spotlight on foreign policy decisions.

Salisbury, An and Pascarella (2013) found that other experiences on campus such as diverse interactions and integrative learning experiences can affect the same development of intercultural competence that study abroad is supposed to. Corroborating this finding, an earlier large-scale examination of short-term study aboard participants revealed that academic class, GPA and major contributed to significant differences in responses, confounding the idea that study abroad is the primary influencer (Chieffo and Griffiths, 2004). Likewise, the mixed methods study from Lowe, Byron and Mennicke (2014), found that a student’s background, the location of the program, and the success of on-site facilitation were all additional factors that impacted outcomes.

Turning to the measures of openness to diversity, there were divergent results among the various sub-categories. A study of impacts of study abroad participation on subsequent racial interactions determined that although students felt more comfortable with interracial interactions and developed greater interest in diversity on their campuses, there was no apparent change in their actual engagement with racial diversity. Two-thirds of white students reported no change in their likelihood of interacting with diverse peers, or in their openness to diversity on campus. They even observed that a small number of respondents reported a decrease in the frequency of engagement with racial diversity. In the qualitative portion of the study, most students responded that they had always been open to racial diversity, even before studying abroad. In open-ended responses, a few students even explained that they had had bad experiences which impacted their feelings,
or that their preconceptions were confirmed, thus reinforcing racial barriers (Lowe et al. 2014).

**Attitude Changes in College**

The investigators who developed the openness diversity scale used by several of the authors referenced above, used it in their examination of influences on students’ openness to diversity during the first year of college (Pascarella et al. 1996). A few other authors have similarly explored factors that contribute to attitude changes in college, which furnish a relevant context for this study and are explored below.

Research has identified that values, and attitudinal and psychosocial change during college are most significantly impacted by students’ interpersonal environment. Additionally, institutional and faculty emphasis on diversity, and students’ direct experience with diversity also significantly and positively impact outcomes in openness to racial, cultural and value diversity (Pascarella et al. 1996; Astin 1993, cited in Pascarella et al. 1996).

Pascarella and his (1996) colleagues explore students’ openness to diversity as an appreciation of racial, cultural, and value diversity, as well as an orientation toward enjoyment from being challenged intellectually with differing ideas, perspectives, and values. They found, not surprisingly, that among the effects considered, pre-college openness scores were the strongest predictor of openness at the end of freshman year. Among the social experiences that the study considered, living on campus, participating in workshops about racial or cultural awareness, and hours worked were positively associated with openness. Additionally, positive effects were identified from student acquaintances,
topics of conversation with peers, and information in conversations with peers. Furthermore, they also found that there was a significant negative effect on openness from membership in Greek organizations. While they note that all of the effects were modest in magnitude and speak only to students’ first year of college, they explain that living on campus and participating in workshops produced stronger associations with openness among white students than non-white (Pascarella et al. 1996).

Complementing the work of Pascarella and his colleagues, Hurtado (1992) used longitudinal data from the University of California, Los Angeles to explore the influence of various individual, social and institutional characteristics on students’ perceptions of racial tension. Perceptions of racial tension were defined in that study based on students’ responses to questions about racial conflict on campus, inclusion of and sensitivity to minority perspectives, communication across racial groups, and trust between minorities and the administration. And she identified influencing characteristics that included the orientation of an institution toward student experience versus reputation, institutional commitment to diversity, and individual students’ social self-confidence (Hurtado 1992).

A subsequent review of the literature reiterates components of undergraduates’ experience that shape racial attitudes and perceptions of the campus racial climate. Hurtado and her colleagues (1999) note the import of institutions’ attention to the racial climate of their campuses, and the tangible effects on transitions, learning, and graduation rates for white and non-white students. They explain that many studies reveal the importance for outcomes of having diverse peers in the learning environment, such as students’ ability to
engage in complex problem solving, considering multiple perspectives, and intergroup communication and understanding.

Additionally, Hurtado and Milem, in a series of published articles, identify activities that students participate in during college that are positively related to commitments to promoting racial understanding, and to willingness to interact with others. While higher education generally does not always produce progressive changes in racial attitudes, these activities facilitate that progression. They include: socializing with someone from a different group, discussing issues related to race and ethnicity, attending racial awareness workshops, enrolling in ethnic studies courses, and participating in campus demonstrations (Hurtado 1990, 1992, Milem 1992, 1994a and 1994b, cited in Hurtado et al. 1999). Study abroad experiences of various designs often replicate some of these activities and interactions as they expose students to other groups, inform them about differing perspectives and customs, and may prompt conversation about ethnic and racial differences.

**Intergroup Contact Theory**

The contact hypothesis, or what is now more often referred to as intergroup contact theory furnishes a useful framework to consider the effects of contact with outgroups through study abroad experiences. In his 1954 book, *The nature of prejudice*, Gordon Allport laid out the foundations of his contact hypothesis and proposes four essential conditions for intergroup contact to result in a reduction in racial prejudice: equal group status within the situation, common goals, intergroup cooperation, support from
authorities. Many researchers have contributed to testing the hypothesis in various settings, confirming the essential conditions, suggesting other facilitating conditions, and proposing ways in which effects may be generalized beyond the immediate contact situation. These have included quasi-experimental studies in military units and schools in which the intergroup contact was randomized, as well as observational studies in which participant elected to participate. The lion’s share of investigations has been cross-sectional, with only a few longitudinal studies interspersed.

The body of research suggests that though contact by itself should not be assumed to effect a reduction in prejudice, attitude changes have been observed in many instances when the essential conditions are violated. Similarly, there are other conditions that may enhance the effect (Pettigrew 1998). Pettigrew’s 1998 review of literature on intergroup contact indicates that positive effects of contact occur much more frequently than is suggested by the hypothesis. Allport’s initial hypothesis includes no formulation of the process by which prejudice reduction occurs, and so subsequent researchers have posited myriad mediating factors and mechanism for attitude change through intergroup contact.

**Mediating factors that may serve as mechanisms for prejudice reduction**

Among the mechanisms for prejudice reduction asserted in the research is learning about the outgroup. This can facilitate the process in several ways. Learning about the outgroup may often serve to correct negative views held by the in-group. However, this typically only occurs if the behavior of the outgroup contrasts significantly with the stereotype held by the in-group, and if that stereotype has a strong association with the label put on the outgroup. Additionally, it is important that the behavior challenging the
stereotype occurs many times, in order to reinforce the contrast, and that the members of the outgroup involved are seen as typical of that outgroup (Pettigrew 1998). Stephan and Stephan also assert that learning about an outgroup can improve attitudes about that outgroup, in addition to challenging stereotypes. In their study of Anglo students learning about Chicano culture, they found that the students developed more positive attitudes toward their Chicano classmates (1984, cited in Pettigrew 1998).

Another mechanism of change proposed in the literature is behavioral change. Aronson and Patnoe explain that behavior can change through intergroup contact, and that individuals, after experiencing a change in behavior, may then alter their attitudes in order to resolve the emerging dissonance (1997, cited in Pettigrew 1998). Additionally, the positive effect of contact is enhanced by repeated or sustained contact, and the reward that comes from changes in behavior (Pettigrew 1998).

Emotion, empathy and friendship are additional mediating factors that facilitate reduction of prejudice through intergroup contact. A critical component element in intergroup situations is emotion, positive or negative. Positive emotions developing from the intergroup experience, can enhance the overall positive effect of contact (Pettigrew 1998). Empathy, in particular, from the in-group towards outgroup members also has been demonstrated to improve attitudes toward the whole outgroup (Batson, et al. 1997, cited in Pettigrew 1998).

Additionally, opportunities to develop friendships with outgroup members through contact is an especially effective mediator of positive effects. Indeed, outgroup exposure is also related to decreases in feelings of pride in one’s nationality (Pettigrew 1997).
Pettigrew found that prejudice reduction and friendship formed a cumulative process wherein cross-group friendships reduced prejudice leading to the development of more friendships which further reduced prejudice. Yet, he also noted in this survey in seven European countries that positive effects were weaker when contact was with diverse neighbors or coworkers than in friendships. The fact that there were consistently larger effect sizes in feelings and sympathy and admiration toward outgroups in this survey suggests that contact, in addition to changing the cognitive assessment of outgroup members, may also generate affective ties (Pettigrew 1997).

Introspection and reflection are integral components of the process of prejudice reduction that can occur through intergroup contact. Exposure to outgroups typically prompts a reappraisal of the norms and customs of the in-group as individuals realize theirs are not the only ones available to navigate the social world. The adjustment is sometimes referred to as deprovincialization. Moreover, it has also been observed that contact with the in-group decreases as contact with outgroups increases (Pettigrew 1998).

**Generalized effects of intergroup contact**

Pettigrew (1998) also notes the issue of generalization of intergroup contact effects. The initial hypothesis set forth by Allport makes no mention of if and how effects generalize beyond the immediate intergroup situation. The first possible generalization would be situational – do effects generalize across intergroup situations?

A second means of generalizing is from the interpersonal to the intergroup level. If change occurs, the question is, does it generalize to members of the outgroup that were not involved in the immediate intergroup situation? Third, and perhaps most relevant to this
study, is the question of whether changes can generalize to members of outgroups other than the one involved in the intergroup situation (Brewer & Miller 1988 and Hewstone 1996, cited in Pettigrew 1998). Van Oudenhoven noted that time sequence is crucial to achieve the prejudice reduction effect (1996, cited in Pettigrew 1998). Beyond that, salience – the degree to which outgroup members are perceived as being typical of their groups – cements the effect and allows it to generalize beyond the immediate situation. Furthermore, Wright and his colleagues (1997) observed that positive attitudes towards the outgroup can arise from knowledge of an in-group member’s friendship with a member of the outgroup.

Of particular interest to me in this study is the generalization of effects beyond the immediate situation to other members of the outgroup, and to other outgroups. In his 1997 analysis of surveys from seven European countries, Pettigrew found that reductions in prejudice among those with diverse friend groups generalized to more positive feelings about a wide variety of outgroups, even when some of those outgroups were not significantly represented in the nation under examination. This was observed both in feelings of sympathy and admiration toward members of various outgroups, as well as in policy preferences concerning immigrant groups.

In their longitudinal study of UCLA students, Levin et al. (2003) observed that when students had more outgroup friends they typically had fewer in-group friends, and that the numbers of all three categories of outgroup friends tended to rise together, suggesting that prejudice reduction was not isolated to one outgroup. In another study of UCLA students, van Laar and her colleagues (2004) found that interethnic roommate
pairings did cause a reduction in ethnic prejudice, with one exception. While the effect was strongest for attitudes toward the ethnicity of the roommate, they did find that the effect generalized to other ethnicities. Most notably, exposure to Blacks caused a reduction which generalized to Latinos, and vice versa.

**Tests of intergroup contact in the university setting**

As noted above, there is a small collection of studies that test intergroup contact theory in the university setting. Between 1996 and 2000 a group of researchers at the University of California, Los Angeles conducted a multi-phase longitudinal survey of undergraduates focusing on experiences and conditions of student life that impact ethnic attitudes and behavior (Levin, van Laar and Sidanius 2003; Sidanius et al. 2004; van Laar et al. 2005). These studies add to the intergroup contact theory literature by using a longitudinal model, where most others have been cross-sectional; and they explore the influence of intergroup contact in multi-ethnic settings, whereas others have been restricted to only two groups. The survey included five phases: a mass paper questionnaire administered during the orientation before the start of freshman year, and subsequent telephone surveys conducted during the spring semester of each of the cohort’s four years at the school.

The first paper analyzing that survey data (Levin et al. 2003), examined the effects of in-group and outgroup friendships on ethnic attitudes, in-group bias, and intergroup anxiety. The authors ask whether more positive ethnic attitudes develop at the end of college as a result of cross-group friendships that students form during college, and whether perceptions of campus climate affect the likelihood of friendship formation with in-group
and outgroup members. What the authors found was that students who had demonstrated more in-group bias and intergroup anxiety at the end of their first year had more in-group friends and fewer outgroup friends during the second and third years. The authors explain that this suggests that ethnic attitudes become a causal factor in friendship formation. Additionally, the survey results revealed that those students who had more outgroup friends during the second and third year exhibited less in-group bias and intergroup anxiety during the fourth year. They found that students who had more in-group friends during years two and three had more negative ethnic attitudes during their fourth year. Their analysis of these longitudinal patterns challenges Pettigrew’s (1997) assertion, made using only statistical methods in cross-sectional data, that the pathway from prejudice to avoidance is weaker than that from contact to prejudice reduction – they find that the two pathways are equal in magnitude. Furthermore, students who viewed their entire campus community as one group were likely to have more outgroup friends.

