

EXPLORATORY STUDY OF THE ACADEMIC IMPACT OF STUDY ABROAD  
PARTICIPATION AT THE UNIVERSITY OF ALABAMA

by

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## ABSTRACT

According to the National Center for Educational Statistics, total undergraduate enrollment increased by 28% from 2010 to 2016, to 16.4 million students. Despite this upward trend, degree completion rates of undergraduates have only shown an increase of 1.9% since what was recorded during the Great Depression. With the college costs skyrocketing, stakeholders are holding higher education institutions accountable for transparency in retention and degree completion rates. There is a large body of research from authors such as Kuh, Tinto, and Astin, that has demonstrated student involvement in college increases the likelihood that students will persist to graduation. In particular, Kuh (2008) identified certain educational activities called high impact practices (HIP) that promote positive associations with degree completion rates. Study abroad is one of those HIPs. The purpose of this study was to explore the academic impact of study abroad participation, as it relates to degree completion and time-to-degree, for first first-time full-time freshman enrolled at The University of Alabama during Fall 2010 and 2011 semesters. Particularly, this study aimed to identify contributors to said impact including race, socio-economic status, academic major, and study abroad program characteristics.

## LIST OF ABBREVIATIONS AND SYMBOLS

- df* Degrees of freedom: number of values free to vary after certain restrictions have been placed on the data
- M Mean: the sum of a set of measurements divided by the number of measurements in a set
- p Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
- r Pearson product-moment correlation
- t Computed value of *t* test

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Jesus looked at them and said,

“With man this is impossible, but with God all things are possible.”

*Matthew 19:28*

All honor and glory go to my lord Jesus Christ for strengthening and sustaining me through this PhD process!

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## CONTENTS

ABSTRACT .....	ii
LIST OF ABBREVIATIONS AND SYMBOLS .....	iii
ACKNOWLEDGMENTS .....	iv
LIST OF TABLES .....	ix
LIST OF FIGURES .....	xi
CHAPTER ONE INTRODUCTION .....	1
Statement of the Problem.....	2
Purpose Statement.....	6
Research Questions.....	7
Methodology .....	8
Theoretical Perspective.....	9
Conceptual Framework.....	11
Significance of the Study .....	13
Definition of Terms.....	14
Outline of Dissertation.....	17
CHAPTER TWO REVIEW OF LITERATURE .....	18
Overview.....	18
History of Study Abroad.....	19
Impact of Study Abroad.....	20
Assessment of Learning Outcomes.....	27
Historical Background of Research Variables .....	29

Student Engagement .....	35
Student Success.....	37
Student Engagement Theory (George Kuh) .....	39
HIP Engagement Indicators .....	47
HIP Impact for Underserved Students .....	48
Criticism of Student Engagement Theory and High Impact Practices .....	49
Self-Selection in Study Abroad.....	51
Summary.....	52
<b>CHAPTER THREE METHODS</b>	<b>53</b>
Overview.....	53
Research Questions.....	53
Research Design.....	54
Setting .....	55
Participants.....	58
Data Management .....	59
Reliability and Validity.....	59
Creation of Research Dataset.....	60
Study Variables.....	60
Independent Variables .....	62
Data Analysis .....	73
Ethical Considerations .....	78
Assumptions.....	78
Limitations .....	78

Delimitations.....	80
Summary.....	80
CHAPTER FOUR RESULTS	81
Overview.....	81
Descriptive Analysis.....	82
Summary of Descriptive Analyses.....	93
Analysis of Research Questions.....	95
Summary.....	116
CHAPTER FIVE DISCUSSION, CONCLUSION, AND RECOMMENDATIONS	119
Summary of the Study.....	119
Research Results Related to Conceptual and Theoretical Frameworks.....	124
Discussion of Findings.....	126
Implications for Policy.....	130
Implications for Practice.....	131
Implications for Future Research.....	134
Conclusion.....	137
REFERENCES.....	139
APPENDIX A: DATA CODEBOOK.....	151
APPENDIX B: IRB.....	168

## LIST OF TABLES

1.1 Research Studies on Study Abroad Participation and Degree Completion for Baccalaureate Institutions.....	5
2.1 Instrumentation and Findings of Global Competency as an Outcome of Study Abroad .....	25
3.1 Dependent Variables.....	62
3.2 Demographic Independent Variables.....	63
3.3 Academic Independent Variables .....	64
3.4 Study Abroad Engagement Independent Variables .....	67
3.5 Research Questions, Statistical Tests and Frameworks.....	75
4.1 Demographic Characteristics of First-Time, Full-Time, First Semester Freshman Nonparticipants Matriculating in Fall 2010 and Fall 2011 (N=10,911).....	83
4.2 Demographic Characteristics of First-Time, Full-Time, First Semester Freshman Study Abroad Participants Matriculating in Fall 2010 and Fall 2011 (N=222) .....	85
4.3 Demographic Characteristics of First-Time, Full-Time, First Semester Freshman Matriculating in Fall 2010 and Fall 2011 who did not Graduate (Participants and Nonparticipants).....	86
4.4 Degree Completion Rates for 4, 6, and 8 Years Post-Admission of Fall 2010 and Fall 2011 Cohorts.....	87
4.5 Academic Characteristics of Nonparticipants Matriculating in Fall 2010 and Fall 2011 who Graduated (N=7,459).....	88
4.6 Academic Characteristics of Study Abroad Participants Matriculating in Fall 2010 and Fall 2011 who Graduated (N=215) .....	89
4.7 Study Abroad Participants and Program Characteristics (N=215) .....	90
4.8 Program Characteristics of Student Abroad Participants who Participated in Multiple Study Abroad Programs (N=8) .....	92

4.9 Degree Completion for Study Abroad Participants and Nonparticipants: 4, 6, and 8 Post-Admission (N=7,674) .....	95
4.10 Hierarchical Regression Results for Degree Completion of Study Abroad Participants (N=215).....	97
4.11 Hierarchical Regression Results for Degree Completion of Nonparticipants (N=7,459).....	98
4.12 Hierarchical Regression Results for Degree Completion of Study Abroad Participants by Study Abroad Program Characteristics (N=215).....	102
4.13 Time-to-Degree for Study Abroad Participants and Nonparticipants: 4, 6, and 8 or Fewer Years Post-Admission (N=7,476) .....	106
4.14 Hierarchical Regression Results for Time-to-Degree of Study Abroad Participants (N=215).....	108
4.15 Hierarchical Regression Results for Time-to-Degree of Nonparticipants (N=7,459).....	109
4.16 Hierarchical Regression Results for Time-to-Degree Completion of Study Abroad Participants by Study Abroad Program Characteristics (N=215).....	113

## LIST OF FIGURES

1. IEO Conceptual Model .....	12
2. Timeline of Initiatives Focused on Student Success at The University of Alabama.....	58
3. IEO Conceptual Model with Variables and Data Sources.....	75

## CHAPTER ONE

### INTRODUCTION

Students who participate in study abroad programs experience expansion in academic, and personal growth, oftentimes considering their experience as life-changing (Metzger, 2006). Every year, participation of US students studying abroad for academic credit grows annually, albeit at a modest rate of 2.3% (Baer et al., 2018). In 2016-17, 3,795 students from the State of Alabama studied abroad for academic credit, which was a 6.5% increase from the previous academic year (Baer et al., 2018). At the flagship institution in the state, 1,172 students at The University of Alabama (UA) went abroad during 2016-2017 academic year, which accounted for 30% of the state's participation numbers. With state participation rates growing faster than national averages, it is important to investigate the impact of study abroad participation on the students of the state's flagship, The University of Alabama.

