Predicting Study Abroad Propensity among College Students

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ABSTRACT

The present and increasingly globalized environment of commerce and information has created the need for a workforce adept at global citizenship (Reimers, 2009). As a demand for global citizens has increased, higher education has responded by developing 21st century workforce competencies among its students (NAFSA International Strategic Plans and Mission Statements, 2012). Study abroad is one of the means employed by higher education to increase students' global competency (Carlson, Bum, Useem & Yachimowicz, 1990).

This study explored the relationship between demographic characteristic, and personal, social, and academic experiences of students with respect to predicting propensity to study abroad. Prior research has focused on each of these factors individually while this study explored the influence of these factors collectively on the likelihood to study abroad. Factors were defined by variables measured by the 2014 National Survey on Student Engagement (NSSE) (NSSE, 2014). The data analyses included a combination of independent sample *t* tests, one-way ANOVAs, and linear regression.

The results revealed that gender, race, major, and SES are good predictors of participation in study abroad. Additionally, academic collegiate experiences germane to diversity and societal awareness increased propensity to participate in study abroad.

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GENERAL AUDIENCE ABSTRACT

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Chapter One

Introduction

One central purpose of higher education in the United States is to produce citizens who will contribute to society (Kahlenberg, 2011). In recent years the definition of citizenry has expanded to encompass a global civilization whereby commerce and information are more easily and rapidly exchanged. In response, a number of constituencies have encouraged American institutions of higher education to graduate students who are globally competent (Hunter, 2004; Osborne & Russo, 2011). Indeed, 90% of Americans believe it is important to prepare future generations of Americans for a global society (Global Competency, n.d.).

Both the public and private sectors have an interest in globally competent college graduates. In the public sector, reasons relate to national security and economic stability. Public institutions such as state and federal agencies must be adequately staffed to respond to issues such as international terrorism, regional and global conflicts, and global warming (Jackson, 2013). Changing demographics and international business developments require the skills and expertise of globally competent employees (Reimers, 2009). For example, more than 65 federal agencies including divergent organizations from the Central Intelligence Agency to the Peace Corps, annually seek to fill more than 34,000 positions requiring foreign language skills. These needs are regularly unmet (Global Competence & National Needs, 2005). Such data illustrate the high demand in the public sector for globally competent college graduates.

The private sector also values global competency but for different reasons, including an increasingly globalized economy and the changing demands of work. The top 10 in-demand jobs projected in 2010 did not exist in 2004 (e.g., alternative energy engineers, app designers, social media managers). The private sector needs globally competent college graduates to maneuver in the global market, understand transnational production, structure economic and cultural developments, and manage issues of inequality (Mansilla & Jackson, 2011). U.S. multinational corporations employ one fifth of all American workers (Wessel, 2011). Moreover, these corporations are continuously expanding worldwide. In 2009, multinational corporations employed 10.3 million people overseas (Wessel, 2011). The private sector needs globally competent employees to manage and oversee international operations.

Consequently, there is a growing focus on global workforce competency. Global competency involves actively seeking to understand cultural norms and expectations of others,

and leveraging this knowledge to interact, communicate and work effectively outside of one's environment. Skills associated with global competency include research, creative thinking, problem solving, coping, and resiliency (Hunter, 2004; Lambert, 1996). Individuals' global competency can be gauged on their ability to investigate the world, communicate perspectives and ideas, and take action (Global Competence Definition, n.d.).

Higher education has responded to the demand for globally competent employees through new degree offerings, curriculum changes, and internationalization initiatives. Many institutions have adopted an international strategic plan as a means to guide efforts and the distribution of resources (Agnew, 2012; Roach, 2013). An international strategic plan allows university administrators to inventory all global activities, project findings to future needs, and strategize how to enhance campus internationalization efforts (Roach, 2013). A majority of American colleges and universities have developed and implemented international strategic plans to strengthen the global competency of faculty, staff, and students (International Strategic Plans and Mission Statements, 2012).

Postsecondary institutions have also undertaken strategies to promote development of globally competent students by establishing international branch campuses. While a formal definition of a branch campus is still ambiguous (Verbik, 2006; Wilkins & Huisman, 2012), colleges and universities have moved rapidly to establish physical presence throughout the world. In some instances branch campuses are defined as off-shore operations of higher education institutions that are managed by the U.S. institution or through a joint-venture in which the U.S. institution is a partner and the branch campus is managed by the foreign institution (Verbik, 2006). Others simply define branch campuses as foreign degree-granting locations of a U.S. higher-education institution (Lane & Kinser, 2012). One clear definition may never completely address all the forms of international branch campuses, particularly since the number of international branch campuses has increased substantially during the past decade (Lane & Kinser, 2012). In 2011 there were at least 183 branch campuses across the world (Wilkins & Huisman, 2012) the vast majority of which were owned and operated by American institutions (Verbik, 2006). A resultant type of collaboration between American and foreign universities has subsequently emerged as yet another way to internationalize.

Dual degrees, also known as international collaborative degrees represent a third international initiative introduced by the postsecondary sector. Dual degrees are programs that

have been jointly developed by two universities so that students who complete requirements earn a single degree from one of the universities, or two degrees, one from each institution (Maierhofer, Krawagna, & Kriebernegg, 2010). The primary motivations for developing dual degree programs are trifold: to broaden educational offerings, advance internationalization, and increase international visibility (New Survey Examines Global Academic Collaboration, 2011).

The European Union is considered a major driver of dual degree programs because of its efforts to facilitate cross-border movement on the continent. Comparatively, dual degree programs in other countries are rare (Guttenplan, 2011; New Survey Examines Global Academic Collaboration, 2011). However, a survey conducted by the Institute of International Education revealed that 95% of nearly 250 respondents in 28 countries favor development of more dual degree programs (New Survey Examines Global Academic Collaboration, 2011). In the United States, a growing number of institutions are beginning to offer such programs in an attempt to attract more international students (New Survey Examines Global Academic Collaboration, 2011).

In addition to institutional initiatives to expand internationally, faculty members strengthen global competency by engaging in partnerships with colleagues across the world. Collaborative teaching and research are becoming more common and international collaboration has increased significantly in the past two decades (Science and Engineering Indicators, 2012). In 2009, 42% of research articles in the world's major science and technology regions had international co-authors (Science and Engineering Indicators, 2012). Internationally co-authored research papers are cited up to twice as frequently as single country papers (Katz & Martin, 1997). International partnerships among faculty lead to joint research and technology initiatives and strengthen institutional management, testing, faculty development efforts, and quality assurance (Sakamoto & Chapman, 2012). Through international collaboration and research initiatives faculty develop global competencies that they are able to transfer to students (Jackson, 2013).

A second means that faculty members use to relay global competencies to students is through the curriculum. Due to the low level of international awareness among college students, there is a need for the curriculum to be internationalized (Hayward, 2000). Indeed, internationalizing the curriculum arguably may be one of the most significant steps to developing and sustaining campus-wide internationalization since it has the potential to impact all students

(Agnew, 2012; Bond, Qian, & Huang, 2003; Green & Olson, 2003). Curriculum is typically defined as courses and programs offered by colleges and universities (Bremer & Van der, 1995; Kreber, 2009). Others expand that definition to include all activities, experiences, and learning opportunities in which students, administrators, academics, and support staff participate (Kreber, 2009). For example, some universities have implemented a pedagogy of global citizenship that includes curriculum which involves courses in global justice, international business, and global perspectives (Kreber, 2009). Other examples of internationalizing curriculum include attracting international students to study at universities in foreign countries and the physical movement of programs and academic staff across borders (Altbach & Knight, 2007).

Finally, in addition to institutional and faculty efforts, students contribute to the development of their own global competency by taking advantage of available opportunities that higher education offers. Lambert (1996) suggests that proficiency in a foreign language is a major characteristic of global competency. However, many American colleges and universities have reduced or eliminated instructional offerings in "less popular" foreign languages (Skorton & Altschuler, 2012). Foreign language enrollments have declined significantly during the last 40 years. Only 48% of students enroll in any foreign language courses during their degree programs (Hayward, 2000). In some states, fewer than 10% of college students are enrolled in foreign language classes (College-bound students' interests in study abroad, 2008). As foreign language enrollments decline, students may seek other avenues to expand their global horizons.

One of those avenues might involve participation in campus activities. International student organizations have become a part of the higher education landscape. Globally competent students take advantage of opportunities to interact with diverse individuals through membership in one or more internationally oriented student organizations (Osborne & Russo, 2011). Domestic and international students alike are urged to become involved in university clubs and organizations to build cross-cultural communities, experience diversity, and develop a connectedness to the campus (Bui, 2013; Mayfield & Mayfield, 2011).

Another mechanism students use to promote global competency - and the one that is at the center of this study - is study abroad. Study abroad is defined as an educational program that takes place outside the geographical boundaries of a student's country of origin (Carlson, Bum, Useem, & Yachimowicz, 1990) and is a fundamental tool used by colleges and universities to

develop globally competent citizens. A student's worldview is noticeably enhanced as a result of participation in study abroad (Carlson & Widaman, 1988).

The interest in studying abroad among incoming college students is high. Half (50%) of college bound students want to study outside the U.S. (College-bound students' interests in study abroad, 2008). In the 2000-2001 academic year, 154,168 U.S. college students participated in study abroad. In 2012-13, that number had grown to 289,408 (Institute of International Education, 2001-2015). However, while the numbers of students who study abroad have grown, there are clear disparities between those who take advantage of study abroad opportunities and those who do not. Some of these disparities are based on demographic characteristics and experiences.

Several researchers have studied demographics and study abroad participation among U.S. students (Brown, 2005; Carlson, et al., 1990; Institute of International Education, 2001-2015; Lozano, 2008; Norton, 2008; Schmidt, 2009). For instance, there is a significant gender disparity in study abroad where women outpace men in participation rates nearly 2:1 (Institute of International Education, 2001-2015).

There are also significant discrepancies surrounding race and ethnicity and study abroad participation. Few minority students participate (Norton, 2008). The mentality of minority students is that they need to transition into the job market as quickly as possible. They believe study abroad might delay that transition and perceive such travel as an activity solely for rich, white students (Norton, 2008). These perceptions are reinforced by the fact that 76.3% of study abroad participants in 2012-13 were Caucasian (Institute of International Education, 2001-2015). In that year, Asians and other Pacific Islanders comprised 7.9% of those who studied abroad. The representation of Hispanic, Black, Multiracial and Native Americans students were 7.6%, 5.3%, 3.0 and 0.5% respectively (Institute of International Education, 2001-2015).

Academic major also presents disparities in study abroad participation among college students. For years, students majoring in the Arts and Humanities studied abroad at higher rates than students studying in the fields of science, technology, engineering, and math (STEM) (Stroud, 2010). However, recently STEM fields have seen an increase in study abroad participation. This increase has now given STEM majors the highest participation rate among academic disciplines (Institute of International Education, 2001-2015; Oguntoyinbo, 2015). During the 2012-13 academic year STEM majors represented 23% of the United States study

abroad population. Other academic majors represented 22% or less of those studying abroad (Institute of International Education, 2001-2015).

Studies also show differences in study abroad participation rates as they apply to students with disabilities. Students with disabilities make up only 5.1% of the study abroad population (Institute of International Education, 2001-2015).

Socioeconomic characteristics play an important role in a student's decision to study abroad (Lozano, 2008). Students whose father has a high social status (defined by job classification) are more likely to study abroad (Carlson, et al., 1990). Even the parental make up of a household has a small yet noteworthy impact on study abroad participation. Students from a dual parent household are 2.6% more likely to study abroad than students from a single parent household (Brown, 2005). Interestingly, students who are less dependent on parental financial support and are more dependent on their own resources are also more apt to participate in study abroad programs (Carlson, et al., 1990)

Pre-college experiences also play a role in students' decision to study abroad. Researchers have identified pre-college experiences that lead to an increased likelihood of study abroad participation (Carson et al, 1990; College-bound students' interests in study abroad, 2008; Goldstein & Kim, 2006; Opper, Teichler, & Carlson, 1990; Pearce, 1988). For example, an increasing number of students who are entering college have traveled to other countries prior to enrolling in their first year of higher education (College-bound students' interests in study abroad, 2008) and that travel experience influences their plans for future travel. More experienced travelers are more likely to continue traveling. They are less worried about safety and security and more focused on self-actualization needs (Pearce, 1988). However, research on the link between previous travel experience and study abroad participation is inconsistent (Goldstein & Kim, 2006). Some scholars have found that previous travel experience does not predict study abroad participation (Carlson et al., 1990) while others have reported that previous travel experience is associated with study abroad in college (Opper et al., 1990).

Far less is known about what experiences students have while in college that might promote participation in study abroad. Overall, half of entering college students say they want to study abroad (College-bound students' interests in study abroad, 2008) but something happens once they matriculate. Only 1% of American students actually participate in study abroad (Institute of International Education, 2001-2015). If college and university leaders want to

promote global citizenship by growing the number of students who engage in international experiences such as study abroad, they need to better understand what influences students to follow through on their earlier intentions to do so. Some research suggests that personal, social, and academic experiences have an influence on whether or not a student chooses to participate in study abroad programs.

Personal experiences surrounding diversity awareness, political leanings, and participating in activities that are political in nature have all been shown to influence a college student's study abroad propensity (Twombly, Salisbury, Tumanut, & Klute, 2012). Additional factors such as the choice of institution (liberal arts college, major research university, or community college) and the distance that a student travels away from home to attend college have also been found play a role in a student's decision to study abroad (Stroud, 2010; Twombly, et al., 2012).

Social experiences have been known to have a direct impact on a student's study abroad propensity. Social gatherings where students are able to learn more about study abroad opportunities and develop their skills in a multicultural environment contribute to an increase in study abroad propensity (McDonough, 1997). Other research indicates that certain social experiences negatively impact a student's study abroad propensity. Brux and Fry (2010) reported that students who have past experiences with discrimination have a lower likelihood of studying abroad.

The probability of college students studying abroad is also influenced by academic experiences. Twombly, et al. (2012) argue that students who have a high interest in reading and writing have a higher study abroad propensity. The influence of faculty members may have the biggest impact on a student's decision to study abroad (Streitwieser, 2014). Other research details academic experiences that could deter a student from studying abroad. Academic considerations such as delayed graduation and an inability to transfer credit decrease a student's propensity to study abroad (Twombly, et al., 2012).

Study abroad can be considered an outcome of the college experience. Astin's (1993) Input-Environment-Output (I-E-O) model is one way to examine the factors associated with that outcome. The I-E-O model assesses which inputs and environments contribute to student outcomes. Astin (1993) theorized that students bring specific differences to college based on their unique backgrounds. Those unique backgrounds coupled with their experiences in the

institutional environment affect outcomes. For purposes of this study, students' background characteristics served as Inputs, while college experiences served as the Environment. The output, or outcome, of the study was study abroad participation.

Since I wanted to examine an outcome (study abroad propensity) of the undergraduate experience, it was essential to identify an instrument that measured inputs, experiences, and the outcome of study abroad. The National Survey of Student Engagement (NSSE) is an assessment tool that measures how universities promote engagement in educational practices and to what extent engagement contributes to student outcomes (Kuh, 2001; NSSE, 2010). It is administered annually to first year students and seniors at institutions across the U.S. and elicits data on select demographic characteristics and undergraduate experiences. It also asks about respondents' plans to participate in study abroad. The data for this study came from a sample of participants in the 2014 administration of the NSSE.

Statement of the Problem

To recap, there has been a growing interest in global competency (Hunter, 2004; Lambert, 1996; Wessel, 2011). Global competency is important to the public and private sectors for various reasons. The public sector's interests in global competency relate to matters of national security and economic stability (Jackson, 2013; Reimers, 2009). The private sector's interests in global competency relate to matters of a "flattened" global economy and changing demands of work (Mansilla & Jackson, 2011).

Institutions of higher education have responded to calls for globalization via faculty and student actions. The development of international strategic plans has allowed university officials to take inventory, project findings, set goals, and strategize about internationalization efforts (Agnew, 2012; Roach, 2013). In addition, colleges and universities develop globally competent citizens through branch campuses (Lane & Kinser, 2012; Verbik, 2006; Wilkins & Huisman, 2012) and dual degree offerings (Guttenplan, 2011; Maierhofer et al., 2010; New Survey Examines Global Academic Collaboration, 2011). Faculty members have also promoted global competency through internationalizing the curriculum (Bond et al., 2003; Bremer & Van der Wende, 1995; Green & Olson, 2003; Hayward, 2000; Kreber, 2009), and establishing global partnerships (Science and Engineering Indicators, 2012; Jackson, 2013; Katz & Martin, 1997; Sakamoto & Chapman, 2012). Students can gain global skills by taking advantage of the opportunities that higher education offers including foreign language classes (American Council,

n.d.; Hayward, 2000; Lambert, 1996; Skorton & Altschuler, 2012;) and participation in campus activities (Bui, 2013; Mayfield & Mayfield, 2011; Osborne & Russo, 2011).

Another way students can expand their global horizons is through study abroad but there are differences in who studies abroad (Carlson, et al., 1990) based on demographic characteristics such as gender (Institute of International Education, 2001-2015), race (Institute of International Education, 2001-2015; Norton, 2008), academic major (Stroud, 2010, Institute of International Education, 2001-2015; Oguntoyinbo, 2015), SES (Carlson, et al., 1990; Lozano, 2008), and disability (Institute of International Education, 2001-2015). Beyond these demographics, far less is known about the personal, social, and academic experiences students have while in college and the influence of those experiences on the propensity to study abroad.

Academic leaders need more data on what factors drive students to study abroad. Astin's I-E-O model can be used to identify those factors. The National Survey of Student Engagement (NSSE) provides data on the demographic characteristics and experiences of college students and measures propensity to study abroad. This study sought data about what demographic characteristics and college experiences explained variance in the propensity to study abroad.

Purpose Statement

The purpose of this study was to determine the relationship between selected demographics, college experiences (Personal, Social, and Academic) and student participation in study abroad. In particular, I was interested in whether college experiences of students predict their propensity to study abroad. Astin's (1993) Input-Environment-Output (I-E-O) model was the conceptual framework that guided this study. The I-E-O model explains how student outcomes (O) from higher education are viewed in relation to their experiences within their college environment (Astin, 1993). For purposes of my study, Inputs included Demographic characteristics (gender, race, major, SES, disability). Environment included the Personal, Social, and Academic experiences of participants during their college years. The Output measure in the study was propensity to study abroad.