The second study specifically explored the hypotheses that pre-college ethnic attitudes would be associated with membership in Greek organizations, that whites would be overrepresented in those organizations, and that membership in Greek and ethnic organizations would contribute to greater in-group identification and negative attitudes toward other groups (Sidanius et al. 2004). The predominant finding of the study was that sororities and fraternities appear to serve as ethnic enclaves for white students, where those students are significantly and strongly overrepresented; meanwhile minority students are underrepresented among members of ethnic organizations and overrepresented in the non-member population. Furthermore, Sidanius et al.’s (2004) results showed that the
probability of students joining Greek organizations was significantly associated with pre-college levels of white identity. White membership in Greek organizations also related to increased opposition to ethnic diversity on campus, the belief that ethnic organizations promote separatism, opposition to interracial dating and marriage, symbolic racism and a feeling of ethnic victimization. Overall, their findings suggest that sororities and fraternities foster xenophobic, authoritarian and prejudiced attitudes among white students.

Finally, the third investigation (van Laar et al. 2005) examined the effects of living with randomly assigned in-group or outgroup roommates during the first year on affective, cognitive and behavioral indicators of prejudice. The authors ask whether contact with in-group peers increases prejudice, and whether contact with members of one outgroup affect prejudice toward other outgroups. Among the key findings was that interethnic roommate contact did cause reductions in prejudice, and that the positive effect occurred among pairings of all ethnic groups represented in the study. The observed prejudice reduction effect was strongest for the ethnic group of the roommate, though it did appear to generalize from Blacks to Latinos, and vice versa. Prejudice toward Blacks showed the largest reduction, and rooming with an African American or Latino roommate was associated with lower levels of symbolic racism and social dominance orientation. The authors note that Asian Americans were the single exception: that exposure seemed to increase prejudice in their case, though the authors did not suggest an explanation for the divergence.
Applying Intergroup Contact Theory to Study Abroad

At this intersection of the research on study abroad outcomes, and the prejudice reduction effects of intergroup contact, further exploration is warranted to identify the ways in which contact through study abroad may have impacts on intergroup attitudes and interactions. As described above, the literature on impacts of study abroad covers a broad range of outcomes encompassed in terms such as global engagement and intercultural competence. These concepts are comprised of components like language and cultural skills, adaptability, understanding of global systems, social responsibility, comfort interacting with people from other cultures, and openness to diversity. The literature provides evidence of many positive effects of study abroad on these outcomes. However, the mass of research is predominantly small-scale studies of individual programs or single institutions. Any theoretical framework for the investigation is also generally lacking from most of these studies. Finally, there are only a few investigations that specifically explore the effect of study abroad on openness to diversity and engagement with diverse peers, though as discussed, there are a few studies that explore such attitude changes during college without particularly addressing study abroad as a factor.

The literature on intergroup contact theory provides extensive evidence for the influence of contact between groups on ethnic prejudices, although the conditions and mechanisms effecting attitude change are not definitive. However, there has been limited exploration of various ways in which the effect of prejudices generalizes beyond the immediate contact situation, and how the theory plays out in multicultural situations. Likewise, only one author, in an unpublished dissertation, has ventured to consider study
abroad outcomes through the lens of intergroup contact theory (Wortman 2002). Yet, study abroad, in many instances meets many of the essential and facilitating conditions identified in the literature. Study abroad experiences provide an environment for contact which prompts introspection and reappraisal, and in many cases puts the student in a position as a minority or outsider in their host country. Especially in programs with greater degrees of immersion and integration in the host culture, students may be enabled to join in cooperative, goal-oriented activities with peers from the host country. These activities and interaction may then also provide opportunities for the development of affective ties with those outgroup peers. A question, therefore, remains of how the affective ties and reductions in prejudice that may be associated with experiences abroad can be generalized to interactions with outgroup peers in the home country.
CHAPTER THREE

METHODS

Data

This thesis analyzes data from the Clemson University subsample of the National Survey of Student Engagement (NSSE) from 2013 and 2015. The NSSE survey is administered to Clemson University freshman and seniors every year. The survey is administered through a census of each class population, and no incentives are offered to respondents. In both 2013 and 2015 – the years from which I am using data – survey invitations were sent to students via email, and in accordance with the Dillman method (Dillman, Smyth and Christian 2014) four reminder emails were sent following the initial invitation over a period of five weeks.

In 2013, all 3,450 eligible freshman were invited to participate in the survey. The response rate was 22 percent with 773 students returning the survey. All 5,173 eligible seniors in 2015 were invited to participate in the survey, and 926 returned the survey, a response rate of 18 percent. The total response rate among all institutions administering the NSSE in 2013 was 21 percent for freshmen and 26 percent for seniors. In 2015, all 4,401 eligible freshmen were invited to participate in the survey. The response rate was 12 percent, considerably lower than in 2013, with 525 returned surveys. All 5,172 eligible seniors were invited to participate and the response rate was just 10 percent with 538 students returning they survey. The 2015 response rates for all institutions administering the NSSE was 22 percent for freshmen and 25 percent for seniors. Each year the survey includes a cohort of freshmen and a cohort of seniors. The goal of the survey is not to
longitudinally track students, and so I will analyze the freshman and senior cohorts from each year separately.

Women and full-time students are consistently overrepresented among respondents, therefore, NSSE weights the results by gender and enrollment status to reflect the institution’s population and the national population. Because this study uses only data collected at Clemson University, I will use only the institutional weight.

Each year the university has the option to add up to two supplemental modules of questions to the base survey. In this thesis I analyze two such modules. The first is the Experiences with Diverse Perspectives Module which was administered at Clemson University along with the main survey in 2013, and the second is the Global Perspectives Module which was administered in 2015. Below I describe each of these modules in greater detail. Because I use questions from two different modules that were appended to the base NSSE survey in two separate years, I will analyze the two samples – 2013 and 2015 – separately.

There is a notable amount of missing data in the two data sets, particularly on the dependent variables because they are taken from modules that were added to the end of the survey. The primary pattern that appears in the missing data is that many students simply exited the survey early leaving many questions at the end unanswered. Specifically, this means that the majority of cases that have missing values are missing all of the items related to my dependent variables; consequently, I have chosen a case-wise deletion of missing values, rather than any kind of imputation. As a result, the total sample size for the 2013 data is 1,157 cases, and 690 for 2015.
**Variables**

**Dependent Variables**

The aim of this study is to examine possible effects of study abroad participation on openness to and engagement with racial and religious diversity. Openness and engagement with diversity are measured using items drawn from the main NSSE questionnaire and modules that attempt to measure students’ engagement with topics related to diversity and diverse peers, and social engagement with diverse peers on the Clemson campus.

**Intellectual Engagement with Diversity and Engagement with Diverse Peers**

The Experiences with Diverse Perspectives Module, which was appended to the base survey in 2013, is derived from research conducted by Hurtado (1992, 1999) and Milem (1994) about racial climates on university campuses, and Pascarella et al. (1996), Whitt et al. (2001) and Salisbury et al. (2013) regarding the experiences and exposure that contribute to changes in attitudes during college. This research identifies a variety of formal and informal academic and social activities in which students might engage, which are thought to be positively associated with commitment to promoting racial understanding and willingness to interact with others from different racial/ethnic groups. Examples include socializing with someone from a different group, discussing issues related to race and ethnicity, attending racial awareness workshops, enrolling in ethnic studies classes, and participating in campus demonstrations (Hurtado 1992; Milem 1994). The questions included in the Experiences with Diverse Perspectives module reflect these factors as well as the acknowledged role of institutions of higher education and peers as socializing agents.
One question on the module addresses the frequency of students’ conversations with peers from different racial/ethnic groups and different religious/philosophical backgrounds, and two other sets of questions focus on the respondents’ frequency of participation in a) activities that examine societal differences and b) discussions about societal differences. For the purpose of this study, I employ these six survey questions related to attending events and having discussions about racial or religious differences, and having conversations with diverse peers.

The first concept I will examine is student engagement with diversity through exposure to racially/ethnically and religiously diverse peers, and intellectual engagement with topics related to race/ethnicity and religious difference that challenge them with diverse viewpoints. Due to the racial and religious homogeneity of the student population at Clemson, and the racial component of many people’s assessment of adherents of other faiths, particularly Islam, I have chosen to include exposure to racial and religious difference in this concept.

For measurement purposes, I identify two dimensions of this concept: a) intellectual engagement with diversity; and b) engagement with diverse peers. The Experiences with Diverse Perspectives Module from 2013 includes four items that ask students about engagement with issues of race and ethnicity, and religious difference. The first two ask “during the current school year, how often have you attended events or activities that encouraged you to examine your understanding of issues of race, ethnicity or nationality / religious or philosophical differences?” A second pair of items similarly asks about the frequency of discussions about issues of race, ethnicity or nationality / religious or
philosophical differences. These two questions belong to a family of questions that includes the same stem question with regard to gender or sexual orientation issues, economic or social inequality, and political beliefs, though these others will not be included in this analysis. Respondents are asked to choose from among options in a four-item Likert scale spanning from never (1) to very often (4) (see Appendix A for the full module). Additionally, the main survey includes two questions that ask respondents to identify how frequently during the present school year they have had discussions with people from a race or ethnicity different from their own, and with people with religious beliefs other than their own. They answer with a four-item Likert scale ranging from never (1) to very often (4).

A principal component analysis of these six items from the Clemson NSSE data reveals two factor dimensions, which I have named intellectual engagement with diversity, and engagement with diverse peers. The first dimension, intellectual engagement with diversity, measures engagement in activities and conversations about the topic of diversity; and the second dimension, engagement with diverse peers, includes items that reflect the engagement in discussions with diverse peers. The factor loadings for each item, and the alpha reliability score for each factor are included in Table 2.1.

All of these questions closely model a set of nine questions used by Salisbury, An and Pascarella in their 2013 study. In their survey, they asked similar questions about frequency of attending events and workshops that present political and religious perspectives different than their own, and that addressed racial and cultural awareness.
Another set of questions asked about the frequency of conversations with peers from different races or ethnicities and political and religious perspectives, as well as conversations about intergroup relations or social justice with diverse peers, and conversations in which they share feelings for personal problems with diverse peers. This set of items, which make up the Diverse Experiences Scale in their study has an alpha score of .800 based on results from the Wabash National Survey (Salisbury et al. 2013).

Social Interaction with Diverse Peers

The Global Perspectives Module, appended to the 2015 NSSE, was developed in partnership with the Global Perspectives Institute, and is comprised of a selection of items
from an instrument called the Global Perspectives Inventory (GPI). The GPI is a 32-item survey that measures intercultural development and intercultural communication based on three dimensions: cognitive, intrapersonal, and interpersonal. Each dimension has been found to encompass two factors, for a total of six factors. The Global Perspectives Module used in the NSSE includes 21 of the items from the GPI. For the purpose of this study, I will use the four items that make up the Social Interaction factor of the interpersonal dimension.

The second concept I explore deals with students’ social interaction with diverse peers and focuses more on the development of affective ties with peers from different racial/ethnic and cultural groups. The items I use to measure this concept are drawn from the 2015 Global Perspectives module. These questions serve to operationalize the intercultural communication dimension of global perspective and global engagement through examining the “degree of engagement with others who are different from one’s self and the degree of cultural sensitivity when living in pluralistic settings” (Braskamp, Braskamp, and Engberg 2014). The first question asks respondents to agree or disagree, on a five-item scale, whether most of their friends are from their own ethnic background. The response scale for this question has been reverse coded in order to align with the scale of other items in the factor. Another question asks them to respond from among the same answer options whether they intentionally involve people from many cultural backgrounds in their life. A third question asks them to agree or disagree that they frequently interact with people from a different country from their own. And a final item asks them to rate on that scale whether they frequently interact with people from a different racial or ethnic
group than their own (see Appendix B for the full module). These four questions constitute the social interaction factor in the GPI.