As stated by Metzger (2006), one of the leading aspirations for higher education is preparing students for a global workforce. The retention of students is key to managing this purpose. Furthermore, stakeholders of higher education, such as students, parents, public, and government entities, are increasingly interested in the transparency of degree completion and retention rates of higher education institutions due to the substantial financial investment of attending college (Hamir, 2011). According to the National Center for Education Statistics (NCES, 2018), undergraduate enrollment in degree-granting higher education institutions increased by 28%, to 16.4 million, from 2010 to 2016. Despite the upward trend in matriculation of student's degrees, completion rates are still dismal. The 6-year graduation rate for full-time

undergraduate students starting in Fall 2011 seeking a bachelor's degree at a 4-year degree granting public institution is 60% (McFarland, 2018). When examining degree completion rates between race and ethnicities, an obvious disparity exists for minority students (Shapiro et al., 2017). Minoritized groups such as African American and Hispanic students are at high-risk of failing to complete college showing 6-year graduation rates at 40% and 54%, respectively (McFarland, 2018).

The cost of attendance at public institutions rose 34% between academic years 2005-06 and 2015-16 and continues to rise (National Survey of Student Engagement, 2018). There is a responsibility among colleges and universities to support activities that lead to increased degree completion rates. A large body of research exists identifying a positive association between student involvement in college and an increased chance of persistence to graduation (Astin, 1993; Kuh et al., 2005; Tinto & Others, 1993).

### **Statement of the Problem**

Higher education institutions must identify ways to retain and graduate more students. High Impact Practices (HIP) have been shown to be engaging educational activities that lead to positive outcomes such as increased student retention and degree completion rates (Kuh, 2008). Unfortunately, study abroad is the HIP that is least researched compared to its other counterparts, such as undergraduate research and first-year experiences. While most of the research on study abroad learning outcomes is focused on individual changes, such as language proficiency, intercultural/global competency, and career opportunities, there needs to be equal empirical research focus surrounding students' success, such as the relationship of study abroad participation on the measurement of degree completion rates. "Study abroad has been identified as a modern retention strategy by theorist and researchers (Malmgren & Galvin, 2008; Metzger,

2006) however, the underlying principles of retention theory have never been linked in the literature with study abroad outcomes” (Di Maggio, 2016, p. 9).

While studying abroad has been found to be a beneficial activity that promotes learning (Hadis, 2005; Kubota, 2016; Pence & Macgillivray, 2008; Twombly et al., 2012), most of the research on study abroad outcomes is focused on the impact to the individual’s knowledge, beliefs, and attitudes. Despite the fact that evidenced-based research on international education outcomes is growing, it is still relatively small. A promising area for international education research is its impact on college success, such as academic performance and degree completion (Rubin et al., 2014). More empirically based research could provide information and direction for the higher education resource allocation process.

The 2007 National Survey of Student Engagement (NSSE) indicated a significant proportion of high school students are interested in study abroad programs (Indiana University, NSSE, 2007). Conversely, students enrolled in higher education institutions do not end up participating in study abroad at similar rates as they were initially interested. There is a disconnect between intent to participate in an international experience in high school and actual study abroad participation at the collegiate level. Also, there are many deterrents to studying abroad in college including cost and a perception that participation in study abroad will postpone graduation (Hamir, 2011). A way to address this concern is to research, gather data, and analyze the results to see if there is a difference in college success, in particular degree completion rates, between those who studied abroad and those who did not.

Limited studies have explored the relationship between study abroad participation and degree completion (Hamir, 2011; Malmgren & Galvin, 2008; Rubin et al., 2012; University

Planning, 2009; Xu et al., 2013). Table 1 presents a summary of research studies related to study abroad participation and degree completion.

**Table 1.1**

*Research Studies on Study Abroad Participation and Degree Completion for Baccalaureate Institutions*

Study	Research Questions and Methodology	Results
Malmgren & Galvin (2008)	Research conducted at the University of Minnesota, Twin Cities; incoming freshman students divided into cohorts (1999, 2000, & 2001) comparing students who studied abroad and those who didn't. Student's major and race where analyzed. Chi-square tests were used to compare 4, 5, and 6-year completion rates.	Graduation rates were higher for all cohorts at all years for those who studied abroad. Major and race was a contributing factor in those differences.
University Planning, Institutional Research and Accountability, 2009	Research conducted at the University of Indiana Bloomington included: pre-college plans to study abroad; first year plans to study abroad; study abroad participation by fourth year; GPA difference between study abroad and those who did not; Regression was used to determine impact of 4-and 6-year graduation rates	Pre-college plans to study abroad differed by demographics, prior academic achievement; first year plans also differed by same variables, similarly fourth year study abroad participation also differed by similar variables, study abroad participation by fourth year had higher GPA, those who study abroad by end of fourth year have greater likelihood of graduating within four years.

Study	Research Questions and Methodology	Results
Sutton & Rubin (2004); Sutton (2010); and Rubin et al. (2012)	Research conducted at the University System of Georgia through GLOSSARI project. Research was set to identify cognitive learning outcomes, impact of academic performance indicators, impact of study abroad on core liberal arts aspirations, identify program characteristics (term, timing) that optimize learning and identify student characteristics that predict successful participants	First-time/full-time freshman who studied abroad had a graduation rate 38.7% higher than those who did not. Researchers randomized groups to control for selection bias by semester, class and institution. Then they tested effects across subgroups (gender, race and SAT) and grad rates of study abroad students were higher than those who did not study abroad.
Xu et al. (2013)	Research conducted at Old Dominion University comparing students who studied abroad for a semester long program versus those who did not. Used regression to control for HS GPA, first-year GPA, gender, race, SAT	Students who studied abroad for a semester had higher chance of graduating in 5 years by 87% than those who did not participate. The 6-year percentage was 100% higher than those who did not.