The data for my study came from a sample comprised of 2,000 traditional aged, full-time seniors who were United States citizens and who completed the NSSE in the spring of 2014. The participants' college experiences were computed and analyzed using data from the 2014 administration of the National Survey of Student of Engagement (NSSE). The NSSE is

administered to first and senior year students at baccalaureate degree granting colleges and universities across the United States to capture participants' college experiences.

Research Questions

This study was designed to address the following research questions:

1. To what extent do Demographic characteristics explain the variance in the propensity to study abroad?
2. To what extent do Demographics and Personal experiences explain the variance in the propensity to study abroad?
3. To what extent do Demographics and Social collegiate experiences explain the variance in the propensity to study abroad?
4. To what extent do Demographics and Academic collegiate experiences explain the variance in the propensity to study abroad?
5. To what extent do Demographics and Personal, Social, and Academic collegiate experiences explain the variance in the propensity to study abroad?

Significance of the Study

The present study had significance for future practice, research, and policy. In terms of practice, the results may be useful for study abroad professionals concerned with promoting student participation. The findings informed study abroad professionals about the propensity to study abroad based on Personal, Social, and Academic college experiences. This information might assist study abroad professionals to assess the experiences offered on their campus.

Additionally, academic deans and faculty could use my findings. I explored the Academic college experiences of students with respect to study abroad. Academic deans and faculty leaders might then assess the academic experiences offered on their campuses in relation to study abroad participation.

Students could also use the findings of this study. The results revealed college activities that heighten a student's likelihood of participating in study abroad. Students who have an interest in studying abroad could engage in these activities and introduce themselves to experiences that may improve their chances of studying internationally.

The present study also served as an impetus for additional research. I explored the in-college experiences of students as they related to study abroad. It would be interesting to examine the pre-college experiences of students who did or did not participate in study abroad

programs. Such a study would expand what is known about factors that influence propensity to study abroad.

Future research also might investigate the timing of participation in activities that contribute to study abroad participation. I focused on the whether or not the sample participated in activities at any point during their undergraduate studies. Additional studies may examine the academic year or semester when students engaged in certain activities. Such a study would expand the literature on factors at different points in the collegiate experience that affect a student's likelihood to study abroad.

Future studies might also employ qualitative techniques to investigate students and study abroad. I conducted a study using quantitative techniques. A qualitative study might reveal more nuanced, richer explanations about what influences students' propensity to study abroad.

Policy implications were also evidenced in this study. Administrators charged with developing student activities could benefit from the results of the current study. The findings provided this group of policymakers with data regarding the campus experiences that promote study abroad participation. They might use the results to evaluate the standards used to assess the benefits of student activities.

Academic administrators concerned with promoting study abroad participation might also benefit from the results of this study. The results provided insight into the effect of campus experiences on propensity to study abroad. The data might be used to develop policies geared towards promoting such campus experiences.

Delimitations

As with all research, there were delimitations around the design of this study. The first related to the sample. The respondents to the NSSE survey all volunteered to complete the survey. It is possible that those who offered to complete the survey differed in some manner from those who were invited to complete it but declined to do so. If so, the findings might have been influenced.

The second delimitation pertained to using pre-existing data. The NSSE may not have included all the demographic items that influence study abroad. Additionally, the items on the NSSE may not have measured all the Personal, Social, and Academic college experiences associated with study abroad. Either of these eventualities would limit the interpretation of the results (Campbell & Cabrera, 2011).

The third delimitation pertained to data translation. The NSSE asked about the frequency of college experiences not the quality of the experiences. Therefore, the results of the survey needed to be interpreted in that context. It is possible that these interpretations may not accurately measure the quality of experience, thereby limiting the applicability of the results.

Organization of Study

The present study is organized around five chapters. The statement of the problem, the purpose of the study, and its significance were introduced in Chapter One. A review of current literature is presented in Chapter Two. The methodology used to conduct the study, including the sampling technique and how the data were collected and analyzed is presented in Chapter Three. Chapter Four presents the results of the study while Chapter Five discusses those results and their implications for future practice, research and policy.

Chapter Two

Literature Review

In this chapter I review the existing literature on demographics and college experiences as they relate to propensity to study abroad. I start by examining the research that has been conducted on demographic characteristics and study abroad. The section has five subsections: race, gender, SES, major, and disability.

This study also sought to determine whether a relationship exists between the experiences college students have and the propensity to study abroad. The second section of this chapter examines research on collegiate experiences and study abroad propensity and is organized around three subsections: personal, social, and academic experiences.

Demographics and Study Abroad Propensity

The United States' system of higher education has seen an increase in the number of students studying abroad (Institute of International Education, 2001-2015). Prior research has examined student populations and their study abroad participation. Researchers have discovered multifaceted relationships between finances, academics, and contextual factors that affect a student's decision to study abroad (Salisbury, 2012). This section examines the literature on the demographics of race, gender, socioeconomic status (SES), major and disability and the relationship these factors have with a student's likelihood to study abroad.

Study Abroad Propensity and Race

Research surrounding race and ethnicity as they relate to study abroad suggests there are disparities (Institute of International Education, 2001-2015; Norton, 2008). Few students of color come from well-traveled families (Norton, 2008) so that influences their beliefs about the value of such international experiences. The mentality of students of color is that they need to prioritize employment and enter the workforce as swiftly as possible; studying abroad could potentially delay graduation, so they do not participate (Norton, 2008).

Racial disparities in study abroad are due to a combination of factors including: lack of support from faculty and staff, lack of access to information, financial constraints, limited program options, limited family support, and (for black students) the perception that study abroad is beyond their reach (Simon & Ainsworth, 2012). Many students of color see economic factors as being the main hindrance to study abroad participation (Lambert, 1996; Norton, 2008;

Simon & Ainsworth, 2012). These students are often dependent upon financial aid and are unable to afford an overseas experience (Simon & Ainsworth, 2012).

A second explanation for why students of color do not participate in study abroad is the campus climate (Carter, 1991). For example, a single institution study conducted by Carter (1991) suggested that faculty and staff members often assume that African American students are not qualified to study abroad or interested in doing so, therefore they do not actively recruit students from this demographic. Additionally, faculty and staff may not feel that study abroad is essential for students who already face academic challenges in the higher education system and they assume African American students face such challenges (Carter, 1991).

Although no data are provided, researchers suggest that low participation for students of color in study abroad may also be due to a lack of fictional or non-fictional role models (Brux & Fry, 2009; Penn & Tanner, 2009; Perdreau, 2003). That is, students of color who study abroad may not discuss their experiences with potential future study abroad participants (Brux & Fry, 2009; Predreau, 2003). Therefore, students of color have few visible examples of successful study abroad role models and that creates the impression that study abroad is not right for them. This impression, in turn, leads students of color to filter out or ignore information about study abroad opportunities (Brux & Fry, 2009). Likewise, there are few characters of color in literature, movies, television, and other media outlets that engage in study abroad, so students from underrepresented groups cannot look to those to guide their thinking about international study either (Brux & Fry, 2009).

Those students from underrepresented groups who do participate in study abroad programs are motivated by a variety of factors including cultural heritage. Numerous studies indicate that both Asian/Pacific Islanders and Latino/a students may view heritage as their first priority when selecting a study abroad destination (McClure, Szelenyi, Niehaus, Anderson, & Reed, 2010). Likewise, African American students studying in Ghana are motivated by a quest to discover personal history and roots (Landau & Moore, 2001).

Consequently, race can affect study a student's study abroad propensity. Gender is another demographic characteristic that influences study abroad propensity among university students.

Study Abroad Propensity and Gender

Gender is commonly used to predict the likelihood of a student studying abroad. Female enrollment in higher education increased by 27% from 1995 to 2005, compared to 18% growth for males (Redden, 2010). This trend in higher education enrollments is consistent with the pursuit of study abroad. National data in the United States indicate that there is a significant gender disparity in study abroad participation. In 2012-2013, 65.3% of study abroad participants were women, while 34.7% were men (Institute of International Education, 2001-2015). To some extent, this is driven by changes in postsecondary enrollment patterns that have occurred during the past two decades. Women outnumber men in postsecondary education (Lopez & Gonzalez-Barrera, 2014). In general female students are more likely to participate in study abroad programs than their male counterparts (Naffziger, Bott, & Mueller, 2010; Salisbury, An, & Pascarella, 2013; Schmidt, 2009; Stroud, 2010).

Among women, the desire to study abroad is motivated by influential authority figures and educational context (Schmidt, 2009). Women who have highly educated parents are more likely to study abroad, as are women who study at a regional university (Schmidt, 2009). Studies have been conducted on the gender gap in study abroad participation (Hoffa & Pearson, 1997; Lozano, 2008; Norton, 2008). Academic majors and social interactions are predictors of study abroad propensity. The majority of study abroad participants traditionally have come from female dominated majors such as languages and liberal arts. Women are also expected to excel in social relationships, which can be enhanced through study abroad experiences (Hoffa & Pearson, 1997). The interest in study abroad participation among male students is much lower than it is among female students (Stroud, 2010).

Male students are less likely to pursue study abroad opportunities (Brown, 2005; Carlson, et al., 1990; Institute of International Education, 2001-2015; Salisbury et al., 2013). This lack of interest among men is due to two factors: emerging peer influence, and not understanding how the experience will help them professionally (Schmidt, 2009). Male students are far less likely to leave their campus social groups to study abroad (Fischer, 2012; Schmidt, 2009). They need to understand how participating in study abroad programs will contribute to their professional development and ability to secure employment after graduation. Males who view a study abroad experience as more of a resume builder than a cultural experience have a higher propensity to participate but for very different reasons than women who study abroad (Fischer, 2012). Male

students who have not declared a major are more likely to participate in study abroad programs than those who have (Schmidt, 2009).

Study Abroad Propensity and Socioeconomic Status

Socioeconomic status is another factor that plays a significant role in a student's decision to study abroad (Lozano, 2008). Prior to 1980 study abroad was considered a luxury and available primarily to students whose parents were high SES (Simon & Ainsworth, 2012). As more colleges and universities expanded international education opportunities in the curriculum in the early 1990s, study abroad enrollment among students from middle SES groups began to increase (Simon & Ainsworth, 2012).

Students from lower socioeconomic households are severely underrepresented in study abroad (Carlson, et al., 1990; Lambert, 1996; Lozano, 2008; Simon & Ainsworth, 2012). Finances are the primary reason members from low SES families are underrepresented (Lambert, 1996). Students whose father has a high or mid SES (defined by job classification) are more likely to study abroad (Carlson, et al., 1990). In addition to financial resources, access to social networks and recruitment efforts lead to a higher propensity to study abroad among students from high- and mid-SES (Fordham, 2002; Simon & Ainsworth, 2012).

The importance of socioeconomic status is that it creates social networks; and many of these networks are developed prior to the time the student attends college (Simon & Ainsworth, 2012). Students from middle and high SES backgrounds have a variety of networks available to them. However, students from lower SES families are not a part of essential networks that could provide them with the most current and important educational opportunities (Simon & Ainsworth, 2012). Students from high and mid SES are more likely to have friends and family who value study abroad, unlike those from lower socioeconomic status (Simon & Ainsworth, 2012). This contributes to a higher study abroad propensity among students from middle and higher SES groups.

Study abroad recruitment efforts are also driven by student SES. The recruitment processes used to identify students who might participate in study abroad programs favor white middle class students (Fordham, 2002). According to Fordham (2002), study abroad recruiters feel that white middle class students are well rounded, come from nuclear families, participate in extracurricular activities, and lead active social lives in clubs and society. This recruitment agenda disadvantages students from a lower SES because they are more likely to have multiple

jobs and are unable to find the time to participate in extracurricular activities and lead active social lives (Simon & Ainsworth, 2012).

Study Abroad Propensity and Major

Academic major is another factor that influences study abroad propensity. To start, identifying as an undeclared major has a significant impact on a student's intent to study abroad. Students who are undecided on a major are more likely to express an intent to study abroad than those who have declared a major due to the lack of academic rigidity and constraints declared majors may require (Twombly, et al., 2012).

In terms of those who have declared a major, there is no statistical difference between students who are studying in the Humanities, Business, Education, or the STEM fields when it comes to the intent to study abroad (Salisbury, Umbach, Paulsen, & Pascarella, 2009). However, students' ultimate decision to study abroad is influenced by their choice of academic major (Guess, 2008; Stroud, 2010).

Historically, study abroad was generally viewed as a liberal arts program, or an opportunity to learn the culture, language and customs of a foreign country (Guess, 2008). Students who majored in Arts and Humanities or the Social Sciences had a higher likelihood of studying abroad than those who majored in areas of Science, Technology, Engineering, and Mathematics (Stroud, 2010). The Arts and Humanities and higher rates of study abroad participation coincided with the representation of women in those majors. The higher participation rates of Arts and Humanities majors could also be attributed to more program offerings and flexibility (Oguntoyinbo, 2015). However, gender does not sufficiently explain why there were also higher rates of female participation among study abroad students in male dominated majors such as Engineering and Business (Twombly, et al., 2012).

In recent years there has been a shift in popularity among majors with U.S. study abroad students. STEM majors are now participating in study abroad programs in higher numbers than other academic majors (Institute of International Education, 2001-2015; Oguntoyinbo, 2015). During the 2012-13 academic year, STEM majors represented 23% of the United States' study abroad population. Social Science majors represented 22%, Business majors represented 20%, Humanities represented 10%, Fine or applied arts represented 8%, Foreign languages represented 5%, Education represented 4%, and undeclared or other represented 8% of the study abroad population (Institute of International Education, 2001-2015). Overall, in comparison to the

2011-2012 academic year, STEM study abroad participation rates grew by 9% during 2012-2013 (Institute of International Education, 2001-2015). In comparison, the overall U.S. study abroad participation rates grew by 2%, (Institute of International Education, 2001-2015). The growth of participation in study abroad by STEM students is attributed to the increased awareness of students, faculty and administrators to the career benefits of studying abroad, and the increased flexibility of many STEM programs (Oguntoyinbo, 2015).

Academic major affects the study abroad propensity of students, but one final demographic characteristic merits attention in this review of the literature. Disability is also known to influence the decision to study abroad among college students.

Study Abroad Propensity and Disability

There has been very little research conducted on students with disabilities and study abroad. However, in recent years there has been an increasing trend of study abroad participation among students with disabilities (Institute of International Education, 2001-2015). In 2006-07 U.S. students with disabilities who studied abroad represented 2.6% of all study abroad participants. The most recent numbers from the 2012-13 academic year reports that students with disabilities represented 5.1% of the study abroad population (Institute of International Education, 2001-2015). The upward trend in participation rates has been attributed to university professors and administrators becoming more educated about accommodating students with disabilities in study abroad programs. Additionally, students with disabilities are becoming more confident in their abilities to undertake international activities (Katz, 2007).

Though the number of students with disabilities who are participating in study abroad programs is trending upward, the percentage of such students is still low (Belch, 2000). One of the primary reasons for the lower participation rates among students with disabilities could be a lack of program options. Students who have a disability may prefer to study abroad on programs that are mainstream, not programs that are designed specifically for students with disabilities (Belch, 2000). For universities to increase study abroad participation among students with disabilities administrators must: develop promotional items that illustrate people with disabilities studying and traveling abroad; have peer mentors and advisory committee members with disabilities who have traveled abroad and; develop a coherent advising process for study abroad advisors and disability specialists (Belch, 2000).

Collegiate Experiences and Study Abroad Propensity

There are conflicting views on whether collegiate experiences predict the probability of studying abroad. Some studies indicate that selected collegiate experiences lead to an increased likelihood to study abroad (College-Bound Students Interests in Study Abroad, 2008; Goldstein & Kim, 2006; Carlson et al, 1990; Opper et al, 1990; Pearce, 1988; Stroud, 2010). However, other researchers argue that there are very few factors that can be used to predict the decision to study abroad (Salisbury et al, 2009). A college student's study abroad propensity could be influenced by pre-college experiences and/or the university's efforts to promote study abroad (Salisbury et al, 2009). It was important, therefore, to look at the research on personal, social, and academic experiences that impact a student's decision to study abroad.

Personal Experiences and Study Abroad Propensity

The literature does not present a clear description of what makes up personal experiences in college. However, research has identified influences that drive the personal experiences of college students including family, friends, national leaders, and values. All of them, singularly and collectively, influence a student's personal experience and engagement in college to varying degrees (Astin, 1993; Gardner & Barefoot, 2010; Pascarella & Terenzini, 2005).

Work responsibility is a personal experience that proves to be a barrier to a student's study abroad participation (Soria, Weiner & Lu, 2014). For some, working while enrolled in college is a distraction from the college experience (Hurst, 2012). Working students have less time to engage in activities offered by their universities (Simon & Ainsworth, 2012). As a result, students who work while attending college have an increased likelihood of declining study abroad opportunities (Soria, Weiner & Lu, 2014). Working students are more likely to prioritize employment over academic experiences like study abroad (Soria, Weiner & Lu, 2014). Students' personal financial situations also play a role in their study abroad propensity. A student's financial need serves as an indicator for the availability of resources (Nora, Cabrera, Hagedom, & Pascrella, 1996). Students who receive adequate financial assistance to support their college education are more likely to participate in study abroad programs (Fordham, 2002; Simon & Ainsworth, 2012).

Family responsibilities also influence a student's study abroad propensity. Students who have more family responsibilities (taking care of siblings and housework), and less encouragement and support from family and friends to continue college are less likely to

immerse themselves into their college environment (Gardner & Barefoot, 2010; Nora & Wedham, 1991). Ten percent of students polled by the American Council on Education indicate that family obligations and expectations decrease their desire to participate in study abroad programs (College-bound students' interests in study abroad, 2008).

The most significant predictors of study abroad participation as they relate to personal experiences are openness to diversity, engaging in activities that enhance diverse interactions, and cocurricular involvement (Twombly, et al., 2012). Other personal experiences associated with study abroad propensity include political interest and community influence (Twombly, et al., 2012). America's foreign policy and the perception of the quality of postsecondary education also impact a student's decision to study abroad. Students with a higher propensity to study abroad are more critical of America's foreign policy and have a more favorable view on the quality of postsecondary education in Western Europe (Twombly, et al., 2012).

An increasing number of students who are matriculating have experienced other countries prior to enrolling in their first year of college (College-Bound Students Interests in Study Abroad, 2008). Previous travel experience influences an individual's decision on future travels. More experienced travelers are more likely to continue traveling, less worried about safety and security, and more focused on self-actualization needs (Pearce, 1988). Additionally, previous international travel leads to a greater acceptance of other cultures, greater international awareness, and increased independence (McKeown, 2009). However, the link between previous travel experience and study abroad participation is inconsistent (Goldstein & Kim, 2006). Some researchers found that previous travel experience does not predict study abroad participation (Carlson et al, 1990) while others found that prior travel experience is associated with study abroad (Opper et al, 1990).