<table>
<thead>
<tr>
<th>Item</th>
<th>Scale (Strongly disagree=1, Strongly agree=5)</th>
<th>Factor Loading (GPI)</th>
<th>Factor Loading (Clemson NSSE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Interaction with Diverse Peers</td>
<td>Most of my friends are from my own ethnic background*</td>
<td>Strongly disagree, Disagree, Neither agree nor disagree, Agree, Strongly Agree</td>
<td>.427</td>
</tr>
<tr>
<td></td>
<td>I frequently interact with students from a race/ethnic group different from my own</td>
<td>Strongly disagree, Disagree, Neither agree nor disagree, Agree, Strongly Agree</td>
<td>.568</td>
</tr>
<tr>
<td></td>
<td>I frequently interact with students from a different country from my own</td>
<td>Strongly disagree, Disagree, Neither agree nor disagree, Agree, Strongly Agree</td>
<td>.508</td>
</tr>
<tr>
<td></td>
<td>I intentionally involve people from many cultural backgrounds in my life</td>
<td>Strongly disagree, Disagree, Neither agree nor disagree, Agree, Strongly Agree</td>
<td>.486</td>
</tr>
</tbody>
</table>

*Item has been reverse-coded for purposes of scale construction

The factor loadings and reliabilities for the Social Interaction with diverse peers factor are based on a Principal Component analysis with Varimax rotation, and responses to the general form GPI used in the 2012/13 academic year. Using the standard cutoff of 1.0 for Eigenvalues, the results yield a six factor solution that explains approximately 50 percent of the cumulative variance in that solution. The social interaction factor has a reliability score of .700 (Braskamp et al. 2014). Using Clemson’s NSSE data, the four items have an alpha reliability score of .689 (see Table 2.2 for complete factor loadings from the GPI and Clemson NSSE).
The Global Perspectives Institute provides evidence of the reliability and validity of this measure. The instrument has been used in a number of studies and different universities with pre-test and post-test administrations at the beginning and end of semester-long study abroad programs. The results of those studies stability and consistency in the responses. Additionally, based on results from 9,773 undergraduates at 40 institutions that completed the GPI between August 2011 and June 2013, the Institute finds that the social interaction scale which I intend to use has an alpha coefficient of .700 (Braskamp et al. 2014).

The instrument developers also present evidence of the validity of the survey. At the start of development in 2007, several hundred items were presented to students and experts for review and comment. From those, 69 were selected for a pilot test, and after additional feedback that list was reduced to the 32 items on the current instrument. Only one study has been conducted to test concurrent validity, and that was between the GPI and the Intercultural Development Inventory (IDI), but its author concluded that these to instruments did not measure similar characteristics (Anderson 2011, cited in Braskamp, Braskamp, and Engberg 2014). Finally, the Braskamp et al. (2014) explain that a number of studies have been conducted to assess construct validity by empirically answering such questions as: Do students change over time? Does a study abroad experience enhance one’s development? What is the relationship among the six scales?

In four mid-sized to large studies between 2008 and 2012, the social interaction factor yielded statistically significant changes from pre-test to post-test among students on semester-long study abroad programs ranging from .13 to .15 (Braskamp et al. 2014).
These results suggest that this measure is indeed appropriate for this application to study abroad outcomes, in addition to my focus on social engagement with diverse peers.

The items included in the measure of social interaction with diverse peers do not exactly match any items in the intergroup contact literature, though there are corresponding indicators. The survey used in the three studies at UCLA included an item that asked students how many of their closest friends belonged to each of four racial/ethnic categories (Levin et al. 2003; Sidanius et al. 2004; van Laar, et al. 2005). The answer was then grouped according to the category matching the respondent’s race/ethnicity, and a category of the others which was then averaged. They used this as a behavioral measure for heterogeneity of friendship that was a dependent variable, which corresponds to the GPI item asking if most of the respondent’s friends are from the same racial/ethnic group. Additionally, Lowe, Byron and Mennicke (2014) used a measure of willingness to engage with people of different backgrounds including differing religious, racial, and cultural experiences, nationalities, and political beliefs, which aligns roughly with the GPI questions about interacting with peers from other racial/ethnic groups and other countries, and intentionally involving people from other cultures in one’s life.

Finally, several investigations of study abroad outcomes, and attitude changes during college examine the concept of openness to diversity using an eight-item measure developed by Pascarella and his colleagues (1996). Of the most relevance to this study among those eight items are two that point to engagement with diverse people and perspectives. Both ask students to select a response from a scale of agreement. The first item introduces the statement “I enjoy having discussions with people whose ideas and
values are different than mine.” And the second states, “Contact with individuals whose background is different from my own is an essential part of my college education.” The social interaction factor from the Global Perspectives Module furnishes a validated measure of this concept of willingness and intention to engage with outgroup peers and the development of affective ties.

After completing the confirmatory factor analysis for the each of these three sets of dependent variables measuring engagement with diversity, I created indexes for each of the three in order to maintain a more easily interpreted scale. In each case, the index is derived from the mean of its constituent items. The two items from the 2013 Experiences with Diverse Perspectives module use the same scale of frequency from 1 to 4 – Never, Sometimes, Often, Very often. Thus, the index score is an average that falls between one and four. Likewise, the 2015 Global Perspectives social interaction index averages items that are answered on a 1 to 5 scale – Strongly disagree, Disagree, Neither agree nor disagree, Agree, Strongly agree.

**Independent Variables**

The primary independent variable in this analysis is an item about study abroad experience. The main NSSE questionnaire asks students to indicate their participation in a variety of activities, which includes a sub-item for study abroad. They respond by selecting between four options: ‘Do not plan to do,’ ‘Plan to do,’ ‘Have not yet decided,’ and ‘Done or in progress.’ The design of this question enables me to isolate students who have not and do not plan to study abroad, students who plan to, but have not yet, and students who have studied abroad, in order to make comparisons among these groups. For the purpose
of this analysis, I have collapsed the two answer categories ‘Do not plan to do’ and ‘Have not yet decided’ into one category reasoning that the two groups of greatest interest are those who have studied abroad and those have definitively expressed the intention to do so; the ‘have not yet decided’ category does not reveal much about those students, or suggest a clear distinction between them and the ones who do not plan to study abroad. In the regression, I have created dummy variables for each of the three categories, and I treat ‘have not yet decided/do not plan to do’ as the reference category.

Additionally, there are obvious differences in the distribution of responses to the study abroad item between freshmen and seniors. Among the freshman cohort in each year there were fewer than ten students who indicated that they had studied abroad or were in the process of doing so. The survey does not offer any information about the study abroad program itself, therefore I can only conjecture that these students were either studying abroad as second-semester freshmen at the time of the survey, or that they answered in reference to a previous experience through something like a gap year program. Given the small number, and the ambiguity of the meaning of their answers, I elected to delete those cases from the analysis. Therefore, in the analysis of freshmen, I compare just two groups: students who indicate that they plan to study abroad, and students who do not plan to or have not yet decided. Among the senior cohort, I compare the three categories, but with special attention on the group that indicate that they have studied abroad.

Other independent variables include race and membership in Greek organizations. I include race because the Clemson sample includes a reasonable number of minority students from multiple groups (2013 \( n=65, 12.60\% \); 2015 \( n=59, 17.51\% \)). For the race
variable, I have condensed the institutionally-recorded race identification into a dichotomous variable with categories ‘white’ and ‘other’ (white=0, other=1). In order to eliminate possible spuriousness, I elected to delete those respondents who were coded as international students or whose race was unknown.

Previous research also points to the influence of social connections on students’ attitudes, not only through intergroup contact, but in-group contact (Wortman 2002; Pascarella et al. 1996; Van Laar et al. 2005; Sidanius et al. 2004; Hurtado 1992; Hurtado et al. 1999). The main NSSE survey includes an indicator variable for membership in Greek organizations, in answer to the question, “Are you a member of a social fraternity or sorority?” I therefore plan to use moderation analysis to examine the interaction of in-group social contact through Greek membership with study abroad effects on engagement with religious, racial and cultural diversity.

**Control Variables**

Research suggests other variables are associated with openness and engagement with diversity and so are controlled for in the models to be explored in this thesis. Sex and age are the most standard across this and other literature (Paige et al. 2010; Stebleton et al. 2013; Chieffo and Griffiths 2004; Wortman 2002). I will include a simple binary sex indicator among my independent variables (male=0, female=1). Although I will divide my sample by class level for analysis, there is a wide age range, thus I have chosen to control also for age. I have also included the dichotomous variable that indicates whether a student is enrolled full-time or part-time because the institutional weight prepared by NSSE accounts for full-time status and gender.
Academic factors have also been shown to influence outcomes and correlate to characteristics that predispose students to attitude change and openness (Stebleton et al. 2013; Wortman 2002; Sutton and Rubin 2004). Therefore, my analysis controls for students’ majors, which are self-reported. The original survey item for a student’s major is an open-ended question in which students write their first major. Using the Stata encode command, I assigned a number to each unique answer. These I then collapsed into categories that mirror those used in the OpenDoors reports published by the Institute for International Education (IIE) from 2013 to 2015, which are reflected in Tables 3.1 and 3.6. For the regression analysis, I further consolidated the categories into three groups broadly representing scientific fields, professional degrees, and social sciences and humanities, and treated the humanities/social sciences group as the reference category. I have also chosen to control for the highest level of education attained by either of students’ parents, both because of its possible predisposing effect, and in order to account for variation between first-generation college students and others. The original survey item about parents’ education offered seven possible answers to the question, “What is the highest level of education completed by either of your parents?” I have collapsed those seven categories into just three: associate’s degree or less, bachelor’s degree, and graduate degree.

Hypotheses

Hypothesis 1: Students who participate in study abroad programs will not have higher scores on the intellectual engagement with diversity index than their peers who have not studied abroad.
**Hypothesis 1**: Students who participate in study abroad programs will have higher scores on the intellectual engagement with diversity index than their peers who have not studied abroad.

**Hypothesis 2**: Students who participate in study abroad will not have higher scores on the engagement with diverse peers index than their peers who have not studied abroad.

**Hypothesis 2A**: Students who participate in study abroad will have higher scores on the engagement with diverse peers index than their peers who have not studied abroad.

**Hypothesis 3**: Students who participate in study abroad will not have higher scores on the social interaction with diverse peers index than their peers who have not studied abroad.

**Hypothesis 3A**: Students who participate in study abroad will have higher scores on the social interaction with diverse peers index than their peers who have not studied abroad.

**Hypotheses 4**: The relationship between participation in study abroad and intellectual engagement with diversity will not be reduced among students who are members of Greek organizations compared to students who have no Greek affiliation.

**Hypotheses 4A**: The relationship between participation in study abroad and intellectual engagement with diversity will be reduced among students who are members of Greek organizations compared to students who have no Greek affiliation.
Hypotheses 5\textsubscript{O}: The relationship between participation in study abroad and engagement with diverse peers will not be reduced among students who are members of Greek organizations compared to students who have no Greek affiliation.

Hypotheses 5\textsubscript{A}: The relationship between participation in study abroad and engagement with diverse peers will be reduced among students who are members of Greek organizations compared to students who have no Greek affiliation.

Hypotheses 6\textsubscript{O}: The relationship between participation in study abroad and social interaction with diverse peers will not be reduced among students who are members of Greek organizations compared to students who have no Greek affiliation.

Hypotheses 6\textsubscript{A}: The relationship between participation in study abroad and social interaction with diverse peers will be reduced among students who are members of Greek organizations compared to students who have no Greek affiliation.

Analytic Strategy

The analysis is organized into four stages. First, I offer a comparison of national data and trends in study abroad to those at Clemson University. Second, I explore the bivariate association between study abroad and intellectual engagement with diversity, engagement with diverse peers, and social interaction with diverse peers. I use bivariate Ordinary Least Squares (OLS) regression to examine whether there are significant differences between those who have studied abroad and those who have not on the three engagement outcomes. Next, I use multivariate regression analysis to explore the
association between study abroad, race, Greek membership and the three engagement outcomes controlling for other factors that have been shown to be associated with both study abroad and the outcomes of interest. It should be noted that given the sampling method used for the NSSE (census) and the fact that this data comes from only one institution where participants may be connected through courses and extracurricular activities, the assumption of independence of observations for OLS regression analysis may be violated. Finally, I explore whether Greek membership moderates the association between study abroad and the three outcomes.