The previous studies support Sutton and Rubin’s (2004) challenge to the field of international education to create “data-driven, evidentiary based articulation of values gained by study abroad” (p. 76). These five studies conducted over 12 years is a good start, yet more can be done. Specifically, more research is needed in identifying the relationship of study abroad program type as it relates to degree completion. As the “field of international education matures, it bears the responsibility to provide data, facts, and analyses that document the value of its endeavors to those both within and beyond the international and higher education communities” (Sutton & Rubin, 2004, p. 76).

## **Purpose Statement**

The purpose of this study was to explore the academic impact of study abroad participation, as it relates to degree completion and time-to-degree, for first-time, full-time freshman enrolled at The University of Alabama during Fall 2010 and Fall 2011 semesters. Particularly, this study sought to identify contributors to said impact including race, socioeconomic status, academic major, and study abroad program characteristics. Past researchers have linked the relationship of study abroad participation to degree completion, time-to-degree, retention, and GPA (Hamir, 2011; Ingraham & Peterson, 2004; Malmgren & Galvin, 2008; Metzger, 2006; Rubin et al., 2012; University Planning, 2009; Xu et al., 2013).

This research adds to the current literature in identifying the relationship between study abroad participation and academic impact (degree completion and time-to-degree) and identifies its relationship, if any, to the type of study abroad program in which students participate. Not all study abroad programs are created equally. Study abroad program types range from programs administered by the institution (typically called faculty-led) to programs administered by providers or exchange programs where students enroll directly in a foreign institution. Faculty-led programs can offer the ability of high faculty-student interaction which is a positive engagement indicator of HIPs. The analysis of this study sought to determine if participation in specific study abroad program type has an impact on the dependent variables.

## **Research Questions**

The purpose of this study was to explore the academic impact of study abroad participation, as it relates to degree completion and time-to-degree, for first-time full-time freshman enrolled at The University of Alabama during Fall 2010 and Fall 2011 semesters. The students' demographics, academic major, study abroad participation, and program characteristics

were analyzed to determine if these variables had any effect on a students' 4-year or 6-year degree completion and time-to-degree. The first two questions provided descriptive statistics of the two groups:

- What are the demographic characteristics of first time, full-time, freshman matriculating in Fall of 2010 and Fall 2011?

- What are the demographic characteristics of first time, full-time, freshman matriculating in Fall of 2010 and Fall 2011 who studied abroad?

The following inferential research questions guided this study:

1. Does a relationship exist between study abroad participation and degree completion?
2. To what extent, if any, does the relationship between the predictor variables (gender, ethnicity, SES, major) and degree completion (dependent variable) differ between study abroad participants and nonparticipants?
3. Controlling for race and SES, does degree completion differ as a result of participation in a particular study abroad program type or duration?
4. Does a relationship exist between study abroad participation rate and time to degree?
5. To what extent, if any, does the relationship between the predictor variables (gender, ethnicity, SES, major) and time-to-degree (dependent variable) differ between study abroad participants and nonparticipants?
6. Controlling for race and SES student demographics, does time-to-degree differ as a result of participation in a particular study abroad program type or duration?

### **Methodology**

The strategy of inquiry for this study was non-experimental research design with the creation of a secondary dataset to complete the data analyses. The dataset was initially created

through a separate collaborative project with UA's Capstone International Center (CIC) and UA's Office of Institutional Research and Assessment (OIRA) for the submission to the CASSIE: Consortium of Analysis on Student Success in International Education project. The dataset was compiled by combining UA Banner student records and Terra Dotta study abroad records. The dataset was exported into a Microsoft Excel file, and then transferred to the Statistical Package for the Social Sciences (SPSS) version 25 program for analysis.

A quantitative approach using a secondary dataset was utilized to examine the research questions of this study. Descriptive and inferential statistics were used to research and examine background characteristics of the students and their choices in college, specifically, if they participated in a study abroad program. If a student participated in a study abroad program, the type of program was also investigated. The study included two, independent sample *t*-tests to determine if there was a significant difference in degree completion and time-to-degree between those who participated in a study abroad compared to those who did not participate. Next, the study included four linear regression models to examine to what extent, if any, relationships existed between the independent variables (demographic, academic, study abroad engagement) and the dependent (criterion) variables, degree completion and time-to-degree. Lastly, controlling for ethnicity and SES, this study examined if there is a difference in degree completion and time-to-degree based on study abroad program type and duration using linear regression models.

### **Theoretical Perspective**

A large body of research exists identifying a positive association between student involvement in college and an increased chance of persistence to graduation (Astin, 1984; Kuh et al., 2005; Tinto & Others, 1993). Student involvement can take any form, either academic or co-

curricular, and can incorporate learning activities that happen outside of the classroom. Tinto's Theory of Student Departure theorized that students who get connected to their campus community intensify their loyalty to the institution and have a higher likelihood of completing their degree (Tinto, 1975). Astin's Involvement Theory described student involvement as the time and energy spent on academic experiences. If a student engages more energy on activities of learning, then they are more likely to achieve a desired outcome (Astin, 1984).

Kuh's Theory on Student Engagement is built on Astin's theory to identify educationally purposeful activities (EPA), either academic or co-curricular, that promote learning. The more effort a student dedicates to educational activities, the more they are likely to achieve a desired outcome. All of these theories point to engagement which leads to desired outcomes; in this case, degree completion. The researcher chose to use Kuh's Theory of Student Engagement to provide the framework for this study. Kuh (2008) has identified certain educational activities, called High Impact Practices (HIP), that promote positive associations with degree completion and retention (Kuh et al., 2008). These HIPs have similar characteristics in that they are academically rigorous, they incorporate learning outside of the classroom, require engagement and interaction with faculty members, support collaboration with diverse populations, and provide students with feedback (Kuh et al., 2008). As defined by Kuh et al. (2008), as a HIP, study abroad is one of the educational activities that promotes positive student engagement. As a HIP, study abroad has the "power to transform the lives of college students who are given the opportunity to participate and broaden their education" (Smith & Mrozek, 2016, p. 9). A majority of study abroad research is focused on the growth of an individual during the experience, but there is a call for researchers to provide data that show the value of study abroad as it relates to the mission of an institution (Sutton & Rubin, 2004). The accountability to higher education stakeholders is presenting an