Institutional type also has an impact on study abroad participation. Students who attend liberal arts institutions are more likely to study abroad than students at research universities or community colleges (Twombly, et al., 2012).

Personal experiences surrounding the distance that a student travels to attend college also impact study abroad propensity. Students attending a university more than 100 miles away from home have an increased propensity to study abroad (Stroud, 2010).

The time that students spend commuting to campus also has an effect on student engagement (McGrath & Braunstein, 1997). Commuting to campus on a daily basis or leaving

campus on weekends is more likely to negatively affect a first year student's engagement and college experience (McGrath & Braunstein, 1997). Commuter students have less contact with faculty members and are less likely to participate in study abroad programs (Kuh, Gonyea, & Palmer, 2001).

Social Experiences and Study Abroad Propensity

Pre-college social experiences have also been examined to determine the impact they have on study abroad. High school involvement in cocurricular activities, for instance, is a predictor of study abroad participation. This involvement includes social activities such as studying with friends, and speaking with teachers outside of class (Salisbury et al., 2009). Cocurricular activities such as involvement in the student government association in high school also increase study abroad propensity (Streitwieser, 2014).

Social integration in college is defined as human interaction, collaboration, and the formation of interpersonal connections between students and other members of the college community including; peers, faculty, staff, and administrators (Astin, 1993; Cuseo, 2007; Pascarella & Terenzini, 2005). Social experiences include activities such as: attending a program or event put on by a student group, reading or asking about a club, organization, or student government activity, attending a meeting of a club or organization, voting in an election, developing close personal relationships with other students, working in some student organization or special project, having non-classroom interactions with faculty that had an influence on career goals and aspirations, or meeting with a faculty advisor or administrator to discuss activities of a student organization (Chamblis & Takacs, 2014; Nora & Wedham, 1991).

The social experiences that students have while in college impact their decision to study abroad. Social atmospheres that inform students about the availability of study abroad opportunities, develop their social skills in a multicultural environment, and increase their awareness of international issues and events are all factors that influence a student's study abroad propensity (McDonough, 1997). The highest predictor of study abroad propensity through social experiences is interaction with diverse groups. Students who interact socially with individuals from different ethnic and racial groups, have an interest in cross cultural relationships, and display an interest in racial understanding are more likely to study abroad (Twombly, et al., 2012). The impact of students' desire to increase their intercultural competency is a major motivation to study abroad (Stroud, 2010). Students who value intercultural interaction as a part

of their college experience and express an interest in gaining a better understanding of different cultures and countries are two times more likely to intend to study abroad than those who do not hold such values (Stroud, 2010).

The decision to live on or off campus also influences a student's study abroad propensity. When and where they meet people, and living on campus impact students' college experience (Chambliss & Takacs, 2014). Students who live in residence halls during their freshman year have a greater chance of interacting with other students, becoming more informed about campus activities, and are more likely to have a positive collegiate experience. Students who live off campus typically spend less time on campus. Living off campus reduces their exposure to information on study abroad, thereby decreasing their likelihood of participation (Lee & LaDousa, 2015).

Social experiences with discrimination have proven to negatively impact a student's decision to study abroad (Twombly, et al., 2012). Being subject to discrimination in their daily lives makes students of color less likely to study abroad (Brux & Fry, 2009; Comp, 2008; Perdreau, 2002). The fear of discrimination while studying abroad may originate from students or their parents (Brux & Fry, 2009). Minority students fear that they may have trouble being accepted even if they share similar physical attributes with those of the host country; they worry that instead of being accepted as being descendants of their host country with ancestral ties, they will be considered simply Americans (Comp, 2008).

Academic Experiences and Study Abroad Propensity

Pre-college academic experiences contribute to study abroad propensity. African American students with higher SAT/ACT scores are less likely to participate in study abroad (Salisbury, Paulsen, & Pascarella, 2011). College freshman who were active in their high school government and other academic activities are more likely to participate in study abroad programs during college (Streitwieser, 2014).

Studies have been conducted to determine which collegiate academic experiences contribute to a student's propensity to study abroad. Students who have a high interest in reading and writing have a higher propensity to participate in study abroad programs (Twombly, et al., 2012). An increase in the number of diversity courses taken while in college has a positive impact on women's propensity to study abroad, but not on men's propensity (Twombly, et al., 2012).

Studies also show that students who have support and frequent interactions with university faculty and staff members have a higher likelihood of study abroad participation (Simon & Ainsworth, 2012). A faculty member telling students that study abroad is something they should do is more influential than students hearing it from someone who works in a study abroad office (Streitwieser, 2014). Teaching faculty members are the biggest influence on study abroad participation among students at all universities irrespective of institution size. Students feel that faculty support is a major contributor to the disparity between student intent to study abroad and their actual participation in such study (Streitwieser, 2014).

The demand and difficulty of an academic course load can also impact a student's study abroad propensity. The difficulty in transferring credits or finding courses abroad that substitute into a student's curriculum has been identified as a barrier to study abroad participation (Streitweiser, 2014). Some faculty members maintain the stance that certain courses can only be taken at the home university and not at an institution abroad (Streitweiser, 2014). From the students' perspective, some envision study abroad as a break from the academic rigor of their undergraduate courses. Students perceive study abroad as an adventure or overseas tour for academic credit (He & Chen, 2010).

An additional academic consideration of students when deciding to study abroad is progress towards graduation. Though delayed graduation is at times associated with participating in study abroad programs, students who accept this as an inevitable component show a decreased propensity to study abroad (Twombly, et al., 2012). Stroud's (2010) study discovered that among white students those who have higher degree aspirations tend to shy away from studying abroad. However, among African Americans and Asian Americans higher degree aspiration actually increase their interest in studying abroad.

In summary, demographic characteristics have served as an indicator of study abroad participation among college students. Minority status negatively influences a student's study abroad propensity (Brux & Fry, 2009; Carter, 1991; Lambert, 1996; Norton, 2008; Penn & Tanner, 2009; Perdreau, 2003; Simon & Ainsworth, 2012). Minority students who do participate in study abroad programs are motivated by cultural heritage, and a quest to discover personal history (Landau & Moore, 2001; McClure et al, 2010). Gender also influences study abroad propensity among college students. Females are more likely to study abroad than males (Naffziger et al., 2010; Salisbury et al., 2013; Schmidt, 2009; Stroud, 2010). Likewise, students'

socioeconomic status impacts their decision to study abroad. Students from a high or mid SES are more likely to study abroad than students from a low SES (Carlson, et al., 1990; Lambert, 1996; Lozano, 2008; Simon & Ainsworth, 2012). Academic major is another demographic that influences study abroad propensity. Historically, Arts and Humanities majors studied abroad at higher rates than STEM majors (Guess, 2008; Stroud, 2010). However, in recent years STEM majors have begun to outnumber all other majors in study abroad participation rates (Institute of International Education, 2001-2015; Oguntoyinbo, 2015). Lastly, disability impacts a student's decision to study abroad. Low participation rates could be attributed to a lack of program options (Belch, 2000; Institute of International Education, 2001-2015).

Collegiate experiences may influence a student's decision to participate in study abroad programs. Personal experiences such as work responsibilities, difficult financial circumstances, and family obligations could negatively influence a student's decision to study abroad (College-bound students' interests in study abroad, 2008; Fordham, 2002; Nora et al., 1996; Simon & Ainsworth, 2012; Soria, Weiner, Lu, 2014). Personal experiences such as openness to diversity, political interest, institutional type, and critiques of America's foreign policy increase students' study abroad propensity (Twombly, et al., 2012). Personal experiences in terms of the distance a student travels away from home to attend college, and whether or not a student commutes daily also impact the decision to study abroad (McGrath & Braunstein, 1997; Stroud, 2010).

Secondly, social experiences may impact a student's decision to study abroad. Social experiences that serve as predictors of increased study abroad propensity include interactions with diverse groups, functioning in multicultural environments, living on campus, and engaging in activities that increase international awareness (Lee & LaDousa, 2015; McDonough, 1997; Twombly, et al., 2012). Students who had social experiences with discrimination have a decreased propensity to study abroad (Twombly, et al., 2012).

Lastly, academic experiences may influence a student's decision to study abroad. Students who express a high interest in reading and writing, and have frequent faculty interactions and support have a higher likelihood of studying abroad (Simon & Ainsworth, 2012; Streitwieser, 2014; Twombly, et al., 2012). Academic considerations such as the demand and difficulty of course loads, higher degree aspirations, and delay to graduation negatively impact a student's decision to study abroad (Streitweiser, 2014; Stroud 2010; Twombly, et al., 2012).

Overall, researchers have closely examined the relationship between demographic characteristics or college experiences and study abroad in isolation. More information is needed about the collective impact of demographics and experiences on the propensity to study abroad. This study sought to address that gap in the literature by examining Demographics, Personal, Social, and Academic collegiate experiences and study abroad propensity.

Chapter Three

Methodology

The purpose of this study was to determine the relationship between demographics, college experiences (Personal, Social, and Academic) and student participation in study abroad. In particular, I was interested in whether students' college experiences predict their propensity to study abroad. Astin's (1993) Input-Environment-Output (I-E-O) model was the conceptual framework guiding this study. The I-E-O model helps to explain how student outcomes in higher education are viewed in relation to their experiences within a college environment (Astin, 1993). For purposes of my study, Inputs included demographic characteristics (gender, race, major, SES, and disability). Environment included the Personal, Social, and Academic experiences participants had in college. The Output in the study was propensity to study abroad.

The data for my study came from a sample of 2,000 traditional aged, full-time college seniors who were United States citizens and who completed the NSSE in the spring of 2014. The participants' college experiences were computed and analyzed using data from the 2014 administration of the National Survey of Student of Engagement (NSSE). The NSSE is administered to first and senior year students at baccalaureate degree granting colleges and universities across the United States to capture participants' college experiences.

This study was designed to address the following research questions:

1. To what extent do Demographic characteristics explain the variance in the propensity to study abroad?
2. To what extent do Demographics and Personal experiences explain the variance in the propensity to study abroad?
3. To what extent do Demographics and Social collegiate experiences explain the variance in the propensity to study abroad?
4. To what extent do Demographics and Academic collegiate experiences explain the variance in the propensity to study abroad?
5. To what extent do Demographics and Personal, Social, and Academic collegiate experiences explain the variance in the propensity to study abroad?

This chapter describes the methods used in the study. This includes a description of the data set, validity and reliability of the data set, sample selection, data collection, and the data analysis procedure.

The National Survey for Student Engagement

Data for this study came from the 2014 NSSE. The NSSE is a valid and reliable instrument that provides a profile of college student engagement. It was first administered to students at more than 1,500 colleges and universities throughout the United States and Canada in 2000. The survey is administered through collaborative efforts between NSSE staff and administrators at participating campuses, and can be distributed either electronically or by paper copy depending on institutional preference. As an ongoing research project conducted by the Indiana University Center for Postsecondary Research, the NSSE is administered to two groups of students: those at the end of their first year of study, and those who are about to receive their baccalaureate degree (NSSE, 2015).

NSSE data measure effective educational practices using five benchmarks: (a) level of academic challenge, (b) active and collaborative learning, (c) enriching educational experiences, (d) student-faculty interaction, and (e) supportive campus environment (Campbell & Cabrera, 2011). These benchmarks assess student engagement and what the institution does to create meaningful engagement experiences (Campbell & Cabrera, 2011).

Student engagement is defined as participation in educationally purposeful activities (NSSE, 2015). In addition to measuring individual student engagement, the NSSE measures the extent to which students perceive that the institution deploys resources to encourage participation in these activities (NSSE, 2015). The data collected from the NSSE includes self-reported information on student demographics, institutional requirements, academic rigor, perception of the campus environment, and estimated personal and academic growth. The results of the NSSE provide an estimate of how students spend their time in college and the impact of college attendance (NSSE 2015).

Institutions use the data gathered from the NSSE in a variety of ways. Results provide analytical information about student and institutional performance that can be used to guide campus improvement efforts (Kramer & Swing, 2010). Administrators at research universities have used NSSE data to assess educational effectiveness (NSSE, 2015). Institutional leaders

also are able to use the data to identify undergraduate experiences (inside and outside of the classroom) that can be enhanced through changes in policies and practices (NSSE, 2015).

Some questions have been raised about the legitimacy of collegiate student surveys. Porter (2011) argues that college surveys lack validity because: (a) survey instruments assume that college students are able to easily report information about their behaviors and attitudes when the standard model of human cognition and survey response clearly suggests they cannot, (b) existing research using college students suggests they have problems accurately answering even simple questions about factual information, and (c) much of the evidence that higher education scholars cite as evidence of validity and reliability actually demonstrates the opposite.

Scholars have been critical of the NSSE. While these critics have recognized the theoretical grounding of the survey's items, they indicate that little has been done to investigate the reliability and validity of the five NSSE benchmarks and the extent to which they predict relevant student outcomes (Campbell & Cabrera, 2011). Despite concerns, the NSSE data yielded sufficient statistical power to answer this study's research questions. More information on the NSSE is provided in the reliability and validity section of this chapter.

Sample Selection

To be included in this study, participants had to meet certain selection criteria. The target population for purposes of my study included senior degree seeking respondents who completed the NSSE during 2014. Five criteria for sample selection were used in this study: (a) senior year classification, (b) traditional age, (c) full-time enrollment status, (d) American citizenship, and (e) response to an item about study abroad participation. The first selection criterion was classification based on class. The NSSE is administered to first year students and graduating seniors. For purposes of this study I assumed that seniors would have been enrolled at their institution for a sufficient period of time to engage in activities that may have promoted or deterred study abroad participation. Item 22 on the NSSE asks respondents to identify their class level. Only respondents who selected "senior" as their response were included in this study.

The second selection criterion was age. Traditional aged students were defined as being under 24 years of age at the time they completed the NSSE. Non-traditional aged students might have reported different collegiate experiences simply because of life circumstances such as work and family. Hence, it was important to control for age in the sample. Item 32 on the NSSE asks survey participants to "Write in your year of birth." Only those students who reported birth years

of 1991, 1992, 1993, 1994, and 1995 when they completed the NSSE were included in the sample.

The third selection criterion related to enrollment status. Only respondents who identified themselves as full-time students were selected for this study. Full-time status was defined as enrolled in 12 or more credit hours of coursework during the semester they completed the NSSE. I assumed that all traditional aged students who were enrolled full-time when they completed the NSSE had been enrolled full-time through most of their college career. I assumed that full-time students were more likely to study abroad than part time students. Item 23 on the NSSE asks; "thinking about this current academic term, are you a full-time student?" Only participants who answered "yes" were included in this study.

The fourth selection criterion was citizenship status. Only American citizens were included in the current study. International students were not included because they have unique circumstances and experiences related to international study. It is difficult to determine how participation in study abroad is influenced by these circumstances and experiences. Item 33 on the NSSE asks respondents "are you an international or foreign student?" Only participants who answered "no" to this item were included in the study.

The final selection criterion was participants' response to an item about study abroad participation. Study abroad propensity was the dependent variable of my study. Item 11 on the NSSE asks "Which of the following have you done or do you plan to do before you graduate from your institution?" Study abroad is listed as a sub-item. Only participants who responded to this sub-item were included in the study.

To obtain a sample, I needed to submit a request to NSSE staff. I requested that NSSE staff select a random sample of 2,000 respondents to the 2014 NSSE survey who identified themselves as seniors, American citizens, born between 1991 and 1995, enrolled full-time, and who responded to the item about study abroad participation.

Instrumentation

The 2014 NSSE was administered either on-line or through pencil and paper. The survey comprises five sections consisting of 40 items which can be retrieved from the NSSE website (http://nsse.indiana.edu/html/survey_instruments.cfm). Many items had sub-items as well. The first section focused on respondents' participation in educationally purposeful activities (Kuh, 2009). For example, one item in this section asked participants how often they participated in

classroom activities by asking questions or contributing to course discussions in other ways. The response options included Very often, Often, Sometimes, and Never.

The second section of the NSSE asked participants about what the institution required of them (Kuh, 2009). An example of the type of items in this section asked participants how much time they spent on activities like studying, reading, or participating in co-curricular activities. The response options were None, 1-4 hours, 5-10 hours, 11-20 hours, and more than 20 hours. In the next section the NSSE inquired about students' perceptions of their college environment as it pertains to achievement, satisfaction, persistence, and the extent to which the institution offered the support students needed to succeed academically (NSSE, 2014). There were four introductory items with corresponding sub-items. For instance, one item in this section asked respondents to what extent their instructors provided feedback on a draft or work in progress. The response options consisted of Very much, Quite a bit, Some, and Very little.

The fourth section inquired about students' perceptions of their estimated personal and academic growth since beginning college (NSSE, 2014). The items in this section asked respondents questions such as how much their experience at their institution contributed to their knowledge, skills, and personal development in working effectively with others. The response options were Very much, Quite a bit, Some, and Very little. This section also asked respondents about their participation or plans to participate in experiences ranging from study abroad to internships. The response options were Done or in progress, Plan to do, Do not plan to do, Have not decided.

Finally, the NSSE collected data on respondents' background and demographic characteristics (Kuh, 2009). Items in this section elicited data about parental education, gender, year of birth, disabilities, sexual orientation, whether respondents were international or foreign students, and racial or ethnic identification. Survey participants were also asked about their participation in social fraternities or sororities, and university athletics.

Reliability and Validity

The reliability of a survey is measured by how reproducible the instrument's data are (Litwin, 1995). There are different types of reliability testing which include; test-retest reliability, parallel forms reliability, and split half reliability. NSSE researchers have measured reliability using three forms of testing: (a) internal consistency, (b) temporal stability, and (c) coefficients of equivalence.

Internal consistency is the extent to which a group of items measure the same construct, proven by how well the items correlate with one another (NSSE, 2015). The Cronbach alpha statistic (α) is a measure of internal consistency. To test for this form of reliability NSSE researchers generated Cronbach alpha values for each of the five benchmark scales: level of academic challenge, active and collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment. Cronbach alpha values range in value between 0 and 1. A score closer to 1.0 demonstrates a higher measure of reliability (Litwin, 1995). The internal consistency tests on the NSSE benchmarks produced Cronbach alpha values that ranged from .60 to .80, suggesting significant correlations.