I will necessarily conduct separate analyses of the samples from each of the two years, 2013 and 2015. Additionally, within each year, I analyze the freshman and senior cohorts separately. Seniors who have studied abroad, of course, are of primary interest in this investigation. However, the design of the survey item about study abroad allows me to explore the possible effects of students’ intent to study abroad. While there are few freshmen who have completed a study abroad, there are a significant number who indicate that they plan to do so; therefore, I conduct a parallel analysis of the freshman cohort comparing students who plan to study abroad with those who do not. I am then able to examine the effects on my dependent variables among freshmen from the intent to study abroad, with those in the senior cohort who have studied abroad, thus in some degree accounting for spurious influence from other predisposing traits that I am unable to control for otherwise.
CHAPTER FOUR

RESULTS

Clemson study abroad in national perspective

Each year, the Institute for International Education reports study abroad and international student trends. Clemson’s study abroad programs mirror the national data in many aspects, but differ in some important ways. Clemson’s study abroad participation has increased steadily in recent years, from 874 (5.6% of the student body) in 2009/10 to 1456 (8.4%) in 2014/15 (Study Abroad Office 2016).

As mentioned in the introduction, the national trend has been toward shorter programs. IIE’s recent data confirms this. They report that in 2015, 62.1 percent of students studying abroad participated in programs of eight weeks or less; and 34.9 percent and 3.0 percent participated in semester- or year-long programs, respectively; whereas back in 2010, 56.6 percent studied abroad for fewer than eight weeks, 39.4 percent for one semester, and 3.9 percent for a full year (Open Doors 2015, 2011). During the 2014/15 school year at Clemson, the national pattern is exaggerated with 72 percent of study abroad participants going abroad for fewer than eight weeks, and 27 percent and just 1 percent, respectively, participating in semester- and year-long programs. The largest portion of study abroad students at Clemson also participate in faculty-directed programs (48%), which tend to be the shorter trips during the summer, winter and spring vacations; meanwhile, 22 percent participate in programs run by third-party organizations which most often are semester-long in duration, another 23 percent in non-credit travel such as mission
and service trips, and approximately 6 percent in exchange and internship programs (Study Abroad Office 2016).

The patterns of students studying abroad from different disciplines differs at Clemson from the national pattern reported by IIE. In 2013, the national data show 22.5 percent of study abroad participants coming from STEM (Science, Technology, Engineering, and Math) fields, whereas Clemson’s proportion is about 29 percent, which is not surprising given the university’s large engineering and science programs. Likewise, in contrast to the national pattern of 22.1 percent and 10.4 percent, respectively, only 8 percent of students studying abroad come from social science disciplines, and approximately 6 percent from humanities. The proportion of business students studying abroad is much more closely aligned, with 20.4 percent nationally, and 18 percent at Clemson (Open Doors 2014; Study Abroad Office 2016).

Racially, Clemson’s study abroad participants are less diverse than the national average. At Clemson, in 2013, 80 percent of students studying abroad were white, approximately 2 percent were African American/Black, and 4 percent were Asian, and another 12 percent came from other racial categories. Nationally, in 2014 (data not publicly available for 2013), 74.3 percent of students studying abroad were white, 8.3 percent were Hispanic/Latino, 5.8 percent were African American/Black, and 7.7 percent were Asian (Open Doors 2015; Study Abroad Office 2016). Though IIE does not report gender in its publicly available data, other sources suggest, in accord with general trends in college enrollment, that women participate in greater numbers in study abroad than do men. This
is true at Clemson as well with 69 percent of study abroad participants in 2015 being female, and 31 percent male (Study Abroad Office 2016).

**2013 NSSE Clemson Sample**

*Descriptive statistics*

*Freshmen.* In the 2013 sample, freshmen have an average score of 2.03, on a scale from 1 (Never) to 4 (Very often), on the dependent variable for intellectual engagement with topics related to racial and religious diversity, with a standard deviation of 0.60. And on the response variable representing engagement with racially and religiously diverse peers, freshmen’s average score was 2.95, with a standard deviation of 0.75, on the same scale from 1 (Never) to 4 (Very often).

As explained above, the survey item pertaining to study abroad gives respondents four choices to classify their experience with studying abroad: do not plan to, have not decided, plan to, done or in progress. Among freshmen a very small number, 6 (1.15%), indicate that they have studied abroad or are in the process of doing so. While I cannot be certain, these could be students who were currently abroad during the spring semester of their freshman year when the survey was deployed, who participated in short international service trips or faculty-led trips during winter or spring break, or who or who answered in reference to some gap year or other international study experience not at Clemson. In my analysis, I have chosen to delete those cases. Predictably, a significant number, 268 (51.94%) say that they plan to study abroad; meanwhile another 248 (48.06%) indicate that they do not plan to study abroad or have not yet decided.
Among freshmen 102 students (19.77%) indicated that they were members of Greek organizations, with the remaining 414 (80.23%) being unaffiliated. White students make up 87.40 percent (451 students) of the 2013 freshman cohort, the remaining 12.60 percent (65 students) being a composite category of all other racial categories. Descriptive statistics for these and all other variables in the included model are displayed in Table 3.1.

Seniors. In the 2013 sample, seniors have an average score of 2.05, on a scale from 1 (Never) to 4 (Very often), on the dependent variable for engagement with topics related to racial and religious diversity, with a standard deviation of 0.68. And on the response variable representing engagement with racially and religiously diverse peers, seniors’ average score was 3.05, with a standard deviation of 0.77, on the same scale from 1 (Never) to 4 (Very often).

As explained above, the survey item pertaining to study abroad gives respondents four choices to classify their experience with studying abroad: have not decided, do not plan to do, Plan to do, done or in progress. Among seniors only a small number, 31 (4.84%) plan to do a study abroad program. Those who say that they do not plan to study abroad, or have not yet decided number 433, or 67.55 percent. And 177, or 27.61 percent say that they have done or are doing a study abroad.

Among seniors, 142 students (22.15%) indicated that they were members of Greek organizations, with the remaining 499 (77.85%) being unaffiliated. White students make up 91.26 percent (585 students) of the 2013 senior cohort, the remaining 8.74 percent (56 students) being a composite category of all other racial categories. Descriptive statistics for the full set of variables used in the analysis are displayed in Table 3.1.
Table 3.1 Descriptive Statistics for 2013 NSSE Clemson Sample

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<th>Seniors</th>
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<td>n</td>
<td>N=641</td>
<td>n</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>433</td>
<td>67.55</td>
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<tr>
<td>Plan to do</td>
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<td>31</td>
<td>4.84</td>
</tr>
<tr>
<td>Done or in progress</td>
<td>--</td>
<td>--</td>
<td>177</td>
<td>27.61</td>
</tr>
<tr>
<td>Greek</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>102</td>
<td>19.77</td>
<td>142</td>
<td>22.15</td>
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<tr>
<td>No</td>
<td>414</td>
<td>80.23</td>
<td>499</td>
<td>77.85</td>
</tr>
<tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td>White</td>
<td>451</td>
<td>87.40</td>
<td>585</td>
<td>91.26</td>
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<tr>
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<td>56</td>
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<td>0.00</td>
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</tr>
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<td>8.53</td>
<td>43</td>
<td>6.71</td>
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<tr>
<td>Bachelor’s</td>
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<td>230</td>
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<td>9.30</td>
<td>103</td>
<td>16.07</td>
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<td>Major</td>
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<td>76</td>
<td>11.86</td>
</tr>
<tr>
<td>Business &amp; Management</td>
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<td>11.43</td>
<td>83</td>
<td>12.95</td>
</tr>
<tr>
<td>Humanities</td>
<td>25</td>
<td>4.84</td>
<td>44</td>
<td>6.86</td>
</tr>
<tr>
<td>Life &amp; Health Sciences</td>
<td>143</td>
<td>26.12</td>
<td>156</td>
<td>23.34</td>
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<tr>
<td>Fine &amp; Applied Arts</td>
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<td>3.68</td>
<td>22</td>
<td>3.43</td>
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<td>Education</td>
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<td>6.59</td>
<td>23</td>
<td>3.59</td>
</tr>
<tr>
<td>STEM</td>
<td>154</td>
<td>29.84</td>
<td>184</td>
<td>28.71</td>
</tr>
<tr>
<td>Other</td>
<td>32</td>
<td>6.20</td>
<td>53</td>
<td>8.26</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>198</td>
<td>38.37</td>
<td>308</td>
<td>48.05</td>
</tr>
<tr>
<td>Female</td>
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<td>61.63</td>
<td>333</td>
<td>51.95</td>
</tr>
<tr>
<td>Fulltime</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
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<td>99.42</td>
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<td>90.33</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
<td>0.58</td>
<td>62</td>
<td>9.67</td>
</tr>
</tbody>
</table>

**Mean** | **Std. Dev.** | **Min.** | **Max.** | **Mean** | **Std. Dev.** | **Min.** | **Max.**
--- | --- | --- | --- | --- | --- | --- | ---
Age | 18.53 | 2.73 | 17 | 74 | 22.35 | 3.97 | 19 | 58
Intellectual engagement w/ diversity | 2.03 | 0.60 | 1 | 4 | 2.05 | 0.68 | 1 | 4
Engagement w/ diverse peers | 2.95 | 0.76 | 1 | 4 | 3.05 | 0.77 | 1 | 4
Regression results

Intellectual Engagement with Diversity

I examine the relationship between study abroad and intellectual engagement with diversity using hierarchical regression models for each of the freshman and senior cohorts. Models 1 through 3 report the results of the ordinary least squares regression of the study abroad, race and Greek membership on student intellectual engagement with diversity. As explained above, I have analyzed the two classes, freshmen and seniors, separately. The coefficients from each class are displayed in Tables 3.2 and 3.3, respectively. Model 1 is a bivariate regression, Model 2 introduces the control variables and the theoretical measures of race and membership in Greek organizations. Model 3 explores whether Greek membership moderates the association between study abroad and student intellectual engagement with diversity.

Freshmen. For Freshmen, as noted above, students who indicated that they had done or were in the process of completing a study abroad were removed from the sample, leaving two categories, ‘plan to do’ and ‘have not yet decided/do not plan to do.’ None of the models reveal any significant association between intent to study abroad and intellectual engagement with diversity. Likewise, there does not appear to be any moderation effects from race or Greek membership. Model 2 and Model 3, however, indicate a significant positive effect (p< .01) of race on intellectual engagement with diversity, when controlling for parents’ education, major, age, sex and fulltime status. The mean score on the intellectual engagement with diversity index is .24 points (.13 standard deviations) higher for non-white students than for white students. It should be no
surprise that minority students talk more about these topics than their white peers, especially at the freshman level.