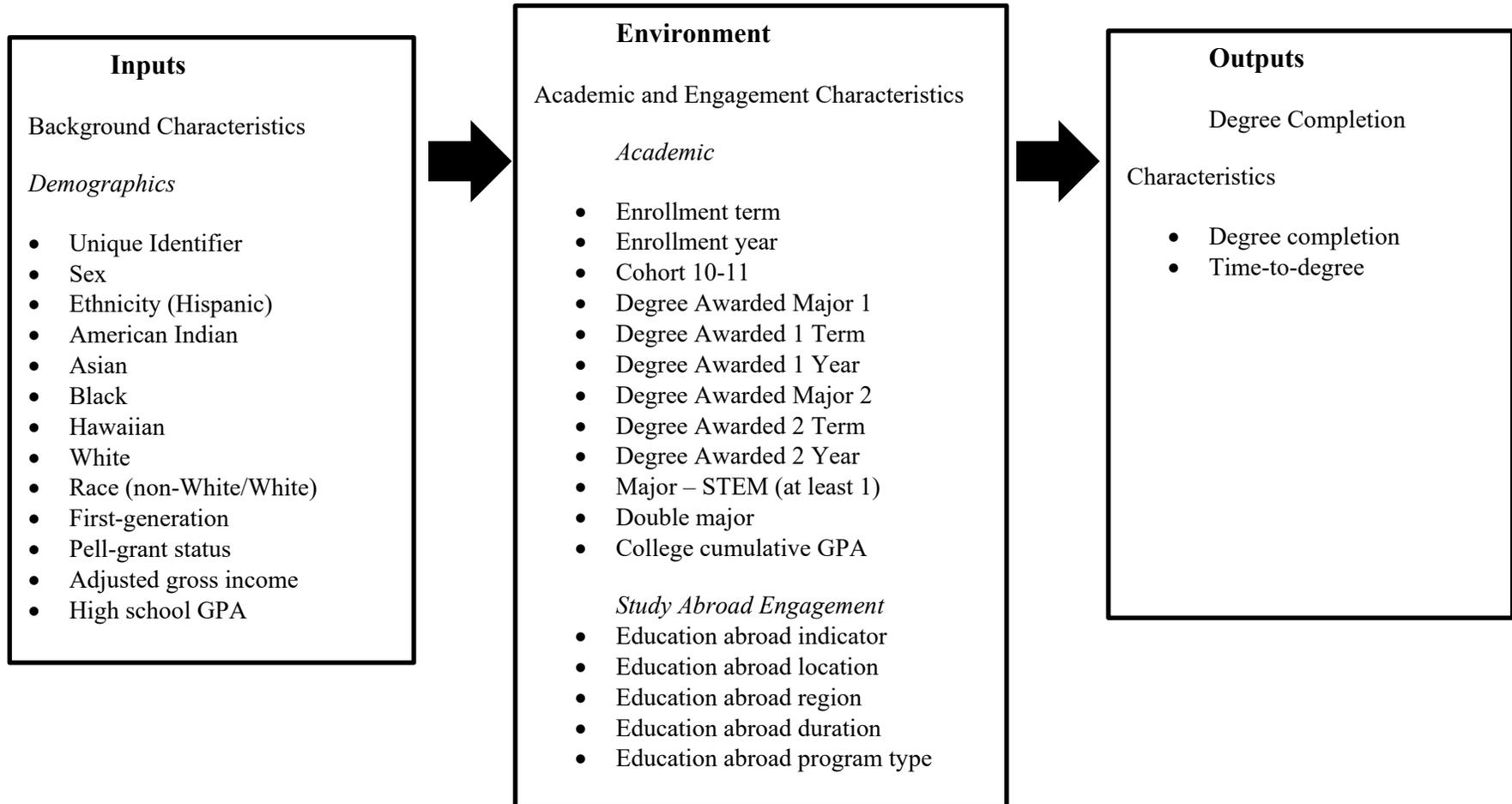
opportunity for institutions to evaluate the performance of HIPs, such as study abroad, to see if they are contributing to an increase of student degree completion (Hamir, 2011).

### **Conceptual Framework**

Astin's (1993) Input-Environment-Outcome (IEO) model (Figure 1) offers the framework to conceptually identify the variables that will be used in this study. Astin's conceptual framework provided a clear outline as it relates to identifying variables that were used to answer the study's research questions. The pre-college disposition of the students included demographic characteristics such as race, and social-economic descriptors. These variables made up a construct for "Input" in the IEO model. The 'Environment' in the I-E-O model consisted of two constructs that happen during a student's tenure in college. The first variable indicated whether a student participated in study abroad or not. The second variable described the program type of the study abroad experience, if the student participated in the activity.

**Figure 1**

*IEO Conceptual Model*



## **Significance of the Study**

The United States is focused on improving college completion rates, which is an important indicator of student success. Per Kuh (2008) and Astin (2005), meaningful student engagement in academic activities has been shown to promote learning and the attainment of desired outcomes; in this case, degree completion. Study abroad is identified by Kuh as a high-impact practice that leads to degree attainment. At an institutional level, a positive association with a high-impact practice would indicate another means to promote student engagement at the university, which in turn increases the likelihood of degree completion (Kuh et al., 2008). The University of Alabama has seen a considerable growth in study abroad programs within the last 5 years. Demonstrating that study abroad participation can lead to increased degree completion at UA will provide evidence to the initiatives on campus that are focused on student success. Research shows that students perceive that study abroad participation will delay graduation (Carlson et al., 1990; Shirley, 2006). If a positive correlation is found regarding degree attainment and time-to-degree, study abroad programming could be grown, becoming more accessible to all students, and be used as an engagement activity for at-risk students, including minoritized groups or students from lower socio-economic backgrounds. In contrast, if a negative correlation is found, then it could be a signal for UA officials to review barriers of study abroad and to make sure that as an educational activity, it is intricately aligned to academic degree programs and not seen as an add-on activity to a student's degree.

There are various initiatives at The University of Alabama that have started to focus on the various factors that impact student success. In particular, study abroad, as a high-impact practice, has been an activity that has been discussed in the four campus-wide student success initiatives. More concrete evidence is necessary to determine if a relationship exists at UA between study abroad participation and indicators of student success such as degree completion.

## Definition of Terms

The following definitions are provided to clarify terms that are used in this study. A majority of the definitions come from the Forum on Education Abroad-Education Abroad Glossary. The Forum created its first version of the Glossary in 2011 to begin to standardize the terminology used in the field of education abroad.

1. Affiliate (study abroad) program (aka third party provider): A subtype of approved program with which an institution has established a special relationship. There is no standard significance for an “affiliated program.” Each institution determines together with the program the nature and scope of the relationship. Within this relationship, an affiliated program is generally awarded special considerations, which can include the awarding of resident credit, the counting of grades toward the student’s GPA at the home institution, publicity in the college catalog and/or website, applicability of institutional financial aid, or permission for students to participate. Affiliation sometimes also can bring special benefits to students, such as scholarships, special discounts, priority for admission, additional advising support, or more orientation or on-site services (The Forum on Education Abroad, n.d.)