The second form of reliability testing conducted by NSSE researchers was temporal stability. Temporal stability involves administering the same form of a test on two or more occasions to the same group of examinees. This is also known as the test-retest method. NSSE researchers measured temporal stability using the Pearson correlation (*r*) statistic to analyze the responses to survey items for students who initially took the NSSE as Freshman in 2006 and again as graduating seniors in 2010. The correlation results ranged from .75 to .92 (NSSE, 2015). Litwin (1995) suggests a correlation coefficient of at least .70 displays a reasonable indication that survey responses are correlated strongly enough to be considered reliable.

NSSE researchers used coefficients of equivalence as a third form of reliability testing conducted by NSSE researchers. This reliability measure is determined by the correlation of scores between versions of a survey item (NSSE, 2015). The researchers asked a similar question at two separate points in the survey. The students were reminded of their original response to the item and then asked to quantify their response (e.g., "very often" means nine times per week, "often" means six times per week, and "sometimes" means three times per week). The results of the coefficients of equivalence test showed a linear relationship with very few differences between subgroups of students or institutions (NSSE, 2015).

Critics of the NSSE's reliability have stated that survey research is flawed (Porter, 2011; Schneider, 2009). They argue that students are unable to recall the information they need to use to answer NSSE questions. Additionally, researchers have criticized the extent to which different students understand the terms used in NSSE's questions. For example critics explored whether or not there is a common definition among students for "thinking critically and analytically" or even for the term "instructor" (Schneider, 2009).

NSSE researchers have acknowledged the criticisms surrounding the reliability of survey research by stating that self-reported data are likely to be valid: (a) when the information requested is known to the respondents, (b) the questions are phrased clearly and unambiguously, (c) the questions refer to recent activities, (d) the respondents think the questions merit a serious and thoughtful response, and (e) answering the questions does not threaten, embarrass, or violate the privacy of respondents or encourage respondents to respond in socially desirable ways (NSSE, 2015). NSSE researchers designed the NSSE to meet these five conditions.

Validity is defined as how well a survey measures what it sets out to measure (Litwin, 1995). Seven types of validity were tested by NSSE researchers: (a) response process validity, (b) content validity, (c) construct validity, (d) concurrent validity, (e) predictive validity, (f) known groups validity, and (g) consequential validity. This section describes the steps NSSE researchers took to measure the validity of the instrument.

Response process validity measures whether survey participants interpreted the items as intended (NSSE, 2015). NSSE researchers conducted focus groups and cognitive interviews with students at eight participating colleges and universities in 2005 to measure respondents' interpretations of survey items. The results of the focus groups and interviews indicated that response process validity of the NSSE needed to be strengthened (NSSE Psychometric Portfolio, 2015). Revisions were made to the 2006 and subsequent surveys to improve response process validity (NSSE, 2015).

The second measure of validity studied by NSSE researchers was content validity. Content validity determines whether an instrument is adequately measuring what it is intended to measure (Litwin, 1995). Though content validity is important for the construction of survey instruments, it is not intended to be a scientific measure (Litwin, 1995). In order to test content validity, NSSE researchers relied on experts of the field and studied literary works on the "engagement construct" to determine whether the instrument measured most constructs of student engagement (NSSE, 2015).

Construct validity was the third measure of validity studied by NSSE researchers. Litwin (1995) defines construct validity as the extent to which variables accurately measure the constructs of interest. Comparing the 2005 and 2009 instruments, NSSE researchers ran an exploratory factor analysis to determine if survey items representing higher order learning, integrative learning, and reflective learning factored together the same way across both

instruments. Results from the comparison displayed Eigenvalues ranging from .70 to .82, supporting the construct validity of the NSSE.

Concurrent validity was the fourth measure of validity studied by NSSE researchers. Concurrent validity compares a survey instrument against another established instrument (Litwin, 1995). The Beginning College Survey of Student Engagement (BCSSE), a similar survey to the NSSE, measures pre-college characteristics of student engagement. NSSE researchers used the BCSSE to determine whether the NSSE yields similar results for first year college student engagement. The results indicated that first year student engagement is predicted by student characteristics, attitude and expectations. However, the results also revealed a large amount of unexplained variance between the survey instruments. This introduces the possibility that the greatest influence on student engagement is from factors within the immediate campus environment (NSSE, 2015).

The fifth measure of validity studied by NSSE researchers was predictive validity. Predictive validity is the extent to which a score on a scale or test predicts scores on some criterion measure in expected ways (NSSE 2015). NSSE researchers tested the predictive validity of the instrument by analyzing survey results in combination with predicted college success measures of student engagement. Results indicated that the majority of NSSE items are correlated with student outcomes, such as persistence and grade point average. NSSE researchers also discovered that many of these predictive measures were influenced by the pre-college academic abilities of survey respondents (NSSE, 2015).

Groups validity, a measure used to determine if a survey instrument can discriminate between two groups who are known to differ, was the sixth measure of validity studied by NSSE researchers. In 2009, NSSE researchers generated a random sample of survey participants to measure for statistically significant differences in student engagement based on group membership. NSSE researchers used Pascarella & Terenzini's (2005) research, which states that student engagement scores should differ based upon; gender, class states, enrollment status, transfer status, Greek membership, athletic participation, campus living, age category, distance education participation, parental education, ethnicity, and major. The results of the groups validity analyses proved that there are statistically significant differences in the mean scores between two (t-test) or more groups (ANOVA). These results allow NSSE researchers to confirm the instrument's group validity (NSSE, 2015).

Consequential validity, the final measure of validity studied by NSSE researchers seeks to determine how survey results are used. Consequential validity describes the aftereffects and potential impacts that the results of an instrument can have on those who choose to use them in making decisions. NSSE researchers used Banta, Pike, and Hansen's (2009) four primary purposes of NSSE survey data which include: (a) accreditation, (b) accountability, (c), strategic planning, and (d) program assessment as a framework to measure consequential validity. NSSE researchers conducted annual surveys for NSSE users, and telephone interviews with NSSE users to measure consequential validity. The results of the analyses allowed NSSE researchers to compile a list of participating university feedback that supported the consequential validity of the NSSE.

NSSE has drawn reports and criticisms relating to the validity of the survey instrument. Critics argue that the instrument is flawed due to a dearth empirical evidence that links NSSE scores to student learning outcomes (Campbell & Cabrera, 2011; Jaschik, 2009; Schneider, 2009). Porter (2011) argues that the NSSE survey is more in line with a college world reminiscent of a bygone era. The current NSSE survey is designed to fit a model of collegiate students who attend one institution, never transfer, and attend classes that meet with one faculty member in a campus classroom regularly. Understanding these critiques, NSSE researchers have conducted extensive validity testing to strengthen the psychometrics of the survey.

NSSE's psychometric properties covered the researchers' intent to capture the amount of time and effort that students spend engaging with their campus environment. Consequently, the NSSE is considered a reliable and valid instrument.

Variable Selection

Variable selection for this study was driven by the items on the NSSE. I reviewed each item on the NSSE to determine which items could be considered proxies for the Demographic characteristics of survey respondents. Table 1 summarizes five items from the 2014 NSSE that were used as Demographics in this study. For example, one item on the NSSE asked participants "What is your gender identity?" The response options were: Man, Woman, Another Gender Identity, and I prefer not to respond. In some cases the response options for certain survey items required recoding to ensure accurate interpretation of the data.

Table 1

Demographic Data from the 2014 National Survey of Student Engagement (NSSE)

Variable	Instrument Item	Response Options	Recoded As
gender	What is your gender identity?	A) Man B) Woman C) Another gender identity D) I prefer not to respond	1=Man 2=Woman 3=Another gender identity, 4=I prefer not to respond, OR response unknown
re_all	What is your racial or ethnic identification?	A) American Indian or Alaska Native B) Asian C) Black of African American D) Hispanic or Latino E) Native Hawaiian or other Pacific Islander F) White G) Other H) I prefer not to respond	1= Majority (White) 2=Non majority (American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or other Pacific Islander, OR Other) 3=I prefer not to respond OR response unknown
major	Please enter your major or expected major:	Open ended response	1=STEM 2=Not STEM
disability	Have you been diagnosed with any disability or impairment?	A) Yes B) No C) I prefer not to respond	1=Yes 2=No 3=I prefer not to respond OR response unknown
parented	What is the highest level of education completed by either of your parents (or those who raised you)?	A) Did not finish high school B) High school diploma or G.E.D. C) Attended college but did not complete degree D) Associate's degree (A.A., A.S., etc.) E) Bachelor's degree (B.A., B.S., etc.) F) Master's degree (M.A., M.S., etc.) G) Doctoral or professional degree (Ph.D., J.D., M.D., etc.)	1=Low SES (Did not finish high school, High school diploma or G.E.D., Attended college but did not complete degree) 2=Middle SES (Associate's degree, Bachelor's degree) 3=High SES (Master's degree, Doctoral or professional degree)

Therefore, in addition to the description of demographic items, Table 1 also includes an explanation of how response options were recoded, if recoding was necessary.

Table 2 identifies the items and sub-items from the NSSE that I used as proxies to describe Personal collegiate experiences. For example, one item on the NSSE asked respondents "How much does your institution emphasize the following?" Helping you manage your nonacademic responsibilities was listed as a sub-item. The response options were: Very much, Quite a bit, Some, and Very little. In the instances where recoding responses was necessary, Table 2 also displays the explanation of how the response options were recoded.

Social collegiate experiences are summarized in Table 3. I reviewed each item on the NSSE to determine which items could be used as proxies for Social experiences. Table 3 includes six items and 11 sub-items. For instance, there is an item that asks participants "About how many hours do you spend in a typical 7-day week doing each of the following?" Relaxing and socializing, was listed as a sub-item. I considered this item and respective sub-items as proxies for Social experiences. The response options were, 0 hours, 1-5 hours, 6-10 hours, 11-15 hours, 16-20 hours, 21-25 hours, 26-30 hours, and >30 hours. In addition to the items, sub-items, and response options, Table 3 also details how each response was recoded.

Table 4 identifies the 15 items and 55 sub-items from the NSSE that I used as proxies to describe Academic collegiate experiences. For instance, there is a NSSE item that asked respondents "During the current school year, how much has your coursework emphasized the following mental activities?" Analyzing an idea, experience, or line of reasoning in depth by examining its parts was listed as a sub-item. The response options were, Very much, Quite a bit, Some, and Very little. Table 4 also displays an explanation of how the response options for each item were recoded if recoding was needed.

Table 5 identifies the item from the NSSE that was used as a proxy to determine the propensity to study abroad among respondents. This item also represents the dependent variable of this study. Table 5 includes the introductory clause followed by the selected sub-item associated with the clause. The table also displays the response options for the item, and an explanation of how the responses were recoded.

Table 2

Personal Experiences Data from the 2014 National Survey of Student Engagement (NSSE)

Variable	Introductory Clause	Instrument Item	Response Options	Recoded As
SEwellness	How much does your institution emphasize the following?	F) Providing support for your overall well-being (recreation, health care, counseling, etc.)	1) Very Much 2) Quite a Bit 3) Some 4) Very Little	1 = Very Little 2 = Some 3 = Quite a Bit 4 = Very Much
tmworkon tmworkoff tmservice tmcare tmcommute	About how many hours do you spend in a typical 7-day week doing each of the following?	C) Working for pay on campus D) Working for pay off campus E) Doing community service or volunteer work G) Providing care for dependents - children, parents, etc. (not recoded) H) Commuting to campus - driving, walking, etc. (not recoded)	1) 0 hours 2) 1-5 hours 3) 6-10 hours 4) 11-15 hours 5) 16-20 hours 6) 21-25 hours 7) 26-30 hours 8) >30 hours	1 = Very Little (0 - 5 hours) 2 = Some (6 - 15 hours) 3 = Quite a Bit (16 - 25 hours) 4 = Very Much (26 - >30 hours)
sameinst	If you could start over again would you go to the same institution you are now attending?		1) Definitely Yes 2) Probably Yes 3) Probably No 4) Definitely No	1 = Definitely No 2 = Probably No 3 = Probably Yes 4 = Definitely Yes
pgothers pgvalues	How much has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?	F) Working effectively with others G) Developing or clarifying a personal code of values or ethics H) Understanding people of other backgrounds	1) Very Much 2) Quite a Bit 3) Some 4) Very Little	1 = Very Little 2 = Some 3 = Quite a Bit 4 = Very Much
evalexp	How would you evaluate your entire educational experience at this institution?		1) Excellent 2) Good 3) Fair 4) Poor	1 = Poor 2 = Fair 3 = Good 4 = Excellent

Table 3

Social Experiences Data from the 2014 National Survey of Student Engagement (NSSE)

Variable	Introductory Clause	Instrument Item	Response Options	Recoded As
attendart	During the current school year, about how often have you done the following?	D) Attended an art exhibit, play, or other arts performance (dance, music, etc.)	1) Very Often 2) Often 3) Sometimes 4) Never	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
SEdiverse SEsocial SEactivities SEevents	How much does your institution emphasize the following?	D) Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.) E) Providing opportunities to be involved socially H) Attending campus activities and events (performing arts, athletic events, etc.) I) Attending events that address important social, economic, or political issues	1) Very Often 2) Often 3) Sometimes 4) Never	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
tmcocurr tmrelax	About how many hours do you spend in a typical 7-day week doing each of the following?	B) Participating in co-curricular activities (organizations, campus publications, student government, fraternity and sorority, intercollegiate/intramural sports) F) Relaxing and socializing, (time with friends, video games, TV or videos, keeping up with friends online, etc.) (not recoded)	1) 0 hours 2) 1-5 hours 3) 6-10 hours 4) 11-15 hours 5) 16-20 hours 6) 21-25 hours 7) 26-30 hours 8) >30 hours	1 = Very Little (0 - 5 hours) 2 = Some (6 - 15 hours) 3 = Quite a Bit (16 - 25 hours) 4 = Very Much (26 - >30 hours)
SFotherwork	During the current school year, about how often have you done each of the following?	B) Worked with a faculty member on activities other than coursework (committees, student groups, etc.)	1) Very Often 2) Often 3) Sometimes 4) Never	1 = Never 2 = Sometimes 3 = Often 4 = Very Often

Table 3 (Continued)

Social Experiences Data from the 2014 National Survey of Student Engagement (NSSE)

Variable	Introductory Clause	Instrument Item	Response Options	Recoded As
leader	Which of the following have you done or do you plan to do before you graduate?	B) Hold a formal leadership role in a student organization or group	1) Done or in progress 2) Plan to do 3) Do not plan to do 4) Have not decided	1 = Have not decided 2 = Do not plan to do 3 = Plan to do 4 = Done or in progress
Qlstudents Qlstaff	Indicate the quality of your interactions with the following people at your institution	A) Students D) Student services staff (career services, student activities, housing, etc.)	1) Poor 2) 3) 4) 5) 6) 7) Excellent 8) NA	1 = Poor 2 - 3 = Fair 4 - 6 = Good 7 = Excellent

Table 4

Academic Experiences Data from the 2014 National Survey of Student Engagement (NSSE)

Variable	Introductory Clause	Instrument Item	Response Options	Recoded As
askquest drafts unprepared CLaskhelp CLexplain CLstudy CLproject present	During the current school year, about how often have done the following?	A) Asked questions or contributed to course discussions in other ways B) Prepared two or more drafts of a paper or assignment before turning it in C) Come to class without completing readings or assignments (not recoded) E) Asked another student to help you understand coursework F) Explained course material to one or more students G) Prepared for an exam by discussing or working through course material with other students H) Worked with other students on course projects or assignments I) Gave a course presentation	1) Very Often 2) Often 3) Sometimes 4) Never	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
empstudy SEacademic SElearnsup	How much does your institution emphasize the following?	A) Spending significant amounts of time studying and on academic work B) Providing support to help you succeed academically C) Using learning support services	1) Very Often 2) Often 3) Sometimes 4) Never	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
tmprep	About how many hours do you spend in a typical 7-day week doing each of the following?	A) Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)	1) 0 hours 2) 1-5 hours 3) 6-10 hours 4) 11-15 hours 5) 16-20 hours 6) 21-25 hours 7) 26-30 hours 8) >30 hours	1 = Very Little (0 - 5 hours) 2 = Some (6 - 15 hours) 3 = Quite a Bit (16 - 25 hours) 4 = A lot (26 - > 30 hours)

Table 4 (Continued)

Academic Experiences Data from the 2014 National Survey of Student Engagement (NSSE)

Variable	Introductory Clause	Instrument Item	Response Options	Recoded As
Rlintegrate Rlsocietal Rldiverse Rlownview Rlperspect Rlnewview Rlconnect	During the current school year, about how often have done the following?	A) Combined ideas from different courses when completing assignments B) Connected your learning to societal problems or issues C) Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments D) Examined the strengths and weaknesses of your own views on a topic or issue E) Tried to better understand someone else's views by imagining how an issue looks from his or her perspective F) Learned something that changed the way you understand an issue or concept G) Connected ideas from your courses to your prior experiences and knowledge	1) Very Often 2) Often 3) Sometimes 4) Never	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
tmread	Of the time you spend preparing for class in a typical 7- day week, about how much is spent on assigned reading?		1) Very Little 2) Some 3) About Half 4) Most 5) Almost All	1 = Very Little (0 - 5 hours) 2 = Some (6 - 15 hours) 3 = Quite a Bit (16 - 25 hours) 4 = A lot (26 - > 30 hours)

Table 4 (Continued)

Academic Experiences Data from the 2014 National Survey of Student Engagement (NSSE)

Variable	Introductory Clause	Instrument Item	Response Options	Recoded As
pgwrite pgspeak pgthink pganalyze pgwork pgprobsolve pgcitizen	How much has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?	A) Writing clearly and effectively B) Speaking clearly and effectively C) Thinking critically and analytically D) Analyzing numerical and statistical information E) Acquiring job or work-related knowledge and skills I) Solving complex real-world problems J) Being an informed and active citizen	1) Very Much 2) Quite a Bit 3) Some 4) Very Little	1 = Very Little 2 = Some 3 = Quite a Bit 4 = Very Much
intern learncom research capstone	Which of the following have you done or do you plan to do before you graduate?	A) Participate in an internship, co-op, field experience, student teaching, or clinical placement D) Participate in a learning community or some other formal program where groups of students take two or more classes together F) Work with a faculty member on a research project G) Complete a senior culminating project	1) Done or in progress 2) Plan to do 3) Do not plan to do 4) Have not decided	1 = Have not decided 2 = Do not plan to do 3 = Plan to do 4 = Done or in progress
servcourse	About how many of your courses at this institution have included a community based learning project?		1) All 2) Most 3) Some 4) None	1 = None 2 = Some 3 = Most 4 = All