Table 3.2 Coefficients from Regressions of Intellectual Engagement with Diversity – Freshmen

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N=516</strong></td>
<td>0.0780</td>
<td>0.0683</td>
<td>0.0972</td>
</tr>
<tr>
<td>Study Abroad†</td>
<td>(0.0569)</td>
<td>(0.0599)</td>
<td>(0.0655)</td>
</tr>
<tr>
<td>Raceb</td>
<td>0.2372**</td>
<td>0.2366**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0919)</td>
<td>(0.0918)</td>
<td></td>
</tr>
<tr>
<td>Greek member†</td>
<td>0.0037</td>
<td>0.1105</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0717)</td>
<td>(0.1118)</td>
<td></td>
</tr>
<tr>
<td>Greek*Abroad Plan to do</td>
<td>-0.1716</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.1437)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent Educationc</td>
<td>0.0602</td>
<td>0.0616</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0759)</td>
<td>(0.0755)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.0536</td>
<td>0.0554</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0755)</td>
<td>(0.0753)</td>
<td></td>
</tr>
<tr>
<td>Majord</td>
<td>-0.0364</td>
<td>-0.0343</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.1016)</td>
<td>(0.1015)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.1229</td>
<td>-0.1235</td>
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</tr>
<tr>
<td></td>
<td>(0.0723)</td>
<td>(0.0725)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
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<td>-0.0107</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0088)</td>
<td>(0.0088)</td>
<td></td>
</tr>
<tr>
<td>Sexe</td>
<td>0.0518</td>
<td>0.0512</td>
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</tr>
<tr>
<td></td>
<td>(0.0599)</td>
<td>(0.0601)</td>
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</tr>
<tr>
<td>Fulltime</td>
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<td>-0.1716</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.3795)</td>
<td>(0.5123)</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>1.88</td>
<td>1.57</td>
<td>1.55</td>
</tr>
<tr>
<td>Prob. &gt; F</td>
<td>0.1707</td>
<td>0.1122</td>
<td>0.1118</td>
</tr>
<tr>
<td>R-squared</td>
<td>.004</td>
<td>0.0315</td>
<td>0.0343</td>
</tr>
</tbody>
</table>

Standard errors are displayed in parentheses
*<p≤.05  **<p≤.01  ***p≤.001

a Reference category is ‘do not plan to/have not yet decided’ to study abroad
b Reference category is white
c Reference category is associate’s degree or less
d Reference category is humanities, arts and social sciences majors
e Reference category is female
† p-value reported as in a one-tailed hypothesis test
ɞ High values on the D.V. = more frequent engagement

**Seniors.** For Seniors, in Model 1, I find that an increase in the mean score for intellectual engagement with diversity is associated both with planning to study abroad and
having completed a study abroad. The association with study abroad participation, however, is larger, .17 standard deviations compared to .08 for intent to study abroad, and stronger, p<.001 compared with p=.025. In Model 2, I add the conceptual variables of race and Greek membership and control for parents’ education, major field of study, age, gender, and fulltime student status. In this model, I find that having studied abroad continues to be positively associated with student intellectual engagement with diversity. The model also reveals that STEM and professional majors have significantly lower mean intellectual engagement with diversity scores than students studying the humanities, arts and social sciences. And age has a significant negative association with intellectual engagement with diversity. In both models, it should be noted that the number of seniors that plan to study abroad is rather small (n=31). Therefore, I hesitate to draw any firm conclusions about the practical effect of intending to study abroad.

In Model 3, I test for moderation from Greek membership by adding cross-products terms for Greek members and study abroad. In this model, the effect from participating in a study abroad remains strong (p<.001), and the effect from planning to study abroad disappears. There is also evidence for moderation from membership in Greek organizations in the effects of study abroad participation on intellectual engagement with diversity (p=.028), such that the mean score on intellectual engagement with diversity for seniors who have studied abroad and are members of Greek organizations is .27 points, about one-tenth of a standard deviation, lower than for seniors who studied abroad but are unaffiliated with a Greek organization.
### Table 3.3 Coefficients from Regressions of Intellectual Engagement with Diversity – Seniors

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N=641</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Abroad(a)†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plan to do</td>
<td>0.2810*</td>
<td>0.2465*</td>
<td>0.2389</td>
</tr>
<tr>
<td></td>
<td>(0.1437)</td>
<td>(0.1468)</td>
<td>(0.1707)</td>
</tr>
<tr>
<td>Done/In Progress</td>
<td>0.2742***</td>
<td>0.2458***</td>
<td>0.3160***</td>
</tr>
<tr>
<td></td>
<td>(.0634)</td>
<td>(.0649)</td>
<td>(.0731)</td>
</tr>
<tr>
<td>Race(b)</td>
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</tr>
<tr>
<td>Non-white</td>
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<td>0.0545</td>
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</tr>
<tr>
<td></td>
<td>(.0988)</td>
<td>(.0988)</td>
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<td>Greek member(†)</td>
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<td></td>
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<td></td>
<td>(.0681)</td>
<td>(.0841)</td>
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<td>Greek*Abroad(†)</td>
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<tr>
<td>Plan to do</td>
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<td>(.0813)</td>
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<tr>
<td></td>
<td>(.0575)</td>
<td>(.0575)</td>
<td></td>
</tr>
<tr>
<td>Fulltime</td>
<td>-0.0593</td>
<td>-0.0611</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.1058)</td>
<td>(.1049)</td>
<td></td>
</tr>
<tr>
<td><strong>F</strong></td>
<td>10.44</td>
<td>4.26</td>
<td>4.38</td>
</tr>
<tr>
<td>Prob. &gt; F</td>
<td>.0000</td>
<td>.0000</td>
<td>.0000</td>
</tr>
<tr>
<td>R-squared</td>
<td>.0338</td>
<td>0.0754</td>
<td>0.0784</td>
</tr>
</tbody>
</table>

Standard errors are displayed in parentheses
*\(p≤.05\)  **\(p≤.01\)  ***\(p≤.001\)

\(a\) Reference category is ‘do not plan to/have not yet decided’ to study abroad
\(b\) Reference category is white
\(c\) Reference category is associate’s degree or less
\(d\) Reference category is humanities, arts and social sciences majors
\(e\) Reference category is female
†\(p\)-value reported as in a one-tailed hypothesis test
\(ɞ\) High values on the D.V. = more frequent engagement
Engagement with Diverse Peers

I also use hierarchical models to examine the relationship between study abroad and engagement with diverse peers for the freshman and senior cohorts. Models 1 through 3 report the results of the ordinary least squares regression of the study abroad, race and Greek membership on student engagement with diverse peers. The coefficients from each class are displayed in Tables 3.4 and 3.5, respectively. Model 1 is a bivariate regression, Model 2 introduces the control variables and the theoretical measures of race and membership in Greek organizations. Model 3 explores whether Greek membership moderates the association between study abroad and student engagement with diverse peers.

Freshmen. In Model 1, for freshmen, I find no association between intent to study abroad and engagement with diverse peers. Even when controlling for other key theoretical variables – race, Greek membership, and interaction between Greek membership and study abroad participation – and additional possible explanatory variables, in Models 2 and 3, I find no association.

Seniors. For the senior cohort, I find in Model 1 that participation in a study abroad program is significantly (p=.007) associated with a slight increase in the mean score for engagement with diverse peers. That association remains when I control for race, Greek membership, parents’ education, major, age, sex, and fulltime status in Model 2, though the model also reveals a significant (p<.05) association with plans to study abroad. Again, however, the sample includes only 31 seniors who indicate having plans to study abroad. Model 2 also shows that non-white students have a higher average score (p<.05) on
engagement with diverse peers than their white peers. In Model 3, I introduce a cross-product term for Greek membership and study abroad, and find that there is a significant effect (p<.05), suggesting moderation from Greek membership on the effect from completion of study abroad on engagement with diverse peers.

Table 3.4 Coefficients from Regressions of Engagement with Diverse Peers – Freshmen

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=516</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Abroad</td>
<td>Plan to do</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.0645</td>
<td>-0.0267</td>
<td>-0.0041</td>
</tr>
<tr>
<td></td>
<td>(0.0699)</td>
<td>(0.0719)</td>
<td>(0.0789)</td>
</tr>
<tr>
<td>Race</td>
<td>Non-white</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.1855</td>
<td>0.1850</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.1132)</td>
<td>(0.1140)</td>
<td></td>
</tr>
<tr>
<td>Greek member</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.1296</td>
<td>0.2217</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0920)</td>
<td>(0.1566)</td>
<td></td>
</tr>
<tr>
<td>Greek*Abroad</td>
<td>Plan to do</td>
<td></td>
<td>-0.1340</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.1890)</td>
</tr>
<tr>
<td>Parent Education</td>
<td>Bachelor’s</td>
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</tr>
<tr>
<td></td>
<td>-0.0221</td>
<td>-0.0211</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0921)</td>
<td>(0.0921)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graduate</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>-0.0829</td>
<td>-0.0814</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0924)</td>
<td>(0.0922)</td>
<td></td>
</tr>
<tr>
<td>Major</td>
<td>STEM/Life</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.0081</td>
<td>0.0099</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.1146)</td>
<td>(0.1146)</td>
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</tr>
<tr>
<td></td>
<td>Sciences</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>0.0610</td>
<td>0.0606</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0822)</td>
<td>(0.0822)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Professional</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.0082</td>
<td>-0.0044</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0150)</td>
<td>(0.0151)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.0517</td>
<td>0.0513</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0726)</td>
<td>(0.0726)</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.1621</td>
<td>0.1551</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.5082)</td>
<td>(0.5065)</td>
<td></td>
</tr>
<tr>
<td>Fulltime</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>0.85</td>
<td>1.04</td>
<td>1.02</td>
</tr>
<tr>
<td>Prob. &gt; F</td>
<td>0.3567</td>
<td>0.4074</td>
<td>0.4259</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.0018</td>
<td>0.0209</td>
<td>0.0219</td>
</tr>
</tbody>
</table>

Standard errors are displayed in parentheses

*p≤.05  **p≤.01  ***p≤.001

* Reference category is ‘do not plan to/have not yet decided’ to study abroad

b Reference category is white

c Reference category is associate’s degree or less

d Reference category is humanities, arts and social sciences majors

e Reference category is female

† p-value reported as in a one-tailed hypothesis test

ɞ High values on the D.V. = more frequent engagement
Table 3.5 Coefficients from Regressions of Engagement with Diverse Peers – Seniors

\[ N = 641 \]

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Abroad*+</td>
<td>Plan to do</td>
<td>0.2373</td>
<td>0.2449*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.1493)</td>
<td>(0.1472)</td>
</tr>
<tr>
<td></td>
<td>Done/In Progress</td>
<td>0.1656**</td>
<td>0.1494**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.0675)</td>
<td>(0.0707)</td>
</tr>
<tr>
<td>Race\b</td>
<td>Non-white</td>
<td>0.2243*</td>
<td>0.2191*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.1112)</td>
<td>(0.1118)</td>
</tr>
<tr>
<td>Greek member\†</td>
<td></td>
<td>-0.0051</td>
<td>0.0815</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.0770)</td>
<td>(0.0978)</td>
</tr>
<tr>
<td>Greek*Abroad\†</td>
<td>Plan to do</td>
<td></td>
<td>0.0713</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.3173)</td>
</tr>
<tr>
<td></td>
<td>Done/In Progress</td>
<td></td>
<td>-0.2643*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.1569)</td>
</tr>
<tr>
<td>Parent Education\c</td>
<td>Bachelor’s</td>
<td>-0.1047</td>
<td>-0.1149</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.0856)</td>
<td>(0.0852)</td>
</tr>
<tr>
<td></td>
<td>Graduate</td>
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<td>-0.0742</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.0848)</td>
<td>(0.0847)</td>
</tr>
<tr>
<td>Major\d</td>
<td>STEM/Life</td>
<td>0.0163</td>
<td>0.0075</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.0955)</td>
<td>(0.0954)</td>
</tr>
<tr>
<td></td>
<td>Sciences</td>
<td>0.0713</td>
<td>0.0720</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.0696)</td>
<td>(0.0696)</td>
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<td></td>
<td>Professional</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>fields</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>-0.0082</td>
<td>-0.0078</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.0074)</td>
<td>(0.0074)</td>
</tr>
<tr>
<td>Sex\e</td>
<td>Male</td>
<td>-0.1183</td>
<td>-0.1167</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.0622)</td>
<td>(0.0624)</td>
</tr>
<tr>
<td>Fulltime</td>
<td></td>
<td>0.0739</td>
<td>0.0721</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.1077)</td>
<td>(0.1091)</td>
</tr>
<tr>
<td>( F )</td>
<td></td>
<td>3.81</td>
<td>2.10</td>
</tr>
<tr>
<td>Prob. &gt; ( F )</td>
<td></td>
<td>0.0226</td>
<td>0.0184</td>
</tr>
<tr>
<td>R-squared</td>
<td></td>
<td>0.0118</td>
<td>0.0325</td>
</tr>
</tbody>
</table>

Standard errors are displayed in parentheses

* \( p \leq 0.05 \)

** \( p \leq 0.01 \)

*** \( p \leq 0.001 \)

\( a \) Reference category is ‘do not plan to/have not yet decided’ to study abroad

\( b \) Reference category is white

\( c \) Reference category is associate’s degree or less

\( d \) Reference category is humanities, arts and social sciences majors

\( e \) Reference category is female

\( † \) p-value reported as in a one-tailed hypothesis test

\( ɞ \) High values on the D.V. = more frequent engagement
2015 NSSE Clemson Sample

Descriptive statistics

Freshmen. In the 2015 sample, freshman have an average score of 2.92, on a scale from 1 (Strongly disagree) to 5 (Strongly agree), on the dependent variable for social interaction with diverse peers, with a standard deviation of 0.69.