2. Approved (study abroad) program: A program that an institution has in some way vetted and endorsed for its students. Some institutions maintain a list of approved programs that give all participants special services, in which case the term is virtually synonymous with Affiliated Program. Other institutions approve participation on a student-by-student basis. “Approved program” thus has a broader meaning than “affiliated program.” Benefits vary by institution but could cover such topics as resident credit, institutional financial aid, departure orientation, or highlighted information (for example, in an institutional catalog or website). Terms that have a similar meaning to this definition of approved programs include “recognized,”

“preferred,” “highlighted,” “recommended,” “promoted,” and “supported” programs (The Forum on Education Abroad, n.d.).

3. GPA: A grade point average is a number representing the average value of the accumulated final grades earned in courses over time. More commonly called a GPA, a student’s grade point average is calculated by adding up all accumulated final grades and dividing that figure by the number of grades awarded. This calculation results in a mathematical mean—or average—of all final grades. The most common form of GPA is based on a 0 to 4.0 scale (A = 4.0, B = 3.0, C = 2.0, D = 1.0, and F = 0), with a 4.0 representing a “perfect” GPA—or a student having earned an A in every course. Schools may also assign partial points for “plus” or “minus” letter grades, such as a 3.7 for an A–, a 3.3 for a B+, and so on. GPAs may be calculated at the end of a course, semester, or grade level, and a “cumulative GPA” represents an average of all final grades individual students earned from the time they first enrolled in a school to the completion of their education (National Center for Education Statistics, n.d.)

4. Degree completion (degree attainment): When a student completes the requirements set by the university and earns the baccalaureate degree from an institution (National Center for Education Statistics, n.d.).

5. Ethnicity (Race): Categories developed in 1997 by the Office of Management and Budget (OMB) that are used to describe groups to which individuals belong, identify with, or belong to in the eyes of the community. The categories do not denote scientific definitions of anthropological origins (National Center for Education Statistics, n.d.). At UA, the designations are used to categorize US citizens or resident aliens. Students (at the time of admission) are asked to indicate the ethnicity that applies: “I”—American Indian or Alaska Native; “A”—Asian; “B”—Black or African American; “H”—Hispanic; “U”—Undeclared/undecided or “W”—White. Students can also choose to not answer and leave the ethnicity field blank.

6. Exchange Program: A program involving reciprocal movement of participants—whether faculty, students, staff, or community members—between institutions or countries (The Forum on Education Abroad, n.d.).

7. Faculty-Led Program: A study abroad program directed by a faculty member (or members) from the home campus who accompanies students abroad. Usually, though not always, these programs are brief in duration (The Forum on Education Abroad, n.d.).

8. Fall Cohort: The group of students entering in the fall term established for tracking purposes. For the degree completion component, this includes all students who enter an institution as full-time, first-time degree or certificate-seeking undergraduate students during the fall term of a given year (National Center for Education Statistics, n.d.).

9. Graduation Rate: Graduation rates measure the percentage of first-time undergraduate students who complete their program at the same institution within a specified period of time (National Center for Education Statistics, n.d.).

10. Persistence: Persistence is defined as continued enrollment (or degree completion) at any institution (Snapshot Report Persistence-Retention, 2015).

11. Retention (retention rate): Retention is defined as continued enrollment (or degree completion) within the same institution for the fall semesters of a student's first and second year (National Student Clearinghouse Research Center, 2015).

12. Study Abroad (synonymous with, and preferred to, Overseas Study or Foreign Study): A subtype of Education Abroad that results in progress toward an academic degree at a student's home institution. (May also be defined as a subtype of Off-Campus Study that takes place outside the country where the student's home institution is located.) This meaning, which has become standard among international educators in the US, excludes the pursuit of a full

academic degree at a foreign institution. (In many other countries, the term *study abroad* refers to, or at least includes, such study.) (The Forum on Education Abroad, n.d.).

13. Time-to-degree (normal time to completion): The amount of time necessary for a student to complete all requirements for a degree or certificate according to the institution's catalog. This is typically 4 years (8 semesters or trimesters, or 12 quarters, excluding summer terms) for a bachelor's degree in a standard term-based institution; 2 years (4 semesters or trimesters, or 6 quarters, excluding summer terms) for an associate's degree in a standard term-based institution; and the various scheduled times for certificate programs (The Forum on Education Abroad, n.d.).

14. Underserved populations: Students who do not receive equitable resources as other students in the academic pipeline. Typically, these groups of students in low-income, underrepresented racial/ethnic minorities, and first-generation students as well as many others (Highe & Fisher, n.d.).

### **Outline of Dissertation**

This study built on prior research to add to the knowledge of study abroad impact on college students by first-time freshman enrolling at The University of Alabama. More specifically, the research sought to further clarify the impact of study abroad participants. Chapter Two summarizes the literature of the outcomes of study abroad. Chapter Three presents the quantitative methodology and methods used in designing and conducting this study. Chapter Four provides descriptive and inferential results of the study. Finally, Chapter Five summarizes the research results and presents a conclusion, implication for policy and practice, and recommends future research on policy and practice at The University of Alabama.

## CHAPTER TWO

### REVIEW OF LITERATURE

#### **Overview**

This literature review is a summary of existing research related to the impact and outcomes of study abroad. Although the literature indicated that study abroad is a beneficial activity that promotes learning (Hadis, 2005; Kubota, 2016; Pence & Macgillivray, 2008; Twombly et al., 2012), the majority of the focus of the literature is on the growth of a student's attitudes, behaviors, and skills (Bloom & Miranda, 2015; Engberg, 2013; Norris & Steinberg, n.d.; Rustambekov & Mohan, 2017; Savicki, 2011; Smith & Yang, 2017) acquired through the study abroad experience.

After reviewing the literature, four major themes of learning outcomes were identified: developing language skills, developing global citizenry, nurturing cultural understanding through intercultural competence, and increasing career opportunities. While the literature focused on personal knowledge and skills, there were few studies that measured the impact and outcome of study abroad through academic gains (Hamir, 2011; Malmgren & Galvin, 2008; Rubin et al., 2012; Sutton & Rubin, 2004; Sutton, 2010; University Planning, 2009) as they related to retention, time-to-degree, and degree completion. The lack of existing research, coupled with the significance of the findings that this study may have at The University of Alabama, strengthens the need for research associated with this topic.

This literature review also closely examines Kuh's Student Engagement Theory which provides the theoretical prospective for the study. Kuh's Student Engagement Theory advanced

earlier work done by Astin, Tinto, and Chickering and Gamson, and Astin's IEO model which provides the conceptual framework for this study. Parts of Kuh's theory will be examined including identifying various high-impact practices and engagement indicators. Last, this literature review will consider Kuh's theory and its implications on diverse students as well as identifying criticisms of the theory.