Table 4 (Continued)

Academic Experiences Data from the 2014 National Survey of Student Engagement (NSSE)

Variable	Introductory Clause	Instrument Item	Response Options	Recoded As
Qladvisor Qlfaculty Qladmin	Indicate the quality of your interactions with the following people at your institution	B) Academic Advisors C) Faculty E) Other administrative staff and offices (registrar, financial aid, etc.)	1) Poor 2) 3) 4) 5) 6) 7) Excellent 8) NA	
SFcareer SFdiscuss SFperform	During the current school year, about how often have you done each of the following?	A) Talked about career plans with a faculty member C) Discussed course topics, ideas, or concepts with a faculty member outside of class D) Discussed your academic performance with a faculty member	1) Very Often 2) Often 3) Sometimes 4) Never	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
memorize HOapply HOanalyze HOevaluate HOform	During the current school year, how much has your coursework emphasized the following mental activities?	A) Memorizing course material (not recoded) B) Applying facts, theories, or methods to practical problems or situations C) Analyzing an idea, experience, or line of reasoning in depth by examining its parts D) Evaluating a point of view, decision or information source E) Forming a new idea from various pieces of information	1) Very Much 2) Quite a Bit 3) Some 4) Very Little	1 = Very Little 2 = Some 3 = Quite a Bit 4 = Very Much

Table 4 (Continued)

Academic Experiences Data from the 2014 National Survey of Student Engagement (NSSE)

Variable	Introductory Clause	Instrument Item	Response Options	Recoded As
ETgoals ETorganize ETexample ETdraftfb ETfeedback	During the current school year to what extent have your instructors done the following?	A) Clearly explained course goals and requirements B) Taught course sessions in an organized way C) Used examples or illustrations to explain difficult points D) Provide feedback on a draft or work in process E) Provided prompt and detailed feedback on tests or completed assignments	1) Very Much 2) Quite a Bit 3) Some 4) Very Little	1 = Very Little 2 = Some 3 = Quite a Bit 4 = Very Much
QRconclude QRproblem QRevaluate	During the current school year, about how often have you done each of the following?	A) Reached conclusions based on your own analysis of numerical information B) Use numerical information to examine a real-world problem/issue C) Evaluated what others have concluded from numerical information	1) Very Much 2) Quite a Bit 3) Some 4) Very Little	1 = Very Little 2 = Some 3 = Quite a Bit 4 = Very Much
LSreading LSnotes LSsummary	During the current school year, about how often have you done the following?	A) Identified key information from reading assignments B) Reviewed your notes after class C) Summarized what you learned in class or from course materials	1) Very Often 2) Often 3) Sometimes 4) Never	1 = Never 2 = Sometimes 3 = Often 4 = Very Often
challenge	During the current school year, to what extent have your courses challenged you to do your best work?		1) Not at All 2) 3) 4) 5) 6) 7) Very Much	

Table 5

Study Abroad Propensity Data from the 2014 National Survey of Student Engagement (NSSE)

Variable	Introductory Clause	Instrument Item	Response Options	Recoded As
abroad	Which of the following have you done or do you plan to do before you graduate?	E) Participate in a study abroad program (Dependent Variable)	1) Done or in progress 2) Plan to do 3) Do not plan to do 4) Have not decided	1 = Do not plan to do 2 = Have not decided 3 = Plan to do 4 = Done or in progress

Data Analysis Procedures

The data analysis for this study involved three steps: cleaning, recoding, and analyzing the data. A combination of descriptive statistics, t-tests, factor analyses, and linear regressions was used to analyze the data. I used SPSS, the Statistical Packages for the Social Sciences (George & Mallery, 2003).

Cleaning the Data

The initial step was cleaning the data. As part of the first step I had to account for missing variables. To be included in the sample, all cases had to include responses to items pertaining to study abroad participation, enrollment status (full-time), U.S. student status (did not identify as an international student), class status (senior), and birth year (1991-1995). If the responses were missing from any of these survey items the respondent was removed from the sample. I also had to account for missing data for items selected for the factor analysis. If responses were missing from the survey items that were necessary to conduct the factor analysis the case was removed. Accounting for missing data decreased the size of the sample. I requested a large enough sample to accommodate for the potential changes in sample size.

Recoding the Data

Next, I recoded the data. The dataset provided by NSSE required transcribing several variables to allow for comparison or to simplify the number of responses. Tables 1 – 5 show the instrument items and sub-items I used in the study, the introductory clause and response options for those items, and how the responses were re-coded. The statistical analyses for this study were run using the recoded variables.

Demographic variables represented the Inputs (I) of the I-E-O theoretical framework developed by Astin (1993). Some variables (e.g., age) were used only to describe the sample. Others were analyzed to address the research questions posed in the study and some of those I recoded, including race, major, and socioeconomic status (SES). Race was recoded based on the introductory clause that asked respondents to select their racial or ethnic identification. White was recoded as 1. The remaining options were coded as 2, as noted in Table 1. The response option "I prefer not to respond" was also available for this question. This response was treated as an unknown variable (hence missing data) because it was not possible to categorize the race of the participant (see Table 1).

The second demographic variable included in the study was major. The NSSE asked respondents to "enter your major or expected major." Respondents who majored in the academic fields of Science (e.g. Biology, Chemistry), Technology (e.g. Computer Technology, Surveying Technology), Engineering (e.g. Civil Engineering, Computer Engineering), and Math (e.g. Computational Mathematics, Algebra and Number Theory) were identified as STEM majors (NSF Approved STEM fields, 2014). All other respondents were identified as Non-STEM majors. The response options were coded to reflect STEM and NON-STEM majors (see Table 1).

The third variable that required recoding was level of parental education. The item on the NSSE asked respondents "What is the highest level of education completed by either of your parents (or those who raised you)?" The response to this question was used as a proxy for the socioeconomic status (SES) of each participant. The response options "Did not finish high school", "High school diploma or G.E.D", and "Attended college but did not complete degree" were recoded as 1, representing Low SES. The response options of "Associate's degree" and "Bachelor's degree" were recoded as 2, representing Mid SES. The response options "Master's degree" and "Doctoral or professional degree" were recoded as 3, representing High SES (see Table 1).

The Personal, Social, and Academic experiences represented the Environment (E) of the theoretical framework developed by Astin (1993). There were certain response options for survey items representing Personal, Social, and Academic experiences (which served as the study's independent variables) that needed reverse coding. This reverse coding was necessary to ensure that the preferred direction for items that were negatively worded was interpreted in the same way as the preferred direction on items that were positively worded.

An item on the NSSE that served as a proxy for Personal experiences asked participants "If you could start over again would you go to the same institution you are now attending?" The preferred response option was "definitely yes." Consequently, the response options were recoded so that they would reflect the preferred direction. Definitely no was recoded 1 (representing the lowest level of likelihood to attend the same institution), Probably no was recoded 2, Probably yes was recoded 3, and Definitely yes was recoded 4 (representing the highest level of likelihood to attend the same institution) (see Table 2).

An example of a Social experience that was (reverse) recoded is an item on the NSSE that asked participants "During the current school year, about how often have you done the following?" Talked about career plans with a faculty member was listed as a sub-item. The preferred direction was that participants talked about career plans often with faculty members. The response options were recoded so that they would reflect the preferred direction. Never was recoded to 1 (representing the lowest inclination to talk about career plans with faculty members), Sometimes was recoded 2, Often was recoded 3, and Very often was recoded 4 (representing the highest inclination to talk about career plans with faculty members) (see Table 3).

An item on the NSSE that served as a proxy for Academic experiences asked participants "During the current school year how much has your coursework emphasized the following mental activities?" Forming a new idea or understanding from various pieces of information was listed as a sub-item. The preferred direction was more formulation of new ideas. Therefore the response options were recoded so that they would be interpreted in the preferred direction. Very little was recoded as 1 (representing the lowest inclination to form new ideas), Some was recoded 2, Quite a bit was recoded 3, and Very much was recoded 4 (representing the highest inclination to form new ideas) (see Table 4).

The response options for the dependent variable representing propensity to study abroad also needed to be recoded (see Table 5). The item on the NSSE asked participants "which of the following have you done or do you plan to do before you graduate? Study abroad was listed as a sub-item. The response options were; Done or in progress, Plan to do, Do not plan to do, and Have not decided. Each response was recoded to reflect the level of study abroad propensity for respondents. Do not plan to do was recoded as 1 (representing the lowest level of study abroad propensity), have not done was recoded as 2, plan to do was recoded as 3, and done or in progress was recoded as 4 (representing the highest level of study abroad propensity).

Analyzing the Data

The data analysis was conducted to address the study's research questions. To start, it is important to note that the response options for the dependent variable (study abroad propensity) that were categorical in nature were converted into a continuous variable. Converting categorical variables to continuous data, it could be argued, is problematic in that it converts a category that participants used to define themselves to a numeric response. However, continuous variables

may be more useful in quantitative research. In theory continuous dimensions may underlie categorical variables. Fundamentally, a dimension is a continuous variable that represents information about the differences among values of a categorical variable (Shoemaker, Tankard, & Lasorsa 2004).

The first question explored the extent to which Demographic characteristics explained the variance in the propensity to study abroad. To address this question I analyzed the Demographic characteristics that are known to influence study abroad participation. These included gender (Carlson, et al., 1990), race (Goldstein, & Kim; 2005), major (Institute of International Education, 2001-2015), disability (Institute of International Education, 2001-2015), and SES (Brown, 2005).

To examine the role of gender as it relates to study abroad propensity, I started by sorting the survey respondents into two groups (male and female). Next, I calculated the mean score on propensity to study abroad for each group. I then conducted an independent samples *t*-test to compare mean scores between the groups. An independent samples *t*-test is the appropriate statistical test to determine if statistically significant differences exist between a continuous dependent variable (study abroad propensity) and a dichotomous independent variable (gender) (George & Mallery, 2003)**.** If the results of the *t*-test revealed that there was a statistically significant difference in study abroad propensity ($p < .05$) between males and females, then gender would be later included in multiple linear regression analysis.

The standard statistical assumptions of normality and homogeneity were evaluated. Normality assumes the scores are normally distributed. Normality was assessed using the Shapiro-Wilks test. If the Shapiro-Wilks test generated a *p value* that was greater than 0.05 the data were considered normally distributed. Homogeneity assumes both groups have equal error variances. This assumption was assessed using the Levene's test for the Equality of Error Variances. If the Levene's generated a *p* value that was greater than 0.05 the data were assumed to be homogeneous.

I followed the same steps to test for statistical significance of study abroad propensity by race (majority and non-majority), major (STEM and non-STEM), and disability (disabled or non-disabled). That is, I divided the sample into groups, calculated group mean score on propensity to study abroad for each group, and conducted an independent t-test to compare mean scores ($p < .05$).

The final demographic variable tested was socioeconomic status (SES). One item on the NSSE asked participants "What is the highest level of education completed by either of your parents (or those who raised you)?" I used the educational level of participants' parents as a proxy for determining SES (see Table 1). Low SES was coded as 1, Mid SES was coded as 2, and High SES was coded as 3. An analysis of variance (ANOVA) is the appropriate statistical test to use to determine if statistically significant differences exist between a continuous dependent variable (study abroad propensity) and a categorical independent variable that consists of two or more categories (SES) (George & Mallery, 2003). I started by sorting the survey respondents into three groups (low, mid, and high SES). Next, I calculated the mean score for propensity to study abroad for each group. I then conducted a one-way ANOVA to compare mean scores between the groups. If the results of the one-way ANOVA test revealed that there was a significant difference ($p < .05$) between the SES mean scores, I ran a post hoc test to determine where the differences in the mean scores occurred (High SES vs. Low SES, High SES vs. Mid SES, and Mid SES vs. Low SES). If any SES pairs had a statistically significant relationship to study abroad propensity ($p < .05$) I would then enter the statistically significant SES groups into the linear regression model.

For the one-way ANOVA, the standard statistical assumptions of normality and homogeneity were evaluated. Normality assumes the scores were normally distributed. Normality was assessed using the Shapiro-Wilks test. If the Shapiro-Wilks test generated a *p* value that was greater than 0.05 the data were considered normally distributed. Homogeneity assumes both groups have equal error variances. This assumption was assessed using the Levene's test for the Equality of Error Variances. If the Levene's generated a *p* value that was greater than 0.05 the data were considered homogeneous.

The second research question asked about the extent to which Personal experiences explained the variance in the propensity to study abroad. To address this question, I ran an exploratory factor analysis using the varimax rotation procedure (George & Mallery, 2003). An acceptable factor for Personal experiences was comprised of three or more survey items that generated a loading score of .60 or higher (George & Mallery, 2003). If factors emerged from the analysis I ran a Cronbach's alpha to ensure the internal consistency of each factor. I sought a Cronbach's alpha score of .70 to consider a factor reliable (George & Mallery, 2003).

For any factor that emerged, a composite score was created to group the survey items that represented the Personal experiences associated with that factor. A composite score representing any factor for Personal experiences was determined by calculating the sum of participant's responses to the items that comprised the factor.

A linear regression analysis was then conducted to determine whether there was a significant relationship between factors representing Personal experiences and study abroad propensity. Linear regression was used because the dependent variable (study abroad propensity) was continuous (George & Mallery, 2003). I entered the factors representing Personal Experiences into the regression model to determine if these factors explained the variance in study abroad propensity.

The assumptions of multiple regression include linearity, homoscedasticity, and the absence of multicollinearity. Linearity assumes a linear relationship between the independent and dependent variables. Homoscedasticity assumes that the variance around the regression line is the same for all values of the independent variable (George & Mallery, 2003). A scatter plot was examined to assess the assumptions of linearity and homoscedasticity. The absence of multicollinearity assumes the independent variables of the regression model are not more correlated with other independent variables than they are the dependent variable. This assumption was tested using Variance Inflation Factors (VIF). VIF values that exceeded 10 suggested multicollinearity (George & Mallery, 2003).

I followed the same steps to test for the explanation of variance between study abroad propensity and Social and Academic experiences. That is, I conducted a factor analysis, created composite scores for any factors that emerged, conducted linear regression analyses to determine if relationships could be modeled that explained the variance between Social factors and the propensity to study abroad and Academic factors and propensity to study abroad.

To address the final research question, I conducted a linear regression analysis to determine whether Demographics, Personal, Social and Academic Experiences collectively explained the variance in the propensity to study abroad. I entered the statistically significant Demographic characteristics, and the statistically significant Personal, Social, and Academic factors into the regression model. This allowed me to determine whether Demographic, and Personal, Social, and Academic factors explained the variance in study abroad propensity among college students.

In conclusion, the purpose of this study was to examine what individual Demographic characteristics and collegiate Personal, Social, and Academic factors collectively explained the variance in the propensity to study abroad. The methodology described in this chapter was deemed sufficient to address the research questions posed in this study.

Chapter Four

Results of Study

In this chapter I discuss the results from the study. First, I describe the sample. Then I report the results of the data analysis. The findings are reported by research question.

Demographic Characteristics of Respondents

Following the steps outlined in Chapter Three, I narrowed the original sample of 2,000 respondents to a total $N = 824$. First I eliminated 85 cases where respondents identified as part time students because only respondents who were enrolled full-time were eligible to participate in this study. Next, I eliminated 200 participants who did not identify as seniors.

I went on to remove 12 cases where participants failed to report their gender and 46 cases where they failed to report race. Next, I eliminated 57 cases missing the academic major variable. I proceeded to remove 23 cases based on missing information about disability and three cases from the variable that was used as a proxy for SES because data were not reported.

The next step was to look for cases with missing data with respect to the 10 items included in Personal experiences. This led me to eliminate another 80 cases. The majority of these cases were missing data related to community service hours ($n = 19$) and commuter hours ($n = 17$). But I also removed cases where data were missing from institutional emphasis on well-being, institutional emphasis on managing nonacademic responsibilities, hours working on campus for pay, hours working off campus for pay, hours providing dependent care, working effectively with others, developing values and ethics, understanding people of other backgrounds, and evaluation of the entire educational experiences at their institution.

Then I proceeded to look for cases with missing data for the items that reflected Social experiences. Eleven ($n = 11$) variables represented Social experiences in this study. I eliminated 154 cases with missing data. Most of the cases with missing data related to quality of staff interactions ($n = 65$). Other items where there were a large number of cases of missing data related to attending an art exhibit or play/performance ($n = 11$) and quality of interactions with students ($n = 13$). However, I also removed cases where data were missing about institutional emphasis on students of different backgrounds, providing social opportunities, attending campus activities, and attending political, social, and economic events. Other cases were missing data about hours spent on co-curricular activities, hours spent relaxing, and hours spent working with

faculty on activities other than coursework. A few cases were deleted because respondents did not report whether they held a formal leadership role.

Fifty-five (55) items were associated with Academic experiences and I eliminated cases with missing data for those items. The majority of these cases were missing data related to quality of interactions with administrative staff (*n* = 23), involvement in a community based learning project (*n* = 19), quality of interactions with academic advisors (*n* = 18), challenging courses (*n* = 18), clearly explained course goals and requirements (*n* = 17), and examining strengths and weaknesses of one's own views on a topic" (*n* = 17). I also eliminated another 435 cases because there were missing data on one or more of the remaining 50 items. These steps reduced the sample from 2,000 to 824.

Table 6 reports the demographic characteristics of the sample. For example, the majority of the sample was comprised of females (74%) versus males (26%). Most study participants were non-STEM majors (63%) and in terms or race, most of the respondents were of the majority race (*n* = 722). Twenty four percent (24%) of respondents were Low SES, while 44% were Mid SES and 32% were High SES. Other demographic characteristics of the sample are summarized in Table 6.

Results of the Data Analysis

The data were analyzed to respond to the research questions posed in the study. The first research question examined the extent to which Demographic characteristics influence propensity to study abroad. The literature has identified characteristics that have historically served as predictors of study abroad for college students: gender (Naffziger et al., 2010; Salisbury et al., 2013; Schmidt, 2009; Stroud, 2010), race (Brux & Fry, 2009; Carter, 1991; Lambert, 1996; Norton, 2008; Penn & Tanner, 2009; Perdreau, 2003; Simon & Ainsworth, 2012), academic major (Guess, 2008; Institute of International Education, 2001-2015; Oguntoyinbo, 2015; Stroud, 2010), disability (Belch, 2000; Institute of International Education, 2001-2015), and SES (Carlson, et al., 1990; Lambert, 1996; Lozano, 2008; Simon & Ainsworth, 2012). An independent samples *t*-test was conducted to determine if there were differences between groups on the four demographic variables that were bimodal (gender, race, major, and disability). The fifth characteristic, SES was analyzed using an ANOVA.