As explained above, the survey item pertaining to study abroad gives respondents four choices to classify their experience with studying abroad: have not decided, do not plan to do, Plan to do, done or in progress. Among freshmen a very small number, 8 (2.32%), indicate that they have studied abroad or are in the process of doing so. While I cannot be certain, these could be students who were currently abroad during the spring semester of their freshman year when the survey was deployed, who participated in short international service trips or faculty-led trips during winter or spring break, or who answered in reference to some gap year or other international study experience not at Clemson. A majority, 187 (55.49%) say that they plan to study abroad; meanwhile another 150 (44.51%) indicate that they do not plan to study abroad or have not yet decided.

Among freshmen 61 students (18.10%) indicated that they were members of Greek organizations, with the remaining 276 (81.90%) being unaffiliated. White students make up 82.49 percent (278 students) of the 2015 freshman cohort, and the remaining 17.51 percent (59 students) being a composite category of all other racial categories. Descriptive statistics for the full set of variables included in the analysis are displayed in Table 3.6.
### Table 3.6 Descriptive Statistics for 2015 NSSE Clemson Sample

<table>
<thead>
<tr>
<th></th>
<th>Freshmen</th>
<th></th>
<th>Seniors</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=337</td>
<td>N=353</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Study Abroad</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do not plan to do</td>
<td>150</td>
<td>44.51</td>
<td>235</td>
<td>66.57</td>
</tr>
<tr>
<td>Have not decided</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plan to do</td>
<td>187</td>
<td>55.49</td>
<td>20</td>
<td>5.67</td>
</tr>
<tr>
<td>Done or in progress</td>
<td>--</td>
<td>--</td>
<td>98</td>
<td>27.76</td>
</tr>
<tr>
<td>Greek Membership</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>61</td>
<td>18.10</td>
<td>88</td>
<td>24.93</td>
</tr>
<tr>
<td>No</td>
<td>276</td>
<td>81.90</td>
<td>265</td>
<td>75.07</td>
</tr>
<tr>
<td>Race</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>278</td>
<td>82.49</td>
<td>305</td>
<td>86.40</td>
</tr>
<tr>
<td>Non-white</td>
<td>59</td>
<td>17.51</td>
<td>48</td>
<td>13.60</td>
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<tr>
<td>Parents Education</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did not finish H.S.</td>
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<td>0</td>
<td>1</td>
<td>0.28</td>
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<tr>
<td>H.S. Diploma/GED</td>
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<td>3.26</td>
<td>27</td>
<td>7.65</td>
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<tr>
<td>Some college</td>
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<td>6.53</td>
<td>21</td>
<td>5.95</td>
</tr>
<tr>
<td>Associate’s</td>
<td>22</td>
<td>6.53</td>
<td>23</td>
<td>6.52</td>
</tr>
<tr>
<td>Bachelor’s</td>
<td>120</td>
<td>35.61</td>
<td>137</td>
<td>38.81</td>
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<tr>
<td>Master’s</td>
<td>119</td>
<td>35.31</td>
<td>93</td>
<td>26.35</td>
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<td>Doctoral or professional degree</td>
<td>43</td>
<td>12.76</td>
<td>51</td>
<td>14.45</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Sciences</td>
<td>33</td>
<td>9.79</td>
<td>43</td>
<td>12.18</td>
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<td>Business &amp; Management</td>
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<td>41</td>
<td>11.61</td>
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<td>Humanities</td>
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<td>16</td>
<td>4.53</td>
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<tr>
<td>Life &amp; Health Sciences</td>
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<td>30.56</td>
<td>90</td>
<td>25.50</td>
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<tr>
<td>Fine &amp; Applied Arts</td>
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<td>2.08</td>
<td>6</td>
<td>1.70</td>
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<td>17</td>
<td>5.04</td>
<td>12</td>
<td>3.40</td>
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<td>STEM</td>
<td>107</td>
<td>31.75</td>
<td>116</td>
<td>32.86</td>
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<td>Other</td>
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<td>29</td>
<td>8.21</td>
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<tr>
<td>Sex</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Male</td>
<td>131</td>
<td>38.87</td>
<td>167</td>
<td>47.31</td>
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<tr>
<td>Female</td>
<td>206</td>
<td>61.13</td>
<td>186</td>
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<tr>
<td>Yes</td>
<td>332</td>
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<td>86.12</td>
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<td>5</td>
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<td>49</td>
<td>13.88</td>
</tr>
<tr>
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<td>Seniors</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>Mean</td>
<td>Std. Dev.</td>
<td>Min.</td>
<td>Max.</td>
</tr>
<tr>
<td></td>
<td>18.81</td>
<td>4.56</td>
<td>15</td>
<td>87</td>
</tr>
<tr>
<td>diverse peers</td>
<td>2.92</td>
<td>0.69</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
Seniors. In the 2015 sample, Seniors have an average score of 3.03, on a scale from 1 to 5, on the dependent variable for social interaction with diverse peers, with a standard deviation of 0.75.

As explained above the survey item pertaining to study abroad gives respondents four choices to classify their experience with studying abroad: have not decided, do not plan to do, Plan to do, done or in progress. Among seniors only a small number, 20 (5.67%) indicate that they still plan to do a study abroad program. Those who say that they do not plan to study abroad, or have not yet decided number 235, or 66.57 percent. And 98, or 27.76 percent say that they have done or are doing a study abroad.

Among seniors, 88 students (24.93%) indicated that they were members of Greek organizations, with the remaining 265 (75.07%) being unaffiliated. White students make up 86.40 percent (305 students) of the 2015 senior cohort, the remaining 13.60 (48 students) percent being a composite category of all other racial categories. Descriptive statistics for these and all other variables included in the analysis are displayed in Table 3.6.

Social Interaction with Diverse Peers

Regression results

I again employ hierarchical regression models to examine the relationship between study abroad and social interaction with diverse peers for the freshman and senior cohorts. Models 1 through 3 report the results of the ordinary least squares regression of the study abroad, race and Greek membership on students’ social engagement with diverse peers.
The coefficients from each class are displayed in Tables 3.7 and 3.8, respectively. Model 1 is a bivariate regression, Model 2 introduces the control variables and the theoretical measures of race and membership in Greek organizations. Model 3 explores whether Greek membership moderates the association between study abroad and social interaction with diverse peers.

Table 3.7 Coefficients from Regressions of Social Interaction with Diverse Peers – Freshmen

<table>
<thead>
<tr>
<th>N=337</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Abroad</td>
<td>Plan to do</td>
<td>0.0949</td>
<td>0.0457</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.0757)</td>
<td>(0.0775)</td>
</tr>
<tr>
<td>Race</td>
<td>Non-white</td>
<td>0.5222***</td>
<td>0.5188</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.1053)</td>
<td>(0.1056)</td>
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<tr>
<td>R-squared</td>
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<td>0.1016</td>
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</table>

Standard errors are displayed in parentheses
*p≤.05  **p≤.01  ***p≤.001
a Reference category is ‘do not plan to/have not yet decided’ to study abroad
b Reference category is white
c Reference category is associate’s degree or less
d Reference category is humanities, arts and social sciences majors
e Reference category is female
† p-value reported as in a one-tailed hypothesis test
ç High values on the D.V. = more social interaction
**Freshmen.** For the freshman cohort, I find no evidence in Model 1 of an association between intent to study abroad and social interaction with diverse peers. Model 2, in which I add key theoretical variables and other control variables, reveals a significant (p<.001) effect from being non-white on social interaction with diverse peers is significant, that being associated with a half-point increase in the average social interaction score, or an increase of one-third of a standard deviation. In Model 3, I find neither evidence of any association between study abroad and social interaction with diverse peers, nor any moderation effect from Greek membership.

**Seniors.** For the senior class, Model 1 suggests no association between study abroad participation and social interaction with diverse peers, yet shows a significant (p<.05) association between the dependent variable and intent to study abroad. As in the previous analyses, however, this sample includes a small number (20) of seniors who indicate plans to study abroad. When I control for key theoretical variables and others in Model 2, I find that participation in a study abroad does have a moderate and significant (p<.01) positive relationship with social interaction with diverse peers. Additionally, Model 2 reveals that being non-white and having more educated parents both result in less social interaction with diverse peers; meanwhile age has a slight positive association with that response variable. Model 3, which tests for moderation by Greek membership on the effect of study abroad participation on social interaction with diverse peers provides evidence of such moderation (p<.05) on the effect from intent to study abroad, but not participation in study abroad. However, only 20 seniors indicate that they still intent to study abroad, and so I hesitate to assign much meaning to this result.
Table 3.8 Coefficients from Regressions of Social Interaction with Diverse Peers – Seniors

<table>
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<tr>
<th>N=353</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
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<td><strong>Study Abroad</strong>^†</td>
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<tr>
<td>Plan to do</td>
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<td>0.3668*</td>
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<td>(0.0834)</td>
<td>(0.0891)</td>
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<td><strong>Race</strong>^b</td>
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<td>Non-white</td>
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<td>0.4350***</td>
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<td><strong>Parent Education</strong>^c</td>
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<td>Bachelor’s</td>
<td>-0.2947**</td>
<td>-0.2970**</td>
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<td>(0.0926)</td>
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<td>(0.0915)</td>
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\[
\begin{array}{c|c|c|c}
F & 1.95 & 5.07 & 5.01 \\
Prob. > F & 0.1434 & 0.0000 & 0.0000 \\
R-squared & 0.0110 & 0.1463 & 0.155 \\
\end{array}
\]

Standard errors are displayed in parentheses

\*p≤.05  \**p≤.01  \***p≤.001

^a Reference category is ‘do not plan to/have not yet decided’ to study abroad

^b Reference category is white

^c Reference category is associate’s degree or less

^d Reference category is humanities, arts and social sciences majors

^e Reference category is female

^† p-value reported as in a one-tailed hypothesis test

^ɞ High values on the D.V. = more social interaction
Discussion

The literature on study abroad and its effects suggests that international educational experiences have definitive impacts on students’ development of intercultural skills, and global engagement. However, the research focused on the influence of study abroad participation on changes in students’ attitudes, and specifically attitudes toward racial and religious outgroups, is quite limited. This study endeavors to contribute to filling that gap in the research by examining the effects of study abroad on student engagement with racial and religious diversity.

I derived my hypotheses about the effects of study abroad on these engagement outcomes from the study abroad literature, as well as from the body of research on intergroup contact, which theorizes that contact between different groups, under specific conditions, results in reductions in prejudice. While results over the decades suggest that prejudice reduction should not be assumed to arise from intergroup contact, attitude changes have been observed in many instances even where the essential conditions were not met, and investigators have proposed additional mediating and moderating factors. Among those proposed mediators, two stand out as especially probable features of study abroad experiences: learning about the outgroup, and developing affective ties with members of the outgroup. Study abroad curricula and on-site activities are, by their nature, designed to facilitate learning about the host culture and its people; and they furnish opportunities for students to develop affective ties with people in the host country, often
through academic and social settings or stays with host families. Previous investigations applying intergroup contact theory to study abroad are scant, and have focused on measures of openness to diversity, rather than engagement.

My research complements and contributes to a second aspect of intergroup contact theory as well, which is the generalization of intergroup contact effects. Earlier explorations of intergroup contact effects have concentrated on generalization from individuals to the larger outgroup, and to situations beyond the immediate intergroup situation (Pettigrew 1998). Research by Pettigrew (1997) in Europe, and by Levin and her colleagues (2003) at UCLA examined the generalization of prejudice reduction resulting from intergroup contact to outgroups beyond those involved in the contact situation. This study adds to this body of research by investigating study abroad and the generalization of effects resulting from contact while abroad to engagement with outgroup peers when students have returned to their home campus. While the data I use does not allow me to evaluate any of the conditions of contact during students’ experiences abroad, implicit in the research questions and hypotheses is the theory that contact will produce attitudinal changes which students will bring back with them to their campuses.