### **History of Study Abroad**

While collegiate international trips associated with learning date back over a century, Mukherjee (2012) provided a historical summary on the recent expansion of study abroad and how it gained its importance in higher education in the United States. As noted by Mukherjee, The Higher Education Act of 1965 authorized the use of federal financial aid in support of students participating in collegiate study abroad. Shortly after, higher education institutions started to incorporate study abroad into the curriculum. The Lincoln Commission report (Commission on the Abraham Lincoln Study Abroad Fellowship Program, 2005) proposed to send 1 million students abroad annually to promote educational diplomacy through the interactions of our students with others from around the globe. Following the Lincoln Commission, the Senator Paul Simon Study Abroad Foundation Act was passed by the U.S. House of Representatives in 2009. This Act provided 2-year allotment of funds to the Peace Corps and the U.S. State Department in order to pioneer new programs that would allow the US to grow in its engagement with the rest of the world.

Cisneros-Donahue, Krentler, Reinig, and Sabol (2012) continued the discussion of study abroad's growing phenomenon in higher education but called attention to the limited measurement of the impact of international experiences on student learning. In their study, Cisneros-Donahue et al. (2012) compared students who studied abroad against stay-at-home students across five cognitive outcomes: functional knowledge, world geography, global

interdependence, interpersonal accommodation, and cultural sensitivity. The researchers arrived at the conclusion that study abroad students reported significantly greater knowledge than stay-at-home students on two of five dimensions, cultural sensitivity and functional knowledge. The study also noted that after students returned from their study abroad, they reported growth in comprehension in all five dimensions from what was reported prior to departure. Results of the study offered support for the need of study abroad in providing a different and unique learning experience.

Tangential to the Cisneros-Donahue et al. (2012) study, Twombly et al. (2012) concluded that study abroad opportunities should be structured with clear learning outcomes. The authors described “the curricular argument which is that study abroad enhances education through experiences not available on the home campus” (p. 14). The ideas expressed by Twombly et al. suggested that global competency and understanding are seen, today, as a necessity for college graduates. Lastly, the Twombly et al. study advanced the idea that study abroad has become a way for a college and university to internationalize their campus.

## **Impact of Study Abroad**

### **Foreign Language Skill**

According to Norris and Steinburg (2008), the majority of research on the impact of study abroad is concentrated on learning a foreign language. As noted in Savicki (2011), learning a foreign language and gaining proficiency in a second language is a crucial part of many study abroad programs. It is especially important for those programs situated in countries where the host language is different than the student’s native tongue. Savicki stated that a study abroad program should be judged by its organization, starting with the language proficiency requirements prior to departure, and how it plans intentional interactions for students with the host culture, on-site, in order to maximize language learning. A debate exists in the literature

pertaining to the relationship of foreign language proficiency and a student's intercultural competence. Although experts in the study abroad field do not agree on the necessity of foreign language knowledge as a prerequisite for intercultural competence, there is agreement that "language proficiency will relate to an easier, less stressful study abroad experience" (Savicki, 2011, p. 76). Savicki examined the relationship between three assessments of language proficiency and also investigated the relationship between them and study abroad learning outcomes. The study concluded that there is not a one-size-fits-all to measure the language proficiency of students. Different assessments should be deployed for different purposes. One of the most important measures is that of what the students report themselves in their practice of the language in everyday situations (Savicki, 2011). Lastly, the Savicki study emphasized the connection between learning outcomes and the inputs of the program, and the findings suggested the importance of using learning outcomes as the driving force when designing and implementing new abroad programs.

The language of instruction of a study abroad program also has an effect on its outcomes. Norris and Steinberg's study (2008) engaged participants of International Education of Students Abroad [IES Abroad] programs taught solely in the non-English host country language (L2), participants with courses taught in the L2, as well as in English (Mixed L1/L2), and participants who were taught exclusively in English (p. 110). The author investigated the importance of the language across the three groups concerning five areas of impact: academics, careers, future use and study of the foreign language, intercultural awareness, and personal relationships. Interestingly, the study found that all of the language groups experienced growth within the five outcome areas, but L2, where the instruction was solely in the host-country language, saw the greatest impact. The L2 students reported an interest in continuing the study of the foreign language in the future, as well as having their study abroad influence their future in the

workforce. The L2 students also reported a higher interest in language study as a whole, even considering learning a different language that was being taught during their study abroad. Last, it was found that the L2 group was most influenced by their study abroad experience in expanding or changing their major at home. The Norris and Steinberg (2008) and Savicki (2011) studies further supported the impact of second language acquisition on study abroad participants.

### **Cultural and Intercultural Competency**

Watson et al. (2013) identified the importance of assessing study abroad programs on concrete learning outcomes as more and more higher education institutions are using abroad trips as a pillar of their internationalization plans. While studies have looked at gains in foreign language proficiency (Norris & Steinberg, 2008; Savicki, 2011), a next step forward is to look at potential growth in cultural and intercultural competence. One of the challenges of studying the impact of cultural and intercultural competence is that defining the two terms is fraught with disagreements and arguments between researchers (Sue, 2001). Sue et al.'s (1982) study has become a good framework for many researchers to follow, as it divides cultural competence into three categories: (a) personal attitudes and beliefs of one own culture, (b) knowledge and understanding of the world and its many different groups, and (c) cultural skills that allow one to navigate in the diverse world.

Deardorff (2006) sought to identify an agreed upon definition and a way to measure intercultural competence with the support of administrators in higher education and world-renowned intercultural scholars. These officials were chosen because their institutions had shown significant gains in internationalization efforts. Deardorff's study was the first to document consensus between these two groups of campus officials on intercultural competence. The key questions of his study centered around defining intercultural competence and understanding what works and what does not in assessing students' intercultural competence.

Among the administrator participants, the definition that garnered the most support was derived from Bryram's (1997) work on intercultural competence: "knowledge of others; knowledge of self; skills to interpret and relate; skills to discover and/or to interact; valuing others' values, beliefs, and behaviors; and relativizing one's self" (Deardorff, 2006, p. 247). Among the intercultural scholars in the study, the highest-rated definition was defined "as the ability to communicate effectively and appropriately in intercultural situations based on one's intercultural knowledge, skills and attitude" (p. 248). The scholars derived 22 unique components of intercultural competence, with only one term, an understanding of others, receiving 100% agreement between them. Collectively, both groups of participants and every institution in this study agreed that it is imperative to measure a student's intercultural competence. The administrators in the study agreed upon four methods of measurement: observation of others or the host culture, judgment of self, case studies, and interviews of the participants (p. 250). The interculturalists in the study agreed that it is important to have a mix of qualitative and quantitative measurement methods, and agreed that those methods should include case studies, analyzing participants' diaries, self-reported instruments, observation of others or the host culture, and judgment of self (p. 251).