Table 7 reports the results of the four characteristics assessed via *t*-test. Recall that a higher mean score reflects a greater propensity to study abroad.

Table 6

Demographic Characteristics of the Sample (N = 824)

Characteristic	n	%N
Gender		
Males	214	26
Females	610	74
Race		
Majority	722	87
Non Majority	102	12
Major		
STEM	307	37
Non-STEM	517	63
Disability		
Yes	37	4
No	787	96
SES		
Low	199	24
Mid	363	44
High	262	32
Taking All Courses Online		
Yes	5	1
No	819	99

Table 6 continued

Characteristics	n	%N
Majors		
One	705	85
More than One	119	14
Began College		
Started Here	707	86
Started Elsewhere	117	14
Attended a Community or Junior College		
Yes	123	15
No	701	85
Member of a Fraternity or Sorority		
Yes	136	17
No	688	83
Student Athlete		
Yes	61	7
No	763	92

Table 7

Results of t-tests by Demographic Characteristic (N = 824)

Outcome	Group						95% CI for Mean Difference			Sig Val.
	Male			Female						.000
	M	SD	n	M	SD	n		t	df	
Study Abroad Participation	2.63	.849	214	2.49	.942	610	-.00429, .28236	1.904*	822	

Results of t-tests and Descriptive Statistics for Study Abroad Participation by Race (n = 824)

Outcome	Group						95% CI for Mean Difference			Sig Val.
	Majority			Non Majority						.000
	M	SD	n	M	SD	n		t	df	
Study Abroad Participation	2.48	.903	722	2.80	.796	102	-.50502, -.12498	-3.254*	822	

Results of t-tests and Descriptive Statistics for Study Abroad Participation by Major (n = 824)

Outcome	Group						95% CI for Mean Difference			Sig Val.
	STEM			Non-STEM						.000
	M	SD	n	M	SD	n		t	df	
Study Abroad Participation	2.67	.826	307	2.44	.961	517	.10921, .36769	3.622*	822	

Results of t-tests and Descriptive Statistics for Study Abroad Participation by Disability (n = 824)

Outcome	Group						95% CI for Mean Difference			Sig Val.
	Disability			No Disability						.016
	M	SD	n	M	SD	n		t	df	
Study Abroad Participation	2.45	1.10	37	2.53	.912	787	-.37576, .23242	-.463*	822	

$p<.05$

I found significant differences with all four demographic characteristics. To start, men (M = 2.63) reported a significantly higher mean score than women. (M = 2.49). In terms of race, non-majority respondents (M = 2.80) had a significantly higher mean score than the majority population (M = 2.49). STEM majors (M = 2.67) also proved to have a higher study abroad propensity than non-STEM majors (M = 2.44). Lastly, students without disabilities (2.53) had a higher mean score than students with disabilities (2.45).

The remaining Demographic characteristic, SES, consisted of three groups so differences were analyzed by conducting an ANOVA. The results are reported in Table 8. There was a significant effect on study abroad propensity by SES at the $p < .05$ level for the three conditions ($F_{(2, 821)} = 8.827$, p = .000). Post hoc comparisons using the Tukey HSD test indicated that the mean score for Low SES (M = 2.66, SD = .825) was not significantly different than the mean score for Mid SES (M = 2.60, SD = .888). The High SES group (M = 2.34, SD = 1) significantly differed from both the Low and Mid SES respondents. Collectively, these results suggest that SES has an impact on a student's decision to study abroad where students from a High SES have a lower study abroad propensity than students from a Low or Mid SES.

The remaining research questions focused on the association between Personal, Social and Academic experiences and propensity to study abroad. In order to address these questions, I first needed to see if Personal, Social, and Academic factors emerged from the 76 items in the dataset I believed to be relevant to the study. To start, I ran an exploratory factor analysis on the 10 items identified as representative of Personal experiences (see Table 9). The factor analysis revealed two factors, which I labeled Openness to Working with Others, and Personal Care. The items in the Openness to Working with Others included three items that elicited data about perceived gains in understanding people of different backgrounds, developing values and ethics, and working effectively with others. The Openness to Working with Others factor had an eigenvalue of 2.999, explained 27.62% of the variance, and had a Cronbach Alpha value of .769. This factor was included in the linear regression. The Personal Care factor had an eigenvalue of 1.188, explained 10.79% of the variance, and had a Cronbach Alpha value of .547 which was lower than the .7 score needed to demonstrate internal consistency of the grouped items. Therefore, the Personal Care factor was not used in the linear regression analysis.

Table 8

Results for One Way ANOVA on SES and Study Abroad Propensity (N = 824)

Demographics	Mean Score	Standard Deviation	F Statistic	Sig Value	Tukey's HSD
			8.827	.000	
SES					
Low	2.66	.825			1, 2 < 3
Mid	2.60	.888			1, 2 < 3
High	2.34	1.00			3 > 2, 1

$p<.05$

Table 9

Summary of Exploratory Factor Analysis Results for Personal Experiences Using Maximum Likelihood Estimation (N = 824)

	Factor Loadings	
Item	Openness to Working With Others	Personal Care
Perceived gains: Understanding people of other backgrounds (economic, racial/ethnic, political, religious, nationality, etc.)	**.852**	-.054
Perceived gains: Developing or clarifying a personal code of values and ethics	**.820**	-.051
Perceived gains: Working effectively with others	**.689**	.036
If you could start over again, would you go to the same institution you are now attending?	.111	.021
How would you evaluate your entire educational experience at this institution?	.282	.055
Institutional emphasis: Providing support for your overall well-being (recreation, healthcare, counseling)	.276	-.068

Table 9 Continued

	Factor Loadings	
Item	Openness to Working With Others	Personal Care
Hours per week: Providing care for dependents (children, parents, etc.)	-.101	**.770**
Hours per week: Commuting to campus (driving, walking, etc.)	-.045	**.716**
Hours per week: Doing community service or volunteer work	.076	**.667**
Hours per week: Working for pay on campus	-.049	.125
Hours per week: Working for pay off campus	-.004	.211
Eigenvalues	2.999	1.188
% of variance	27.262	10.797
Cronbach Alpha	.769	.547

Note: Factor loadings over .60 appear in bold

Next, I ran an exploratory factor analysis for the 11 items identified to represent Social experiences. The analysis revealed one factor comprised of four items. The items were associated with institutional emphasis on attending events addressing important social, economic, or political issues, institutional emphasis on providing social opportunities, institutional emphasis on attending campus activities and events, and institutional emphasis on encouraging contact among students from different backgrounds. I labeled this factor Event Attendance. Table 10 identifies the results of the analysis. The factor Event Attendance had an eigenvalue of 2.903, explained 26.39% of the variance, and had a Cronbach Alpha value of .777. Therefore, it was included in the linear regression analysis.

I ran the final exploratory analysis on the 55 representative items identified as Academic experiences. The analysis revealed seven factors. The first factor included six items that elicited data about examining strengths and weaknesses of one's own views, diverse perspectives in course assignments, trying to understand others' perspective, connecting learning to societal issues, learning something that changed one's understanding of an issue, and connecting course ideas to prior experiences. I labeled this factor Diversity and Societal Awareness. Diversity and Societal Awareness had an eigenvalue of 12.186, explained 22.92% of the variance, and had a Cronbach Alpha value of .885.

The second Academic factor was comprised of five items that revolved around organization of courses by instructors, prompt feedback from instructors, clearly explained course goals, feedback on works in progress, and effective examples used by instructors. I labeled this factor Faculty Relationships. Faculty Relationships had an eigenvalue of 3.461, explained 6.53% of the variance, and had a Cronbach Alpha value of .844.

The remaining five factors I labeled Perceived Academic Improvements, Math Skills, Communication with Faculty, Academic Collaborations with Students, and Academic Rigor. Perceived Academic Improvements was comprised of three items that spoke to perceived improvements with writing skills, speaking skills, and critical thinking skills. The factor labeled Math Skills was formed by items that collected information pertaining to numerical evaluation of other's conclusions, using numerical information to examine real-world problems, and perceived improvements using numerical and statistical analytical skills.

Table 10

Summary of Exploratory Factor Analysis Results for Social Experiences Using Maximum Likelihood Estimation (N = 824)

	Factor Loadings
Item	Event Attendance
Institutional emphasis: Attending events that address important social, economic, or political issues	**.815**
Institutional emphasis: Providing opportunities to be involved socially	**.786**
Institutional emphasis: Attending campus activities and events (performing arts, athletic events, etc.)	**.754**
Institutional emphasis: Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.)	**.690**
Formal leadership role in a student organization or group	.054
Worked with a faculty member on activities other than coursework (committees, student groups, etc.)	.086

Table 10 Continued

	Factor Loadings
Item	Event Attendance
Hours per week: Participating in co-curricular activities (organizations, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)	.006
Quality of interactions with student services staff	-.148
Quality of interactions with students	-.143
Hours per week: Relaxing and socializing (time with friends, video games, TV or videos, keeping up with friends online, etc.)	-.090
Attended an art exhibit, play or other arts performance (dance, music, etc.)	-.262
Eigenvalues	2.903
% of Variance	26.389
Cronbach Alpha	.777

Note: Factor loadings over .60 appear in bold

The factor representing Communication with Faculty was made up of three items that garnered data on career discussions with faculty, academic discussions with faculty outside of class, and academic performance discussions with faculty. The sixth factor which I labeled Academic Collaborations with Students was comprised of four items that collected information about asking other students for help with course material, working with others on course projects, study groups for examinations, and explaining course material to one or more students. The final Academic factor labeled Academic Rigor was comprised of four items about coursework that emphasized analyzing ideas, evaluating decisions and information sources, forming new ideas, and applying facts to practical problems. Table 11 provides the items that comprised the factors, the eigenvalues, percentages or variance, and Cronbach Alpha values. All factors produced a Cronbach Alpha value higher than .7 so all were included in the next phase of the analysis.

Next, I used a linear regression analysis to explain study abroad propensity across Demographic characteristics, and Personal, Social, and Academic experiences. The first research question sought to examine study abroad propensity based on Demographics (see Table 12). I addressed this question by conducting a linear regression analysis. With the exception of gender (p =.072) and disability (p =.927) each predictor variable had a significant correlation with study abroad propensity. Socioeconomic status and Academic major yielded a p value of .000; and Race yielded a p value of .010. This five-predictor model was able to account for 5.1% (R^2 = .051) of the variance in study abroad propensity. Since gender and disability were not significant they were removed from the remaining regression models.

The second research question examined the degree of variance in study abroad propensity explained by Personal factors after controlling for Demographic characteristics. The statistically significant Demographic factors (SES, Academic major, Race) were entered into the linear regression model first. Next, I entered the Openness to Working with Others factor, which represented Personal experiences. The p value for Openness to Working with Others was .661. This means that there is no linear relationship between students who report the behaviors exhibited in variables associated with Openness to Working with Others and the increased probability of studying abroad (see Table 13). Since this factor proved not to be statistically significant it was removed from future analyses.

The third research question sought to predict study abroad propensity based on Social experiences. Results are summarized in Table 14. After entering the significant Demographic

Table 11

Summary of Exploratory Factor Analysis Results for Academic Experiences Using Maximum Likelihood Estimation (N = 824)

	Factor Loadings						
Item	Diversity and Societal Awareness	Faculty Relationships	Perceived Academic Improvements	Math Skills	Communication With Faculty	Academic Collaborations With Students	Academic Rigor
Examined the strengths and weaknesses of your own views on a topic or issue	**.783**	.035	.126	.107	.113	.088	.078
Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments	**.778**	.014	.139	.062	.114	.056	.122
Tried to better understand someone else's views by imagining how an issue looks from his or her perspective	**.763**	.118	.121	.071	.091	.054	-.017
Connected your learning to societal problems or issues	**.746**	.110	.125	.130	.101	.078	.172
Learned something that changed the way you understand an issue or concept	**.686**	.108	.145	.056	.042	.153	.133

Table 11 Continued

Item	Factor Loadings						
	Diversity and Societal Awareness	Faculty Relationships	Perceived Academic Improvements	Math Skills	Communication With Faculty	Academic Collaborations With Students	Academic Rigor
Connected ideas from your courses to your prior experiences and knowledge	**.678**	.130	.103	.069	.073	.156	.209
Combined ideas from different courses when completing assignments	.593	.038	.052	.062	.112	.188	.246
Instructors: Taught course sessions in an organized way	.045	**.781**	.072	.020	-.007	.038	.125
Instructors: Provided prompt and detailed feedback on tests or completed assignments	.126	**.761**	.142	.083	.085	.048	.109
Instructors: Clearly explained course goals and requirements	.044	**.743**	.115	.011	.015	.061	.002
Instructors: Provided feedback on a draft or work in progress	.173	**.713**	.205	.038	.173	.020	.067
Instructors: Used examples or illustrations to explain difficult points	.148	**.710**	.074	.176	.020	.081	.125

Table 11 Continued

Item	Factor Loadings						
	Diversity and Societal Awareness	Faculty Relationships	Perceived Academic Improvements	Math Skills	Communication With Faculty	Academic Collaborations With Students	Academic Rigor
Perceived gains: Writing clearly and effectively	.231	.154	**.747**	-.059	.080	.059	.050
Perceived gains: Speaking clearly and effectively	.228	.162	**.745**	.009	.136	.123	.031
Perceived gains: Thinking critically and analytically	.207	.184	**.634**	.114	.085	.097	.218
Perceived gains: Being an informed and active citizen	.239	.144	.592	.087	.053	-.032	.106
Perceived gains: Solving complex real-world problems	.192	.118	.587	.282	.055	.027	.205
Perceived gains: Acquiring job- or work-related knowledge and skills	.005	.111	.429	.142	.114	.162	.141
Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics, etc.)	.115	.074	-.023	**.856**	.100	.140	.072

Table 11 Continued

	Factor Loadings						
Item	Diversity and Societal Awareness	Faculty Relationships	Perceived Academic Improvements	Math Skills	Communication With Faculty	Academic Collaborations With Students	Academic Rigor
Evaluated what others have concluded from numerical information	.208	.108	.008	**.830**	.084	.137	.172
Used numerical information to examine a real-world problem or issue (unemployment, climate change, public health, etc.)	.207	.075	.060	**.819**	.107	.105	.163
Perceived gains: Analyzing numerical and statistical information	-.116	.037	.397	**.662**	.035	.125	.013
Talked about career plans with a faculty member	.172	.031	.123	.074	**.723**	.103	.127
Discussed course topics, ideas, or concepts with a faculty member outside of class	.212	.059	.089	.115	**.718**	.197	.153
Discussed your academic performance with a faculty member	.189	.078	.095	.135	**.701**	.142	.116

Table 11 Continued

Item	Factor Loadings						
	Diversity and Societal Awareness	Faculty Relationships	Perceived Academic Improvements	Math Skills	Communication With Faculty	Academic Collaborations With Students	Academic Rigor
Work with a faculty member on a research project	.018	.039	.029	.094	.555	.020	-.004
Asked questions or contributed to course discussions in other ways	.354	.102	.077	-.086	.396	.154	.064
Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, portfolio, etc.)	.012	.121	.184	-.034	.391	-.001	.086
Prepared two or more drafts of a paper or assignment before turning it in	.173	.086	.021	.050	.312	.121	.012
Asked another student to help you understand course material	.043	-.001	.028	.063	.044	**.766**	.054
Worked with other students on course projects or assignments	.167	.104	.122	.122	.011	**.733**	.052
Came to class without completing readings or assign.	.086	-.029	-.149	.025	.180	-.141	.09
To what extent have you courses challenged you to do your best work?	-.022	-.127	-.358	-.011	-.029	-.072	-.181

Table 11 Continued

Item	Factor Loadings						
	Diversity and Societal Awareness	Faculty Relationships	Perceived Academic Improvements	Math Skills	Communication With Faculty	Academic Collaborations With Students	Academic Rigor
Prepared for exams by discussing or working through course material with other students	.148	.032	.092	.139	.151	**.725**	.126
Explained course material to one or more students	.286	.053	-.081	.164	.246	**.611**	.133
Gave a course presentation	.286	.142	.139	.055	.191	.467	.079
Coursework emphasized: ANALYZING an idea, experience, or line of reasoning in depth by examining its parts	.258	.096	.122	.174	.119	.115	**.769**
Coursework emphasized: EVALUATING a point of view, decision, or information source	.380	.147	.148	.020	.119	.008	**.687**
Coursework emphasized: FORMING a new idea or understanding from various pieces of information	.347	.143	.139	.100	.142	.127	**.660**

Table 11 Continued

Item	Factor Loadings						
	Diversity and Societal Awareness	Faculty Relationships	Perceived Academic Improvements	Math Skills	Communication With Faculty	Academic Collaborations With Students	Academic Rigor
Coursework emphasized: APPLYING facts, theories, or methods to practical problems or new situations	.079	.143	.095	.235	.065	.212	**.657**
Institutional emphasis: Providing support to help students succeed academically	.127	.256	.154	.014	.089	-.028	.046
Institutional emphasis: Using learning support services (tutoring services, writing center, etc.)	.129	.197	.086	-.027	.033	-.027	-.002
Institutional emphasis: Spending significant amounts of time studying and on academic work	.004	.064	.175	.095	.035	.125	.167
Reviewed your notes after class	.078	.138	.106	.084	.078	.113	.073
Summarized what you learned in class or from course materials	.276	.120	.136	.086	.162	.147	.141

Table 11 Continued

Item	Factor Loadings						
	Diversity and Societal Awareness	Faculty Relationships	Perceived Academic Improvements	Math Skills	Communication With Faculty	Academic Collaborations With Students	Academic Rigor
Identified key information from reading assignments	.357	.150	.172	-.042	.094	.066	.177
Quality of interactions with other administrative staff and offices	-.041	-.153	-.117	-.015	.076	-.103	.044
Quality of interactions with academic advisors	-.011	-.142	-.176	-.062	-.232	-.016	-.011
Quality of interactions with faculty	-.058	-.309	-.302	.000	-.196	-.017	-.158
Hours per week: Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)	-.014	-.010	.029	-.068	-.067	-.102	-.067
Of the time you spend preparing for class in a typical 7-day week, about how many hours are on assigned reading?	-.177	-.016	-.050	-.019	-.003	.071	-.080

Table 11 Continued

Item	Factor Loadings						
	Diversity and Societal Awareness	Faculty Relationships	Perceived Academic Improvements	Math Skills	Communication With Faculty	Academic Collaborations With Students	Academic Rigor
Courses included a community-based project (service-learning)	.105	-.050	.091	.088	.017	.128	.061
Learning community or some other formal program where groups of students take two or more classes together	-.028	-.025	.058	.045	.194	.208	.018
Coursework emphasized: MEMORIZING course material	.032	.028	.179	-.024	-.076	-.086	-.066
Internship, co-op, field experience, student teaching, or clinical placement	.069	.139	-.046	-.035	.142	.031	.005
Eigenvalues	12.186	3.461	2.664	2.151	2.009	1.736	1.632
% of Variance	22.992	6.530	5.026	4.058	3.791	3.275	3.078
Cronbach Alpha	.885	.844	.804	.863	.829	.786	.831

Note: Factor loadings over .60 appear in bold.