I hypothesized that students who had studied abroad would have higher scores on three engagement measures. In my analysis I found evidence, when controlling for other relevant factors, to support that hypothesis for all three measured outcomes: students’ intellectual engagement with diversity, engagement with diverse peers, and social interaction with diverse peers. Between seniors who had studied abroad, and those who had not, there was a significant difference in the mean score for intellectual engagement.
with diversity, which was comprised of four items asking students about the frequency of attending events and having conversations about issues related to race and ethnicity, and about religious and philosophical differences. The mean score for engagement with diverse peers – a composite score of two items about the frequency of having conversations with peers from different racial/ethnic and religious backgrounds – was also higher for students who had studied abroad than for those who had not. Finally, on the social interaction outcome, which averages four items related to students’ social relationships with peers of different racial/ethnic and cultural backgrounds, seniors who had studied abroad also had a higher mean score than those who had not studied abroad.

In a few of my models, effects among seniors of intent to study abroad on the engagement outcomes were significant, however they were notably weaker and smaller than the effects from participation in study abroad programs. Moreover, the total number of students in each sample who belonged to the senior class and indicated that they planned to study abroad were small, and so I am reluctant to assign very much practical meaning to those observed effects.

These findings expand upon research done by Ismail and his colleagues (2006), and Wortman (2002) on the effect of study abroad on openness to diversity and challenge. Both studies found that students who had studied abroad exhibited an increase in openness to diversity. Research by Lowe and her colleagues (2014) examined the subsequent interracial interactions of study abroad participants and found increases in frequency of engagement with racial diversity, greater willingness to initiate interracial interactions, and greater likelihood of seeking out diverse contacts. My findings, that study abroad participants score
higher on all three of my engagement outcomes, corroborate their results. Given Clemson’s distribution of study abroad participation, with 72 percent or study abroad participants completing short-term programs (Study Abroad Office 2016), it would appear also that in the arena of engagement with diversity, as Chieffo and Griffiths (2009) assert, even short-term international experiences have significant impacts on students.

Additionally, having kept the sample separated into freshman and senior cohorts, I was able to make some observations about differences between the two groups. Among the freshman cohort, I focused my analysis on two groups, those who intended to study abroad, and those who did not intend to or had not yet decided. In my analysis, I found no evidence of any difference between these groups on any of the engagement outcomes, even when controlling for other factors. This suggests that the significant effects among the seniors between those who had studied abroad and students who had not, are not spurious and are not simply attributable to a predisposition to openness and engagement that existed prior to studying abroad (and that would have motivated the students to participate, in the first place).

I also hypothesized that there would be some moderation from Greek membership on the effect of study abroad on the three engagement outcomes. The results revealed no direct effect from Greek membership on the response variables, either for freshmen or seniors. When I tested for interaction between Greek membership and study abroad, however, I did find a modest moderating effect from Greek membership on intellectual engagement with diversity, engagement with diverse peers, and social interaction with diverse peers. In all three instances, a student’s membership in a Greek organization
reduced the positive effect of having studied abroad on the engagement outcome. This confirms the hypothesized moderation, and corroborates findings from research done at the University of California, Los Angeles (Sidanius et al. 2004), that suggests that membership in Greek organizations mitigates the prejudice reduction effects of intergroup contact for white students.

Several of the regressions point to significant effects on the engagement outcomes from other variables. In the analysis of student intellectual engagement with diversity, I found that among freshmen that being non-white has a strong association with increases in such engagement. This association is not present in the senior cohort, however. Similarly, my analysis of social interaction with diverse peers shows that race, again strongly related to such interaction. For that measure, the effect remains even among seniors. Among seniors there was also a significant effect from race on engagement with diverse peers. Though the effect of race on these outcomes is outside the scope of this thesis, it seems sensible to me that non-white students engage more frequently in events and conversations about racial and religious diversity, and have more extensive social relationships with peers from other races and cultures, due to their minority status, if nothing else, and the imperative of engaging and forming social ties with majority race students. In short, there are greater odds of interacting with people dissimilar to one’s self among minority students.

My analysis of student engagement with diverse peers reveals that major is also significantly related to engagement. Students pursuing degrees in STEM and life science fields, and professional degrees (e.g. architecture, business, management) had mean scores
that were lower than students majoring in humanities, arts and social sciences. This corroborates research done by Hurtado (1990, 1992) and Pascarella (1996) on the factors in college experience that influence attitude change, which suggests that humanities and social sciences are associated with such changes.

Furthermore, I found in my analysis of social interaction with diverse peers that among seniors there were significant effects associated with Greek membership and parents’ education. In keeping with research by Sidanius, Van Laar, Levin, and Sinclair (2004), membership in Greek organizations, which they describe as ethnic enclaves for white students, my analysis also suggests that those students who belong to Greek organizations, and who are predominantly white, have less interaction with non-white peers, than those who are not Greek affiliated. In that analysis, I also found that the highest level of education completed by the respondent’s parents has a very significant effect on their mean score for social interaction with diverse peers. A student’s parents having completed a bachelor’s or graduate degree is associated with approximately a quarter-point (one-fifth of a standard deviation) decrease in the mean social interaction score. Again, the investigation of this relationship is beyond the scope of this thesis. However, it raises questions about the relationship between education and exposure to racial and cultural diversity. On the one hand, students from more affluent families with higher levels of education may have more opportunities for exposure and interaction with people from other cultures through travel etc. that would make them comfortable with such social interactions. Yet, better educated and wealthier social strata are also whiter, and afford perhaps fewer chances to develop inter-racial and inter-cultural social ties.
The results of this investigation corroborate previous research on effects of study abroad on student attitudes and engagement, and generalization of effects from intergroup contact. Being focused on measures of engagement, this study does not measure changes in attitudes; however, my findings do suggest that students who study abroad participate to a greater degree in the kinds of activities and behaviors that contribute to attitude change, such as socializing with outgroups and having discussions about racial issues (Hurtado 1990, 1992; Milem 1992, 1994a, 1994b, cited in Hurtado et al. 1999). Therefore, I conclude that study abroad does contribute to the larger goal of changing attitudes and this helping to foster more welcoming, open campus climates.

**Limitations**

There are several limitations to this study that warrant addressing here. First is the sample and sampling design. The sample for the NSSE is drawn from a census of the freshman and senior classes at Clemson University each year. Second, the response rate for the 2015 survey was just 12 percent, so there may be questions as to the generalizability of the findings from that component of my analysis. Third, many students did not complete the survey, resulting in a significant amount of missing data concentrated on the items comprising my dependent variables. A full table displaying the descriptive statistics for all variables in the analysis for the deleted cases is included in Appendix C. Lastly, this being a survey, I rely on students’ self-reporting of the frequency of their engagement with diverse peers, social interactions, and intellectual engagement with topics related to
diversity, and there is an inherent degree of uncertainty as to the accuracy of those reports, as with all retrospective questions.

In terms of the analysis itself, it bears acknowledging that because the survey draws responses from participants at the same institution, the assumption of independence of cases for ordinary least squares regression may be violated, as students participating in the survey may have connections to one another through courses and extracurricular activities. Additionally, the distributions for my three dependent variables were not normal. However, I found that the distribution of the residuals from each of my regressions were normal, and so I believe that OLS regression is remains an appropriate method for these analyses.

As with any analysis conducted using secondary data, there are limitations that arise from the items included in the survey and the survey design. Given that responses are collected only from freshman and seniors, it is impossible for me to account for all of the factors that influence a student’s attitude and perspective during four years of college experience. The absence of an effect from plans to study abroad on the engagement outcomes hint at changes that occur due to participation in study abroad, but it remains possible that there are other experiences in college that are the true causal link. Similarly, there are additional variables explored in the literature that I am unable to control for here because they are not addressed in the NSSE. For example, previous research and recent trends suggest that the differential outcomes from short-term and long-term study abroad warrant further investigation, however I do not have any specific information about the duration or format of the study abroad programs respondents completed.
Implications & Suggestions for Further Research

Implications

I undertook this research with the questions in mind as to whether reductions in prejudice resulting from intergroup contact during study abroad experiences are generalizing to intergroup interactions back on universities campuses, and whether institutions’ investments in global learning and study abroad could provide spillover benefits in the form of improved of campus racial climate. My analysis of data from the National Survey of Student Engagement collected at Clemson University corroborated my three hypotheses that participation in study abroad does have a significant effect on measures of senior students’ engagement with diversity.

My results parallel findings from the study abroad literature about the effects of study abroad on global engagement and intercultural competencies, and add to the limited body of research into effects on openness to diversity, interracial engagement, and intergroup attitudes. While not examining attitudes directly, this investigation does reveal that study abroad participation is associated with participation in activities and behaviors that other research links with attitude change. In addition, my findings provide preliminary evidence of generalization of prejudice reduction resulting from intergroup contact abroad to outgroups back on the students’ home campuses, far beyond the initial contact situation.

My finding that seniors who have studied abroad participate more frequently in behaviors and activities that are associated with attitude change than those who have not has a variety of implications for university administrative organization, study abroad programming and campus life. Thus, I present the following recommendations:
**Administrative Organization**

Foremost, these findings reveal a convergence of the goals of global engagement and inclusion and diversity offices at institutions of higher education. At Clemson, and at many other U.S. colleges and universities, these offices are housed in entirely separate administrative units, and their missions are treated as distinct and divergent. Clemson’s Office of Global Engagement (OGE) is directed by the Vice Provost of Global Engagement, who reports to the university Provost. In contrast, the Office of Inclusion and Equity (OIE) is under the direction of the Chief Inclusion and Equity Officer and Special Assistant to the President for Inclusive Excellence, who reports directly to the university President (S. Nagy personal communication, April 19, 2017). Given the well-established evidence for the association between more positive ethnic attitudes and (1) diminished intergroup anxiety resulting from activities and behaviors such as socializing with diverse peers, (2) discussing issues related to diversity, and (3) learning about people from other groups (Hurtado 1999; Pascarella et al. 1996; Levin et al. 2003; Van Laar et al. 2005); and (4) this new evidence of an association between greater levels of engagement in just those activities and behaviors and participation in study abroad programs, it is plainly in the interest of administrators both at Clemson and other institutions to increase the communication and collaboration between these two offices.

**Study Abroad Programming**

Some findings from the study abroad literature as well as this study point to potential adjustments to Clemson’s promotion of study abroad. Multiple studies suggest that the depth of immersion in the host culture is positively related to intercultural
competency outcomes as well as openness to diversity (Paige et al. 2010; Stebleton et al. 2013; Wortman 2002). While there is some evidence for positive effects from short-term international programs (Chieffo and Griffiths 2009; Ismail et al. 2006), others (Anderson et al. 2006) report no gain in relativistic appreciation or difference or comfort with difference from short-term program. Consequently, Clemson ought to encourage students to enroll in semester- and year-long programs whenever students’ academic schedules allow; and the study abroad office should consider consulting with academic departments to incorporate study abroad into their curricula. Moreover, because this and other research suggests that attitude changes are associated more strongly with majoring in the humanities and social sciences (Pascarella et al. 1996; Hurtado 1999; Levin et al. 2003), Clemson might consider more aggressively promoting study abroad to students majoring in STEM fields, whose attitudes may be less likely to shift than students in other fields.

An additional component of integration in the host culture is language ability. Stebleton and his colleagues (2013) found that linguistic competency was significantly related to gains in intercultural competency among students. And Wortman (2002) observed a positive change in openness to diversity for students studying abroad in English-speaking countries, but not in others. These results can be brought to bear on promotion of study abroad by focusing on encouraging students to invest in language study in preparation for a study abroad program and to choose programs that include language study; and for whom language competency is not an achievable goal, by working to eliminate any stigma associated with studying abroad in English-speaking countries, presenting those programs as “easy.”
In order to enhance the benefits of the positive effects from study abroad participation on engagement in activities that promote attitude change, institutions ought to consider encouraging students to study abroad earlier. In a study of college freshmen, Pascarella et al. (1996) found that pre-college attitudes were the strongest predictor of student’s openness to diversity at the end of their freshman year. Similarly, Levin and her colleagues (2003) found that intergroup contact early in college resulted in more intergroup friendships during the second and third years, and more positive ethnic attitudes and less intergroup anxiety by the fourth year. Van Laar et al. (2005) observed similar results in their study of the effects on intergroup friendships and ethnic attitudes of randomly assignment inter-ethnic roommate pairings among freshmen. Sending students to study abroad earlier in their college career, instead of the typical junior-year study abroad, or even promoting pre-matriculation abroad programs could initiate these attitude changes at an early stage, thus allowing the maximum benefit both for the student’s individual growth and for the campus community.