Deardorff (2006) examined numerous articles that centered around an understanding of intercultural competence. Many articles used quantitative pre/posttest inventories to measure outcomes of intercultural competence such as the Intercultural Development Inventory (Rexeisen et al., 2008; Rust et al., 2013; Watson et al., 2013), the Cross-Cultural Adaptability Inventory (Earnest et al., 2016), the Intercultural Sensitivity Index (Bloom & Miranda, 2015; Watson et al., 2013), and last, the Cultural Intelligence Scale (Rustambekov & Mohan, 2017). Other studies used data from modules specifically designed to inquire about global experiences that were administered through the National Survey of Student Engagement or the Student Experience in

the Research University (SERU) survey (Stebbleton et al., 2013). Qualitative assessments used to document a student's narrative included interviews (Bunch et al., 2018; Covert, 2014; Hare Landa et al., 2017; Lyons et al., 2018), group debriefings (Lyons et al., 2018), personal essays (Maharaja, 1998), and reflective journals (Bunch et al., 2018; Covert, 2014; Lyons et al., 2018).

### **Global Citizenship/Competency**

Similar to the challenges that exist for intercultural competence, global citizenship has many different definitions and researchers disagree regarding the components that make up its definition. This causes challenges in measuring its impact as an outcome of study abroad. In fact, Byker and Putman (2019) described the definition as “contested” (p. 86) in their study. Other authors agreed on various components of global citizenship that include increased proficiency in a foreign language (Doppen & Diki, 2017; Jesiek et al., 2014), increased understanding of international and cultural issues (Doppen & Diki, 2017; Jesiek et al., 2014; Smith & Yang, 2017; Tarrant, 2010), and an increased open-mindedness and curiosity about diverse populations (Doppen & Diki, 2017; Jesiek et al., 2014; Smith & Yang, 2017; Tarrant et al., 2014).

The focus of global citizenship education is varied across academic disciplines and it is apparent from the readings that these academic disciplines find global citizenry to be beneficial for students in their respective fields. As varied as the definition of global citizenship is, so is the instrumentation used to measure it. As illustrated in Table 2, the authors of the studies used various quantitative and qualitative methods to document a change in participants' level of global citizenship.

**Table 2.1***Instrumentation and Findings of Global Competency as an Outcome of Study Abroad*

Author	Subject Area	Instrumentation	Findings
Smith & Yang (2017)	Interdisciplinary	Intercultural Learning Outcomes (ILO) questionnaire	83% participants saw an increase ILO score from pre-test to post test
Byker & Putman (2019)	Teacher Education	myCAP is an instrument that measures cultural and global awareness; Qualitative reflective journals	Through the study abroad experience, the participants felt more compelled to build empathy and foster relationships in their future teaching careers.
Jesiek et al. (2014)	Engineering	Sojourn Readiness Assessment (SRA) instrument was developed to evaluate IREE; Miville-Guzman Universality-Diversity Scale - Short Form (MGUDS-S) evaluates aspects of cross-cultural competence. IREE Participant Self-Evaluation of Global Engineering Competency; Global Engineering Competency; Scenario-Based Assessment; Global Engineering Competency: Interview Findings	Learning is amplified in well-structured programs with proactive learning interventions  Largest growth in intercultural learning occurred among students spent longer time abroad (semester vs. short-term)
Doppen & Diki (2017)	Teacher education preparation	Interviews	The preservice teachers perceived their abroad experiences to be helpful as they prepared for their future careers in education.
Tarrant et al. (2014)	Sustainability Education	(a) The eight-item Environmental Citizenship (EC) scale; Three item SPEP Scale; ECCB Scale	Studying sustainability abroad produced greater growth in learning than in a traditional domestic classroom

Landon et al. (2017) and Tarrant (2010) focused on the need for creators of study abroad programs (faculty, administrators, education abroad offices) to provide theoretical frameworks to programs so that student learning can be measured. Landon et al. (2017) suggested that student learning does not just happen because students go abroad, but because of specific learning outcomes that pose “theoretical orientations” (p.2), which are assessed, which in turn provides validation for the importance of international education in the curriculum.

### **Career Opportunities**

Business has changed so much in the 21st century. Globalization brought on a rise in communication platforms, growth in technology, and the displacement of production, which has leveled the playing field among some of the most competitive nations vying for customers around the world (Eaton & Kleshinski, 2014). Stakeholders in US higher education must agree that our country needs a workforce that is internationally educated and globally competent (NAFSA, 2018). The priority now should be the expansion of US students acquiring knowledge, attitudes, and skills through international education (Lewin, 2009). This demand for a global workforce will push more and more universities to focus on their internationalization efforts (Marijuan & Sanz, 2018). Study abroad is one form of internationalization, but these efforts also include a growth in diversity requirements, language proficiency courses, area studies courses, and an increase of international students on their home campus (Eaton & Kleshinski, 2014). The transferable knowledge and skills gained from studying abroad, such as leadership (Earnest, 2003), self-awareness, intercultural competence, personal growth (Franklin, 2010), communication, flexibility, and adaptation (Orahood, Woolf, & Kruze, 2008) are seen as a value-added commodity to a student’s degree and provide preparation for a complex labor force. While an increased earning potential for those who participated in study abroad has been disputed by Schmidt and Pardo (2017) through a 40-plus year study of one institution, Partlo and Ampaw’s

(2018) findings on a decade-long national study indicated that students who participated in study abroad earned more money in their career than students who did not participate in an abroad experience. Studying abroad during college years has also been found to influence a student's potential career toward having either an international slant or working with multicultural clients (Franklin, 2010; Orahood et al., 2008).

### **Assessment of Learning Outcomes**

The current movement to frame global experiences with concrete learning outcomes is similar to what occurred in the mid-1980s within the US educational system, when more advanced assessment measures and models were introduced into the classroom (Wandschneider et al., 2015). We are in an era of accountability and in order to support the benefit of study abroad, institutions must demonstrate the investment is meeting their learning objectives (Paige et al., 2004). Engle (2013) reported the field of international education is progressively engaged in a range of outcome initiatives since a NAFSA (Association of International Educators) and IIE (Institution of International Education) study found that many institutions were “preoccupied more by a student comfort model than by concerns about learning abroad” (p. 112). In order to truly understand the outcomes of study abroad, Wandschneider et al. (2015) contested that the “approach to assessment, research, and practice must be sophisticated, comprehensive, and sustained in order to account for the complex change that we—as educators, scholars, and administrators – sense in our students but don’t necessarily directly apprehend” (p. 155). Wandschneider et al. (2015) presented the Forum-BEVI tool, which was developed to measure the beliefs, values, and inventory of the outcomes of international transformative learning. Among others, Tajes and Ortiz (2010) proposed a Social, Legal, Economic, Political, and Technological (SLEPT) Framework to assess understanding a host country before and after departure. Coker et al. (2018) compared NSSE data of students who went abroad and who did