Table 12

Summary of Multiple Regression Analysis for Demographic Variables Predicting Study Abroad Propensity (N = 824)

Model 1				
Variable	*B*	*SE B*	*β*	Sig
(Constant)	2.694	.358		.000
DummylowSES	.311	.086	.145	.000
DummyMidSES	.273	.074	.147	.000
Race	.249	.096	.089	.010
Gender	-.130	.072	-.062	.072
Major	-.239	.065	-.125	.000
Disability	-.014	.153	-.003	.927
R^2		.051		
F for change in R^2		7.308		

p<.05

Table 13

Summary of Multiple Regression Analysis for Personal Experiences Predicting Study Abroad Propensity (N = 824)

	Model 2			
Variable	*B*	*SE B*	*β*	Sig
(Constant)	2.402	.192		.000
DummylowSES	.305	.086	.142	.000
DummyMidSES	.267	.073	.144	.000
Race	.259	.097	.093	.008
Major	-.242	.066	-.127	.000
Openness	.006	.014	.011	.661
R^2		.047		
F for change in R^2		.193		

$p<.05$

Table 14

Summary of Multiple Regression Analysis for Social Experiences Predicting Study Abroad Propensity (N = 824)

	Model 3			
Variable	*B*	*SE B*	*β*	Sig
(Constant)	2.247	.193		.000
DummylowSES	.297	.085	.138	.001
DummyMidSES	.267	.073	.144	.000
Race	.260	.096	.093	.007
Major	-.239	.065	-.126	.000
Event Attendance	.021	.012	.064	.063
R^2		.051		
F for change in R^2		3.474		

$p<.05$

variables, I entered the factor labeled Event Attendance into the model. The p value for the Event Attendance factor was .064. The results indicate that there is no linear relationship between students who report behaviors exhibited in variables associated with Event Attendance and an increased propensity to study abroad so this factor was removed from future analyses.

My fourth research question sought to determine if there was a relationship between Academic experiences and the propensity to study abroad. Results are summarized in Table 15. After entering the significant Demographic variables, I entered the seven factors that represented Academic experiences (Diversity and Societal Awareness, Faculty Relationships, Perceived Academic Improvements, Math Skills, Communication with Faculty, Academic Collaboration with students, and Academic Rigor). With the exception of Diversity and Societal Awareness ($p = .042$) and Academic Rigor ($p = .017$), all other Academic experiences yielded p values above .05, making them nonsignificant. They were not used in further analyses. This 10-predictor model accounted for 7.1% ($R^2 = .071$) of the variance in study abroad propensity. The two significant factors, Diversity and Societal Awareness, and Academic Rigor produced a significant regression equation. This means that there is a linear relationship between students who report the behaviors associated with Diversity and Societal Awareness, and Academic Rigor and the increased probability of studying abroad.

My final research question sought to determine if study abroad propensity could be predicted using statistically significant Demographics, and Personal, Social, and Academic experiences collectively. To conduct this analysis, I entered SES, Academic Major, and Race as the Demographic variables. Two Academic factors were the only factors that proved to have a significant relationship to study abroad propensity so I entered those two factors into the final regression model. All the Demographic variables remained significant in the final model, meaning all influenced the propensity to study abroad. As for the two Academic factors, Diversity and Societal Awareness proved to be statistically significant ($p = .002$), while Academic Rigor proved to be statistically nonsignificant ($p = .053$) (See Table 16). This means that SES, Academic Major, Race coupled with the behaviors exhibited in variables associated with Diversity and Societal Awareness increased the probability of studying abroad. However, there was no linear relationship between behaviors exhibited in the Academic Rigor factor and

Table 15

Summary of Multiple Regression Analysis for Academic Experiences Predicting Study Abroad Propensity (N = 824)

	Model 4			
Variable	*B*	*SE B*	*β*	Sig
(Constant)	2.700	.352		.000
DummylowSES	.293	.085	.136	.001
DummyMidSES	.260	.073	.141	.000
Race	.264	.096	.094	.006
Major	-.178	.069	-.094	.010
Diversity	-.019	.009	-.092	.042
Faculty Relationships	.017	.011	.058	.131
Perceived Improvements	.023	.018	.052	.201
Math Skills	-.019	.011	-.067	.090
Communication	.025	.015	.066	.103
Collaboration	.004	.014	.011	.779
Academic Rigor	-.036	.015	-.107	.017
R^2		.071		
F for change in R^2		2.962		

$p<.05$

Table 16

Summary of Multiple Regression Analysis for Demographics, Personal, Social, and Academic Experiences Predicting Study Abroad Propensity (N = 824)

	Model 5			
Variable	*B*	*SE B*	*β*	Sig
(Constant)	3.142	.284		.000
DummylowSES	.294	.085	.137	.001
DummyMidSES	.269	.073	.145	.000
Race	.278	.096	.099	.004
Major	-.213	.066	-.112	.001
Diversity	-.027	.009	-.129	.002
Academic Rigor	-.027	.014	-.081	.053
R^2		.058		
F for change in R^2		4.759		

$p<.05$

study abroad propensity. This five-predictor model accounted for 5.8% (R^2 = .058) of the variance is study abroad propensity

These data represent some new evidence to explain student propensity to study abroad. A discussion of the results and their implications is offered in the next chapter.

Chapter Five

Discussion and Implications

The results of this study offer some interesting insight into the study abroad propensity of college students. In this chapter I discuss the key finding of the study and possible explanations for those findings. Secondly, I address whether the findings from my study confirmed or contradicted the prior literature surrounding study abroad participation. Next I identify the limitations of the study, followed by a discussion of the implications for future practice, research and policy.

Discussion of the Results

My study looked at five research questions pertaining to study abroad propensity, and led to three key findings. The first key finding was that some demographic characteristics can be used to predict the likelihood of studying abroad. This finding is associated with the first research question posed in the study that asked about the degree to which demographic characteristics (gender, race, SES, academic major, and disability) explained the variance in study abroad participation. The finding that minority students are more likely to study abroad (or are at very least more strongly considering it) is surprising because other studies have revealed just the opposite (Institute of International Education, 2001-2015; Norton, 2008). The results of this study also revealed that students from lower and mid SES were more likely to study abroad which was also an unexpected outcome. What is interesting is that historically, race and SES have been coupled with the barrier of affordability as it relates to the study abroad participation among minority and low to mid SES students (Simon & Ainsworth, 2012). However, my findings seem to suggest that race and SES should be disassociated from the affordability barrier. Undoubtedly, the cost of studying abroad still plays into the decision-making process of students as results here only indicate a possibility or prospect rather than actual participation. However, since the findings of this study indicate that minority students and those from low to mid SES are more likely to plan to study abroad despite the financial implications, it might be argued that cost is weakening in its position as the primary deterrent of study abroad participation for minority students, and students from low to mid SES. Perhaps efforts by federal and state governments, private lenders, and study abroad professionals towards increasing access for minorities to study abroad by providing financial assistance and developing more affordable study abroad

programming are beginning to pay off (Myths and Realities of Financing Study Abroad, 2006).

The affordability of higher education has always been problematic for students of color. In the case of African Americans (students and their families), 42% have student loans, in comparison to 28% of whites (Quinton, 2015). Douglas-Garbriel (2015) indicated that Hispanic and Latino students and their families also take out loans at higher rates than white families. The idea of incurring additional costs to study abroad was simply not feasible for many such students in the past. However, the recent trend that enables students to use financial aid to assist with the costs of international programs may explain why minority students in my study demonstrated a significantly higher likelihood of participating in study abroad programming than their majority counterparts.

Other considerations could center on study abroad professionals being more cognizant of the affordability barrier for students of color. Staff can structure programs in ways that help offset some of the additional costs of studying abroad such as: group rates for discounted plane tickets, traveling to areas that do not have costly visa requirements, traveling during non-tourist season, and traveling to more affordable locations. Such efforts may render study abroad within reach for some students of color.

Additionally, though financial demands that create an urgency to enter the workforce may also play a role in a student of color's decision not to participate in study abroad because it may delay graduation, an increasing number of minorities may recognize employers' demand for global competency, and how study abroad makes them more competitive on the job market. One might conclude that since the data analyzed in this study were collected four years after an economic recession in the United States, students may have been increasingly willing to delay graduation, and take on additional financial obligations, to develop skills they see as critically important to being more competitive candidates in the workforce.

Surprisingly, in this study, students from high SES status were less likely to study abroad than their counterparts from lower or mid SES groups. This finding is inconsistent with previous trends (Carlson, et al., 1990; Lambert, 1996; Lozano, 2008; Simon & Ainsworth, 2012) so it is quite interesting. It is certainly possible that students from higher SES have had more exposure to international activities throughout childhood. They also may have accumulated greater social capital as a result of the networks they were exposed to during childhood. Students with higher

social capital are more likely to have previous travel experience, or to be friends with others who have traveled (Simon & Ainsworth, 2012). Therefore, it could be argued that study abroad may not have as much appeal since international exposure is something they have already experienced prior to attending college. Additionally, parents of students from higher SES groups may not have to rely on institutions of higher education to provide international opportunities for their offspring. High SES parents may have networks to structure international visits, internships and educational experiences independently, and avoid the added expenses of study abroad programs offered through colleges and universities. Conversely, students from low to mid SES who may not have had these previous experiences or parental connections may find study abroad very appealing, and have an increased desire to participate. All of these factors could help explain my finding about the association between SES and probability of study abroad.

Lastly with respect to Demographic characteristics, academic major also displayed a linear relationship to study abroad participation. STEM students had a higher likelihood of studying abroad than those who majored in the Humanities. There has been an uptick in study abroad participation among STEM majors in the past few years (Institute of International Education, 2001-2015) making this finding consistent with current trends. It could be argued that students majoring in the STEM fields have always had a desire to participate in study abroad programs but due to the rigidity of their academic requirements they were unable to find the time or program offering that would allow them to do so. However, an increasing number of study abroad programs with a STEM focus have been developed recently (Oguntoyinbo, 2015). This could help explain why more STEM students are participating in study abroad programs. Additionally, with greater emphasis being placed on STEM fields, students are becoming increasingly aware that government agencies and private corporations who are heavy investors in STEM education and research have a wide global reach. STEM students know that they must meet the demanding hiring needs and criteria of these employers. Job opportunities with domestic and foreign STEM employers often require foreign language proficiency, cultural competency, and willingness to travel internationally. Students majoring in STEM fields may be using study abroad as a means to acquire these skill sets in order to prepare themselves for the job market. Given increasing emphasis by employers on the need for international experience, students may be more likely to study abroad even if the desire to do so is not there.

The second key finding had to do with the types of experiences associated with a higher propensity to study abroad. I examined whether Personal, Social, and Academic experiences served as predictors of study abroad participation (the second, third and fourth questions posed in the study). Personal and Social experiences when coupled with the significant Demographic characteristics did not prove to be predictors of study abroad participation. In the case of Personal experiences, it may be that experiences cannot be standardized across populations. Since every student is different, personal experiences may impact and influence the decision to study abroad differently. This same argument could be made for Social experiences. They, too, may produce different outcomes for each student. Therefore, linear relationships between study abroad participation and Personal and Social experiences may not exist.

In addition to not being able to standardize social experiences across populations, the factor used to represent social activities in the linear regression analysis labeled "event attendance" may also explain why Social experiences were not significant predictors of study abroad in this study. The "event attendance" factor included NSSE items that focused primarily on how much the student's institution emphasized involvement in certain social activities. The NSSE items that asked how often respondents attended these social activities was not a part of the factor's composition. Had the amount of time that students spent actually attending or participating in social activities been a part of the factor used in the linear regression, perhaps the results would have differed.

When considering the results associated with Personal and Social experiences, it is also important to look at the instrument used in the study. The items on the NSSE may not have asked enough questions to capture the Personal and Social experiences that would contribute to an increase or decrease in a student's study abroad propensity. I found only 10 items from this survey instrument to measure Personal experiences. Only 11 items from the NSSE represented Social experiences in this study. These numbers paled in comparison to the 55 items that I included as measures of Academic experiences. The limited number of Personal and Social items may explain why I found no significant relationship between Personal and Social experiences and study abroad, but did find such a relationship using Academic experiences.

In this case, the third key finding was that some Academic experiences do make a difference when it comes to study abroad. Coupled with Demographic factors, the linear regression model that measured the relationship between study abroad propensity and Diversity

and Societal awareness explained 5.8% of variance. Even though this percentage seems relatively small, it is actually impressive in terms of what it measures. The percentage of the variance represents the effect size of the predictor model. An effect size of 2% or less is small and considered weak, and effect size of 5-6% is considered large, while an effect size of 8% is considered very large (Cohen, 2007). This model predicting 5.8% of the variance seemingly has a large effect on predicting study abroad propensity. The remaining 94.2% of the variance could be attributed to a number of extraneous variables that were not considered as part of this study (e.g., religious practices, dietary restrictions, family obligations, and other educational experiences).

The Diversity and Societal awareness factor was comprised of items about being aware of, and open to learning about issues surrounding diversity and societal problems. Those who scored higher on these items had an increased propensity of studying abroad compared to their counterparts who scored lower. This means that students who engaged academically in opportunities that allowed them to examine their own strengths and weaknesses and the diverse viewpoints of others were more likely to be study abroad participants. Taking classes in a foreign country surrounded by students from different backgrounds and nationalities only amplifies this type of academic experience. Study abroad offers opportunities to interact with diverse populations and learn about societal issues through service learning and volunteer programs. Therefore, it is reasonable to conclude that students who have a desire to communicate and interact with diverse populations would also have a heightened interest in studying abroad.

Unlike Personal and Social experiences, the outcomes and expectations of Academic experiences are simpler to standardize. Instructional faculty members generally operate in a more controlled environment where they strive to direct the learning outcomes of their students. It is more understandable that a linear relationship might be established between controlled academic activities (with defined learning outcomes which academic instructors try to ensure students have attained through course assignments and examinations) and the study abroad propensity of college students.

Additionally, the academic component of higher education is compulsory. This is not always the case for Personal and Social experiences that are not generally required by colleges and universities in order to complete degree requirements. In most cases students have the option

to attend or engage in Personal and Social experiences but must engage in the Academic experience or run the risk of not successfully completing their degree program. Consequently, the frequency in which they engage in these academic experiences, coupled with the requirements of understanding course material could explain the relationship between the Academic factor and study abroad propensity.

Overall, the five research questions posed in the study led to these three key findings: some Demographic characteristics can predict propensity to study abroad; Personal and Social factors are not predictors; and, the Academic factor of Diversity and Societal awareness when coupled with Demographic factors has a large effect size when predicting the likelihood of study abroad. These key findings are central to the discussion in the remainder of this chapter.

Relationship of the Findings to Prior Research

The results for the three key findings in this study confirmed prior research in some areas, and in other cases contradicted prior studies. The first key finding indicated that there are unexpected relationships between race, SES, and academic major, and a student's propensity to study abroad. As it relates to race, prior research indicated that students of color do not participate in study abroad programming as much as their counterparts (Institute of International Education, 2001-2005; Lambert, 1996; Norton, 2008; Simon & Ainsworth, 2012). My study contradicted this prior research.

Previous studies suggest that students of color do not study abroad because they do not come from well-traveled families, they prioritize employment over travel, and because of the dearth of heritage study abroad programs that might elicit greater interest from students of color (Brux & Fry, 2009; Carter, 1991; Landau & Moore, 2001; McClure et al, 2010; Norton, 2008; Penn & Tanner, 2009; Simon & Ainsworth, 2012). The NSSE did not ask questions about prior travel experiences so it is difficult to explain why minority students in my sample had significantly higher likelihood to study abroad, only that they did.

The second component of the finding about Demographics was that SES plays a role in determining a student's study abroad propensity. In my study, SES was determined based on the highest level of education attained by the respondents' parents. The reasoning behind using parental education as a proxy was that in many cases more education leads to higher income. Additionally, longer involvement in education generally builds social networks and increases one's social capital.

The results of my study contradict prior literature that students from high SES study abroad at higher rates than students from middle and low SES (Carlson, et al., 1990; Fordham, 2002; Simon & Ainsworth, 2012). As previously mentioned, finances are a big factor in a student's decision to study abroad. Indeed, Lambert (1996) asserts that finances are the primary reason that students from low SES are underrepresented in study abroad programs. Finances aside, prior literature also discusses other advantages that being from a high SES provides to students. Greater access to social networks, more social capital, and being heavily recruited by study abroad professionals all play a role in a student's study abroad propensity (Fordham, 2002; Lambert, 1996; Simon & Ainsworth, 2012). It is difficult to say why, despite higher social capital and greater access to social networks, students from high SES were less likely to study abroad than their counterparts. Since my findings were so dramatically different than prior studies, more research is needed to see if a) other studies confirm my findings and b) if future research can explain why I might have found what I did with respect to SES.

The final component of the first key finding pertained to a student's academic major, and how it influenced study abroad participation. This is an interesting portion of my study. Prior research has indicated that historically Humanities majors have studied abroad at higher rates than STEM majors (Guess, 2008; Institute of International Education, 2001-2015; Stroud, 2010; Twombly, et al., 2012). However, around 2013 STEM majors began participating in study abroad programs at higher rates than Humanity majors (Institute of International Education, 2001-2015; Oguntoyinbo, 2015). It is difficult to determine whether this trend will continue in the future or whether it is anomalous. The results of my study confirmed the current national trend by revealing that STEM majors study abroad more than humanity majors.