Research testing intergroup contact theory suggests a variety of factors that mediate the effects of intergroup contact. Learning about the outgroup is identified as a primary mechanism for reducing prejudice and intergroup anxiety (Pettigrew 1998), and this can happen while students are abroad, but also during pre-departure orientations, and debriefings after students return home. Introspection and reflection are also integral to prejudice reduction (Pettigrew 1998), and writing reflection journals and papers is commonly regarded as an essential feature in effective study abroad programs (group conversation, AAC&U Conference, October, 2016). Furthermore, the opportunity to
develop friendships and other affective relationships with people from different group is a key contributor to the positive effects from intergroup contact. Moreover, friendships lead to a much stronger effect than other relationships such as those formed between neighbors or coworkers (Batson et al. 1997, cited in Pettigrew 1998; Pettigrew 1997). Faculty-directed programs should prioritize providing opportunities for students to develop such connections through such program features as homestays. All of these mechanisms should be intentionally incorporated into guidelines and learning outcomes for faculty-directed programs.

*Campus Life*

Greek life is a prominent feature of the social environment at Clemson.; significant proportions of men and women belong to Greek organizations. Among undergraduate women, 32 percent are members of a sorority, and 18 percent of undergraduate men belong to a fraternity (Best Colleges U.S. News Rankings 2015). At Clemson, members of Greek organizations study abroad at higher rates than non-members (based on the NSSE sample), and it has been anecdotally noted by staff in the Study Abroad Office that friends from the same sorority or fraternity frequently enroll in study abroad programs together in small groups (S. Nagy and J. Musso, personal communication). More generally, some third-party program providers even market “bubble programs” for groups from sororities and fraternities, which intentionally insulate students from the most beneficial aspects of study abroad. The results from my analysis confirm my hypothesis that the positive effect on engagement with diversity from participation in study abroad is mitigated by membership in Greek organizations. This finding corroborates prior research from Pascarella et al.
(1996) that showed that membership in Greek organizations had a negative effect on openness to diversity. Sidanius and his colleagues (2004) also find that Greek membership is associated with stronger pre-college white ethnic identity and more negative ethnic attitudes, that pre-college negative ethnic attitudes were predictive of membership in Greek organizations during college. They then assert from that finding and others that Greek organizations serve as ethnic enclaves for white students, and foster xenophobic, prejudiced attitudes among white students. Consequently, barring the possibility of discouraging participation in Greek organization, universities might consider more aggressively promoting study abroad to Greek members, knowing that the negative effects of membership on inter-racial and inter-religious engagement are somewhat mitigated by studying abroad.

**Data Collection**

Finally, as noted in the limitations section above, I was limited in my analysis both by the items included in the NSSE base survey, and by the availability of just one year of data from each of the modules – Experiences with Diverse Perspectives and Global Perspectives. As Clemson University moves forward in pursuit of achieving its strategic goals of retaining underrepresented students and faculty, increasing study abroad participation and global learning, and improving the campus climate, it behooves administrators to collect data that can help assess the progress toward those goals. The Campus Climate Survey is a useful tool, but it is only administered once every four years, and includes items solely focused on campus climate; meanwhile, the NSSE is deployed
every academic year, but it must include the same modules each year in order to document change over time on those measures.

**Suggestions for Further Research**

Further research will be necessary to confirm these findings and to enhance the case for investment in study abroad and global learning as means to improve campus racial climates. Future analyses would be improved with more specific measures of racial attitudes in addition to engagement measures, such as those used in the large, longitudinal survey conducted at UCLA (Levin et al. 2003; Sidanius et al. 2004; Van Laar et al. 2005), and measures of additional factors such as previous travel, and other intercultural and intergroup experiences that could contribute to attitude changes. Additionally, in order to inform university policies as well as the design of study abroad programs, future research would benefit from including greater detail about the duration, degree of immersion and other characteristics of study abroad programs, as well as the students themselves. Though the results have been mixed, some findings suggest that duration, degree of integration in the host culture, location, language, and on-site facilitation influence the effects on global engagement and intercultural development outcomes (Chieffo and Griffiths 2004; Lowe et al. 2014; Stebleton et al. 2013). Therefore, future researchers should consider collecting such greater detail about the characteristics of study abroad programs, and students.

Finally, in order to isolate the effects from study abroad, and to get closer to definitive evidence of a causal link, future researchers should consider employing longitudinal and pretest-posttest designs to examine changes that occur in students’ attitudes over the course of their college careers and surrounding their sojourns abroad.
Additionally, studies like some in the literature that utilize surveys of alumni would be useful as well, as they point to longer-term evolution of students’ attitudes and engagement with international people, activities and topics (Paige et al. 2010; Murphy et al. 2014).

The significant results from this analysis contribute to a modest body of research that suggest that racial attitudes and interracial engagement are improved by participation in study abroad programs, and thus provides initial evidence to assert that campus racial climates stand to improve along with expansion opportunities for and participation by students in study abroad programs. As campuses around the country continue to diversify their student bodies as well as faculty, it will be imperative to remain attentive to the racial and religious climate of campuses in order to retain racial and religious minority students. Part of this task must include finding ways to encourage intercultural sensitivity in students in order to help them navigate the diverse social environments of their campuses and the professional world beyond. Intergroup contact through study abroad and the consequent ways in which it improves cultural skills, engenders openness to diversity, and fosters engagement with diverse peers and topics related to diversity has great potential to serve as one vehicle for the improvement of campus climates.
APPENDIX A:
National Survey of Student Engagement

Topical Module: Experiences with Diverse Perspectives

This module examines activities that promote greater understanding of societal differences. The module complements questions on the core survey about experiences with people from different backgrounds, diverse perspectives in course discussions and assignments, and the extent to which institutions encourage contact among students from different backgrounds. (Complementary FSSE set available.)

1. During the current school year, to what extent have events or activities offered at your institution emphasized perspectives on societal differences (economic, ethnic, political, religious, etc.?)

<table>
<thead>
<tr>
<th>Very much</th>
<th>Quite a bit</th>
<th>Some</th>
<th>Very little</th>
</tr>
</thead>
<tbody>
<tr>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

2. During the current school year, about how often have you attended events or activities that encouraged you to examine your understanding of the following?

<table>
<thead>
<tr>
<th>Very often</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

a. Economic or social inequality
b. Issues of race, ethnicity, or nationality
c. Religious or philosophical differences
d. Different political viewpoints
e. Issues of gender or sexual orientation

3. During the current school year, about how often have you had discussions about the following?

<table>
<thead>
<tr>
<th>Very often</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
<tr>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

a. Economic or social inequality
b. Issues of race, ethnicity, or nationality
c. Religious or philosophical differences
d. Different political viewpoints
e. Issues of gender or sexual orientation

(Trustees of Indiana University 2013)
APPENDIX B:  
National Survey of Student Engagement

**Topical Module: Global Perspectives – Cognitive and Social**

*NSSE has partnered with the Global Perspective Institute to derive a short module from the Global Perspective Inventory (GPI). The module probes the cognitive and social elements of a global perspective, asking about experiences with global learning and views on intercultural understanding. The module complements questions on the core survey about student experiences with people from different backgrounds, course emphasis on integrative and reflective learning, and participation in study abroad.*

1. How much do you agree or disagree with the following statements?

<table>
<thead>
<tr>
<th>Strongly Agree (5)</th>
<th>Agree (4)</th>
<th>Neither agree nor disagree (3)</th>
<th>Disagree (2)</th>
<th>Strongly Disagree (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. When I notice cultural differences, my culture tends to have the better approach.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>b. Issues b. Most of my friends are from my own ethnic background.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>c. I think of my life in terms of giving back to society.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>d. Some people have a culture and others do not.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>e. In different settings, what is right and wrong is simple to determine.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>f. I am informed of current issues that impact international relations.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>g. I understand the reasons and causes of conflict among nations of different cultures.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>h. I work for the rights of others.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>i. I take into account different perspectives before drawing conclusions about the world around me.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>j. I understand how various cultures of this world interact socially.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>k. I consider different cultural perspectives when evaluating global problems.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>l. I rely primarily on authorities to determine what is true in the world.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>m. I know how to analyze the basic characteristics of a culture.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>n. I put the needs of others above my own personal wants.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>o. I can discuss cultural differences from an informed perspective.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>p. I intentionally involve people from many cultural backgrounds in my life.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
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</tbody>
</table>
Appendix B: Topical Module: Global Perspectives (Continued)

<table>
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<th></th>
<th>Strongly Agree (5)</th>
<th>Agree (4)</th>
<th>Neither agree nor disagree (3)</th>
<th>Disagree (2)</th>
<th>Strongly Disagree (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>q.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>r.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
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</tr>
<tr>
<td>s.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>t.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>u.</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

(Global Perspectives Institute 2014)
### Appendix C: Tables 3.9 and 3.10 Descriptive Statistics for Deleted Cases

#### Table 3.9 Descriptive Statistics for 2013 NSSE Clemson Sample – Deleted Cases

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<thead>
<tr>
<th>Category</th>
<th>Freshmen</th>
<th>Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td><strong>Study Abroad n=78s</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do not plan to do/Have not decided</td>
<td>36</td>
<td>43.37</td>
</tr>
<tr>
<td>Plan to do</td>
<td>47</td>
<td>56.63</td>
</tr>
<tr>
<td>Done or in progress</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
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</tr>
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<td><strong>Greek Membership</strong></td>
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<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
<td>14.29</td>
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<tr>
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</tr>
<tr>
<td>Total</td>
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<td>100.00</td>
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<tr>
<td><strong>Race</strong></td>
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<tr>
<td>White</td>
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<tr>
<td>Non-white</td>
<td>43</td>
<td>18.53</td>
</tr>
<tr>
<td>Total</td>
<td>232</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>Parent Education</strong></td>
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<td></td>
</tr>
<tr>
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<td>0.00</td>
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<tr>
<td>H.S. Diploma/GED</td>
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<td>4.00</td>
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<td>Some college</td>
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<td>4.00</td>
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<td>Associate’s</td>
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<td>Bachelor’s</td>
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<td>Master’s</td>
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<tr>
<td>Doctoral or professional degree</td>
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<td>20.00</td>
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<td>Total</td>
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<td><strong>Major</strong></td>
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<td>Business &amp; Management</td>
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<td>Humanities</td>
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<td>14.29</td>
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<td>Life &amp; Health Sciences</td>
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<td>21.43</td>
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<td>Fine &amp; Applied Arts</td>
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<td>7.14</td>
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<td>Education</td>
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<td>14.29</td>
</tr>
<tr>
<td>STEM</td>
<td>3</td>
<td>21.43</td>
</tr>
<tr>
<td>Other</td>
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<td>14.29</td>
</tr>
<tr>
<td>Total</td>
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<tr>
<td><strong>Sex</strong></td>
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<td></td>
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<tr>
<td>Male</td>
<td>82</td>
<td>35.34</td>
</tr>
<tr>
<td>Female</td>
<td>150</td>
<td>64.66</td>
</tr>
<tr>
<td>Total</td>
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<tr>
<td><strong>Fulltime</strong></td>
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<td>28</td>
<td>96.55</td>
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<tr>
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<td>3.45</td>
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<table>
<thead>
<tr>
<th>Category</th>
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<tbody>
<tr>
<td>Age</td>
<td>18.34</td>
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</tr>
<tr>
<td>Intellectual engagement w/ diversity</td>
<td>2.27</td>
<td>0.49</td>
</tr>
<tr>
<td>Engagement w/ diverse peers</td>
<td>2.85</td>
<td>0.78</td>
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</table>
Table 3.10 Descriptive Statistics for 2015 NSSE Clemson Sample – Deleted Cases

<table>
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<tr>
<td>Study Abroad</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Do not plan to do/Have not decided</td>
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<td>50.00</td>
<td></td>
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<tr>
<td>Done or in progress</td>
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<tr>
<td>Non-white</td>
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</tr>
<tr>
<td>Parents Education</td>
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</tr>
<tr>
<td>Did not finish H.S.</td>
<td></td>
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<td>Some college</td>
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<tr>
<td>Major</td>
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<tr>
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REFERENCES