The second key finding of my study was that Personal and Social experiences are not significant predictors of study abroad propensity. This contradicts the prior literature in a few areas. To start, prior research indicates that Personal experiences such as commute time, work responsibility, and family responsibility serve as deterrents to study abroad participation (Gardner & Barefoot, 2010; Hurst, 2012; Kuh, Gonyea, & Palmer, 2001; McGrath & Braunstein, 1997; Nora & Wedham, 1991; Simon & Ainsworth, 2012; Soria, Weiner & Lu, 2014; Stroud, 2010). The NSSE asks specific questions about students' commute, and their family and work responsibilities. Even though prior literature has identified these experiences as influential, after running the exploratory factor analysis, these items did not produce a sufficient loading score to

be considered part of a Personal factor in my study. Therefore, my results contradicted prior research because commuting issues, and work and family responsibilities were not significant in determining a student's likelihood to study abroad.

Past studies have reported that openness to diversity and engaging in activities that enhance diverse interactions is the most significant predictor of study abroad participation (Chamblis & Takacs, 2014; Lee & LaDousa, 2015; McDonough, 1997; Nora & Wedham, 1991; Stroud, 2010; Twombly, et al., 2012). In my study, Personal experiences drawn from items on the NSSE led to a factor (openness to working with others). This factor included an item about the "perceived improvements of a student's ability to understand people of other backgrounds (economic, racial/ethnic, political, religious, nationality, etc.)." The results of the linear regression however, showed this factor not to be a significant predictor of study abroad propensity, thus contradicting prior research.

Some additional Personal experiences that the literature identified as influential to study abroad are previous travel experience and institutional type. The NSSE did not have items that inquired about prior travel; and for methodological purposes I did not sort the sample by institutional type. The prior literature revealed conflicting conclusions about the effects of previous travel on study abroad propensity (Goldstein & Kim, 2006). Some researchers argue that previous travel experience influences individuals to travel more in the future. Experienced travelers are less concerned with issues surrounding safety and security; they also have a desire to learn more about other cultures. Both personal issues increase their likelihood of participating in study abroad programming (Mckeown, 2009; Pearce, 1988). Other researchers claim that the link between previous travel experience and study abroad is tenuous, and there is nothing beyond theory that can substantiate the claim. (Carlson et al, 1990; Opper et al, 1990). It would have been interesting to see which side my results would have supported if NSSE had included data about prior travel experience.

There are a few Social experiences that researchers have associated with students' decision to study abroad. However, my study contradicted these prior studies. The factor that was used to represent collegiate Social experiences (namely event attendance) was comprised of four items, one of which elicited data about institutional emphasis on encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.). This is interesting because even though the literature identifies the highest predictor of study abroad

propensity as social experiences that promote interactions with diverse groups, my study found that this factor had no impact students' decision to study abroad. The other three items that created the factor representing Social experiences pertained to: attending important social events, attending campus activities, and institutional emphasis on providing opportunities to socialize. Attending functions coordinated by student groups, attending meetings of a club or organization, and voting in an election are all social activities that the literature has identified as potential predictors of study abroad (Chamblis & Takacs, 2014; McDonough, 1997; Nora & Wedham, 1991; Stroud, 2010; Twombly, et al., 2012). The NSSE asked questions gauging a student's involvement in these types of Social experiences. Interestingly, my study showed no relationship between involvement in these Social activities and study abroad propensity, thereby contradicting the prior literature. In this case, it is likely the types of social experiences, a student's level of involvement, and perceptions of meaningfulness influenced the decision to study abroad.

The third key finding of this study was that one particular Academic factor and Demographics, in combination, do predict study abroad propensity. The literature identifies several academic activities that increase the likelihood of studying abroad including; high interest in reading and writing, an increase in the number of diversity courses taken (for women), relationships and frequent interactions with faculty members, and academic rigor (Kuh, Gonyea, & Palmer, 2001; Simon & Ainsworth, 2012; Streitwieser, 2014; Twombly, et al., 2012). Some of these findings were contradicted by my study, while others were confirmed. There was an academic factor in my study labeled "perceived academic improvements." This factor was comprised of NSSE items that asked about students' perceived improvements in writing, speaking, and critical thinking skills. After running the linear regression analysis this factor proved to be insignificant in predicting study abroad propensity. Therefore, my results contradicted prior research with respect to the fact that high interest in writing influences study abroad.

The same held true for an Academic factor representing communication with faculty. The NSSE items for the "communication with faculty" factor gauged how much time students spent communicating and interacting with faculty members. Past studies have shown students who have support from and frequent interactions with faculty members have a higher likelihood of studying abroad (Simon & Ainsworth, 2012; Streitwieser, 2014). Though the

NSSE items do not delve deeply enough to reveal the level of support students received from faculty, they do measure the frequency of interaction. The findings of my study contradicted the assertion that frequent interactions with faculty members increased a student's study abroad propensity. How often students interacted with faculty had no influence on their decision to study abroad.

Prior research has reported that some students participate in study abroad programming because they find their undergraduate coursework to be too rigorous (He & Chen, 2010; Streitweiser, 2014). Interestingly enough, another Academic factor that emerged in this study was titled "academic rigor." The items asked respondents about the kinds of learning outcomes their courses emphasized (i.e. analyzing, ideas, evaluating views and decisions). The findings of my study contradicted the literature concerning the difficulty of academics. Instead my study showed academic rigor played no role in a student's likelihood to study abroad.

Finally, the Academic factor in my study that did have a linear relationship to study abroad propensity was titled "diversity and societal awareness." This factor was comprised of NSSE items that collected information on students' academic activities that focused on diversity awareness and acceptance, and societal issues. Prior literature has indicated that the number of diversity courses taken while in college has a positive impact on women's propensity to study abroad, but not men's (Twombly, et al., 2012). My study confirmed the importance of exposure to diversity in the curriculum but contradicted previous studies in that both men and women were similarly influenced.

Limitations of the Study

The findings of the study need to be considered not only in light of prior research, but also in terms of limitations. There were several limitations that merit attention. The first was the proxy that was used to measure SES. The SES of students in this study was determined by the highest level of education achieved by their parents. There are several other elements that can be used to measure SES, including mother's occupation, father's occupation, and, of course, total family income. It is possible that parents' level of education was not the strongest measure of SES and the results related to SES should be considered in that context.

In this study, race was separated into two categories; majority and non-majority. A limitation of this study was that my sample size of non-majority respondents was not large enough to disaggregate the data by specific racial identities. Therefore, I elected to categorize

every "non-white" respondent as a member of the non-majority demographic. If race had been categorized differently, this may have led to a different outcome between the demographic of race and its relationship to study abroad participation.

Another limitation of this study was that I selected the NSSE items that I concluded were representative of Personal, Social, and Academic factors. It is possible that there is a more theoretical approach to assigning these survey items to factors. A different assignment of Personal, Social, and Academic experiences may have led to different results for the factor analysis, thereby influencing the results of this study.

Using an exploratory factor analysis in the methodology was also a limitation of this study. Though rules have been established to guide interpretation and reduce subjectivity, an exploratory factor analysis is very reliant on the researcher's point of view (Ford, MacCallum, &Tait; 1986). Components of running a factor analysis such as variable selection, the number of factors to retain, and the interpretation of the factor solution are subjective decisions that could alter the outcome of a study (MacCullum; 1983). The potential for personal interpretation when running an exploratory factor analysis should be considered when examining the results of this study.

The NSSE itself may have posed a limitation for this study. Though the NSSE gathered data on personal, social and academic experiences, there may have been questions that were not posed on the survey that could have captured more influences that impacted a student's decision to study abroad. In this study only 10 items represented Personal experiences, and 11 items represented Social experiences. The NSSE also focused on the frequency of experiences not the quality of experiences. Not knowing the quality of these experiences also made it difficult to isolate relationships to study abroad propensity. Had the NSSE asked questions that gathered different data on personal, social and academic experiences, and focused on the quality of those experiences, it is possible that the results of the study would have differed.

Lastly, recognizing that some of the literature reviewed in this study is over 20 years old, it is important to consider that study abroad programming is structured differently than it was decades ago. Today, study abroad programs vary in length. Some programs are as short as one week while others are up to one year. Any program that has a duration shorter than four to six weeks could be considered a short term program. Study abroad programs extending longer than a six week period (generally a semester or full academic year) are considered long term. The

different structures also include fully immersed programs and less immersive programs. Full immersion generally require students to travel independently without the accompaniment of university faculty members. Less immersive study abroad programming includes faculty accompaniment, and in most instances fellow classmates from a student's home university are also enrolled. Though there may be arguments about which structures are more impactful and meaningful, regardless of length study abroad is an important education experience with lasting outcomes. It is important to consider that the availability of a variety of study abroad programming could have an impact on a student's decision to study abroad. Additionally, the NSSE did not distinguish between different types of study abroad programs so the results need to be interpreted in that light.

The institutional benefits of study abroad programming also are increasingly playing a role that could not be measured in this study. Student fees and tuition dollars associated with study abroad programming may incentivize both administrators and faculty members to recruit students more aggressively and offer shorter-term experiences. This may also contribute to the study abroad propensity of college students.

Implications for Future Practice, Research, and Policy

The results of this study have implications for future practice, research, and policy. To begin, study abroad administrators seeking to increase their overall study abroad numbers should understand that the participant trend has shifted from white, female, Humanities majors to white STEM majors (that are typically male dominated). It is possible that those charged with responsibility for study abroad activities have overlooked this recent change and continue to hold steadfast to a traditional notion that students in the Humanities participate in international educational experiences. It therefore behooves study abroad administrators to examine local data and adjust practices accordingly. For example, these administrators may want to meet with faculty members and students in non-STEM programs to redesign study abroad programs to attract more participants. On campuses with high numbers of history majors, programs that focus on particular historical eras (e.g., Viet Nam war in Southeast Asia, Peter the Great era in Russia) might prove successful. Similarly, programs in performing arts might consider a study abroad program that focuses on theater or cinema production in another country. The issue is to tie the focus of programmatic offerings on the academic interests of the institution's students.

Study abroad administrators may also want to have similar conversations with faculty from STEM programs. This study confirmed the recent trend that STEM students' participation in study abroad programming is steadily increasing. In attempts to get even more students involved, study abroad administrators may want to meet with STEM faculty and inform them of the program opportunities for STEM majors to study abroad. Additionally, study abroad administrators may want to advise STEM faculty members on the opportunities they have to coordinate and lead study abroad opportunities that have a STEM focus. Such efforts might keep STEM faculty apprised of the study abroad program options for students and increase program opportunities for STEM majors through program development. Perhaps more importantly, study abroad administrators might investigate ways to support faculty members in STEM fields who have historically not planned or participated in study abroad. Enhancing the quality of new programs ensures sustainability.

Study abroad officials should also monitor the SES of the students who are enrolling at their institution. Students in my study from a lower to mid SES were increasingly more apt to plan to study abroad than those from high SES. However, since it has been documented that cost is a noteworthy deterrent to study abroad for most low and mid SES students, perhaps study abroad administrators can design and market programs in geographic areas where advantageous tuition gaps are possible. Here, tuition gaps mean that costs are noticeably less at the foreign institution than they are at the student's home institution. For example there are study abroad opportunities in certain countries (e.g. Ghana, Thailand, and Mexico) that could prove to be more affordable for students from low or mid SES. Such a practice might give students from low and mid SES more options to study abroad, and in places that are increasingly important and related to students' academic and career interests such as global warming, sustainability, education, and emerging technologies.

In attempts to sustain my findings about students from low and mid SES, financial aid professionals might develop information sessions and seminars that teach students from these demographic groups about their funding options and how the financial aid operation works. Such support could help students plan, prepare, and communicate their financial situations with their parents and other support networks. Knowledge about where to look and apply for available scholarships and government funding, how to transfer financial aid to a study

abroad process, and how to prepare financially for studying abroad may propel more low and mid SES students to overcome the affordability barrier to international programs.

As it relates to academic experiences, international affairs administrators (different from those in study abroad) at institutions of higher education might assist academic affairs personnel (inclusive of administrative professionals and faculty members) in designing a more internationalized curriculum for university students. International affairs professionals can present academic administrators and faculty with the pedagogical practices that increase students' awareness surrounding diversity and societal issues. These include examining one's strengths and looking at larger social issues. For example, students enrolled in writing and discourse classes could complete assignments on what they consider to be the strengths and weaknesses of their interpersonal skills, resumes, or political viewpoints. Students enrolled in other courses such as environmental science might complete assignments on international issues like climate change, the agricultural industry, or environmental diseases. Classroom projects and assignments that lead students to examine their own strengths and weakness, appreciate diverse viewpoints, and grow their awareness of societal issues may increase their propensity to study abroad.

Academic advisors who are responsible for guiding a student's selection of courses can also benefit from the results of this study. Curricula can be rigid, but academic advisors could encourage students to take courses that offer components of diversity and societal awareness (i.e. women and gender studies, foreign languages, or international commerce). Faculty and staff who advise students can promote interest in international study by aligning the student's course load with university curriculum that fosters and encourages study abroad participation.

The directors of student-focused offices such as study abroad, diversity and multicultural affairs, and orientation could also use the results of this study to develop training exercises for their ambassadors who speak to students at university functions. Training could involve scenarios on accepting diversity, or group exercises on solving societal issues based on someone else's perspective. The results of this study indicate the importance of an appreciation of diversity on study abroad propensity. Operations such as study abroad, and multicultural affairs may want to consider participating in orientation activities. Students who are introduced to diversity early on in their college career at campus events such as new student orientation may develop an increased interest in study abroad.

In addition to future practice, my study also uncovered grounds for future research. To start, I included only five demographic characteristics (race, gender, SES, major and disability). Future studies may want to include more characteristics (e.g., financial aid status, on-campus residency, age) to see if those further explain the likelihood of study abroad. Additionally, a finer-grain examination of student demographics is warranted.

It is important to note that no interaction terms (e.g., race combined with gender) were used in the regression analysis for this study. Only main effects were examined, which likely influences the findings reported here. Because of the importance of intersectionality to the lived experiences of students (and certainly to statistical analysis performed in this study), future research may seek to examine important interactions that may differently impact our understanding of study abroad propensity.

This study examined the demographic characteristics and collegiate experiences using quantitative research methods. Researchers may want to explore the decision-making process of students who chose to participate in study abroad through qualitative research methods. Conducting interviews may yield more detailed and rich information on the factors that influence the study abroad propensity of college students. A qualitative study may give students an opportunity to expound on other influential personal, social, and/or academic experiences (that the NSSE did not capture) that impacted their interest in study abroad.

A key finding of this study was that STEM majors studied abroad at higher rates than those in non-STEM majors. The results from this study were consistent with the fairly recent trend that STEM majors are studying abroad at higher rates than other majors. Future research could examine the cause of this recent spike in STEM participation. For example, researchers could explore what steps have been taken by leaders in the STEM disciplines to increase the participation rates of their students. Lessons from such a study would be informative to wide ranging academic programs seeking to bolster study abroad experiences.

This study collected data from students who were seniors at the time of the survey's completion. My study analyzed the collegiate experiences of these seniors and the impact that their experiences had on their propensity to study abroad. A future study could examine freshman students and whether or not pre-college experiences have an effect on their plans to study abroad while in college. The results of such a study might reveal which pre-college experiences university administrators can build on to promote study abroad participation.

Perhaps most compelling, my findings contradicted many prior studies with respect to race and SES. I found that students of color, and those form low/mid SES were more likely to study abroad than their majority and high SES counterparts. More research is needed to determine if I identified an emerging trend with respect to race and SES and, if so, the reasons for these shifts.

The findings of this study also have implications for future policy. Policymakers who are responsible for academic affairs, and financial aid may benefit from the findings of this study. Policy makers in academic affairs may wish to develop policies that encourage faculty members to implement classrooms activities that relate to diversity awareness. This would increase the type of academic experiences that serve as a precursor to study abroad participation among college students. In institutions where operations such as Diversity and Inclusion, and/or Multicultural programs and services offer training to faculty on issues surrounding diversity, academic departments may want to introduce policies to their faculty that require them to attend at least one such training session each year. The goal would be to better equip instructional faculty with a skill set that allows them to integrate elements of diversity into their curriculum. This could potentially increase their students' likelihood to study abroad.

Study abroad administrators may want to collaborate with their counterparts in financial aid to cultivate policies that support my finding about SES. Such policies would encourage students from low and mid SES to become more knowledgeable about their financial options for studying abroad. For example, they might seek to introduce a policy that requires all students who receive financial aid to meet with a professional in the Office of Scholarships and Financial Aid about funding for study abroad. Learning more about their financial options could help students understand the financial aid process, and how they can position themselves for more funding to study abroad. This type of policy might allow students who are battling the affordability barrier to gain access to study abroad programs, thereby increasing their propensity to participate.

Conclusion

As noted at the outset of this study, employers in both the private and public sectors are demanding more globally competent employees. Higher education plays a key role in preparing graduates who are equipped for such jobs. While internationalizing the curriculum promotes an intellectual understanding of global citizenship, experiencing life in another country leads to an

appreciation of difference and a development of global competencies that simply cannot be achieved in any other environment. Study abroad is arguably the most effective way that college and university administrators can increase these competences and prepare students to deal with the challenges of a globalized environment.

This study has suggested what characteristics and academic experiences increase students' propensity to study abroad. Postsecondary leaders who are committed to graduating future leaders and engaged global citizens would be well served to use these findings to recognize the role that study abroad can play in producing students who have a global perspective, who can navigate an internationalized world, and who can address the challenges and opportunities that globalization will present in the future.

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Appendix A

IRB Approval Letter

Office of Research Compliance
Institutional Review Board
North End Center, Suite 4120,
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VirginiaTech

MEMORANDUM

DATE: May 4, 2016

TO: Joan B Hirt, William Nelson Pruitt III, Steven M Janosik, David John Kniola, Claire Kathleen Robbins

FROM: Virginia Tech Institutional Review Board (FWA00000572, expires January 29, 2021)

PROTOCOL TITLE: Predicting Study Abroad Propensity among College Students

IRB NUMBER: **16-269**

Effective May 4, 2016, the Virginia Tech Institution Review Board (IRB) Chair, David M Moore, approved the New Application request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements

outlined at: http://www.irb.vt.edu/pages/responsibilities.htm

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As:	**Exempt, under 45 CFR 46.110 category(ies) 4**
Protocol Approval Date:	**May 4, 2016**
Protocol Expiration Date:	**N/A**
Continuing Review Due Date*:	**N/A**

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

Date*	OSP Number	Sponsor	Grant Comparison Conducted?

* Date this proposal number was compared, assessed as not requiring comparison, or comparison information was revised.

If this IRB protocol is to cover any other grant proposals, please contact the IRB office (irbadmin@vt.edu) immediately.