not against their overall college experience. Sutton and Rubin (2004) initiated one of the earliest university system-wide initiatives (Georgia Learning Outcomes of Students Studying Abroad Research Initiative—GLOSSARI) to document learning outcomes from study abroad programs. As the field of international education matures, Sutton and Rubin wrote that it “bears the responsibility to provide data, facts, and analyses” (2004, p. 76) to questions that are being asked such as retention and graduation rates. Sutton and Rubin examined study abroad participation; their study presented positive gains in knowledge of global interdependence, knowledge of world geography and cultural sensitivity, knowledge of cultural relativism, and functional knowledge, five of the seven learning outcomes. The GLOSSARI project included a phase to record the impact of study abroad on degree completion (Sutton & Rubin, 2004). At Michigan State University, Ingraham and Peterson (2004) found that “data on time to graduation and number-of-terms enrolled show that, on average, study abroad participants enroll for more terms before graduating than nonparticipants, but that they take less time to graduate” (p. 98). This key analysis is interesting because many believe study abroad may delay graduation. In fact, Malmgren and Galvin (2008) surveyed students and advisors and found over 90% of both populations declared that a delay in the completion of a degree was somewhat important, very important, or the most important factor when considering study abroad. At the University of Minnesota, Twin Cities campus, Malmgren and Galvin recorded that participants in study abroad had higher degree completion, participation did not delay graduation, participants who were students of color saw an increase in graduation rates, and those students identified as high-risk also saw an increase in graduation rates.

While there have been a few studies (Hamir, 2011; Malmgren & Galvin, 2008; Sutton & Rubin, 2004; University Planning, 2009) to investigate the relationship between study abroad participation and degree completion, the field is only now starting “to build a case suggesting

that education abroad participation can indeed be leveraged effectively to increase overall retention and graduation rates” (Haupt et al., 2018, p. 93). Haupt et al. (2018) called for a “common research framework” (p. 94) proposing the use of the GRAD LEAP (Leveraging Education Abroad Participation for Graduation) model and the creation of a national repository that will help institutions better understand the role of study abroad participation in student success. The national repository project is in its infancy through a FY 2017 U.S. Department of Education funded grant known as the Consortium for Analysis of Student Success through International Education (CASSIE) project. The University of Alabama is one of the 26 institutions to participate in the CASSIE project and its participation led to the creation of the dataset that will be used for the CASSIE project and this dissertation.

### **Historical Background of Research Variables**

#### **Degree Completion**

Degree completion is a student outcome that interests many different stakeholders. Parents and students view degree attainment as a step toward the achievement of a career (Seidman, 2012).

Institutional faculty and staff view the retention and graduation of each student as a sign that their efforts have been successful, while legislators and policymakers are inclined to see an institution’s degree completion rate as an indicator of its performance. (Astin et al., as cited in Seidman, 2012, p. 119)

A lack of progress in raising degree completion rates is a national crisis with implications that can negatively impact domestic economies by impairing competitiveness in knowledge-based industries (Merisotis et al., 2015). As a result, US knowledge-based industries, such as higher education, are continually investigating ways to enhance degree completion rates with the

support of policymakers, business leaders, and government officials (Haupt et al., 2018). Empirical studies of college retention have real-life relevance in what Astin and Oseguera (2012) called prediction and control. The prediction outcome is whether a student will graduate or not. The control is where an institution can influence the student's capacity to graduate. The influencers can be anything from the type of college to specific programs or opportunities that are developed for students, including study abroad. There are three types of information that can be helpful in assessing any student's chances of completing their degree: (a) pre-college characteristics of the student, (b) the characteristics of the college that the student attends, and (c): environmental contingencies of attendance (Astin & Oseguera, 2012).

### **Ethnicity/Race**

One of the best-known theoretical frameworks on college retention is Tinto's Integration Model (Tinto & Others, 1993). Tinto's framework suggests that integration academically (i.e., attending classes) and socially (i.e., formal extracurricular activities and contact with peers) are necessary to support student persistence goals. One of the shortcomings of Tinto's framework is that it does not take into consideration the differences in educational experiences of students from different backgrounds and demographics. Similarly, Tinto's model fails to tackle the role of finances and other factors that are outside of the institution's control but contribute to a student not progressing toward graduation (Xu & Webber, 2016). The retention rates of underrepresented students, such as Blacks, are regularly lower than White students (McFarland, 2018) and Latinos/a/x are among the least likely to complete a graduate degree (Astin & Antonio, 2012). According to the National Center for Education statistics (2019), roughly 60% of students who started their bachelor's degree in the Fall of 2011 graduated in 6 years from that same institution. For Black and Hispanic students, that percentage is lower at 39.8% and 55%, respectively (National Center for Education Statistics, 2019).

Researchers such as Xu and Webber (2016) suggested keeping interventions to improve teaching quality and student/faculty interactions. Xu and Webber further noted the importance of being aware of the differences in educational experiences that diverse students have (p. 22). Institutions need to better improve their retention efforts so that the diversity of students is addressed and the faculty retention efforts (such as personal guidance or programming to encourage social engagement) are made accessible to minority students (Xu & Webber, 2016). Pendakur (2016) called educators to play more of an active role in helping marginalized students to succeed in college through the practice of identity-conscious curricula. The difference between identity-conscious programs and multicultural centers is that the centers focus on the identity of the students while the programming focuses on the identity of the student and student success (Pendakur, 2016). Currently there are many institutional centers that help students embrace their heritage through retention plans that help students succeed; but these programs are usually separated, when a combined effort could produce a greater influence on students (Pendakur, 2016).

### **Socioeconomic Status (SES)**

Kena et al. (2015) reported staggering findings on the trends of students from low-SES backgrounds as compiled from the National Center for Education Statistics (NCES) Education Longitudinal Study. First, college graduation rates among students from low-SES backgrounds are 14% compared to 60% for students from high-SES backgrounds. Second, lower graduation rates cannot be fully explained by lack of academic preparation. In fact, students with high math scores from low-SES backgrounds were still less likely to graduate than others with similar math ability (Kena et al., 2015). In their research, Abdou (2019) confirmed results that students who have high financial need are less likely to graduate on time when compared to peers who have some or less financial need. Financial burden is a significant factor in the disparity of degree

attainment and researchers have established a causal link between reducing the cost of attendance and increased graduation rates (Deming & Dynarski, 2009). As institutions raise tuition to fill the gap caused by the reduction of state funding, financial pressure is transferring to the students, negatively impacting enrollment, retention, and graduation (Xu & Webber, 2016, p. 22). Xu and Webber (2016) called on higher education institutions to do more to relieve student financial stressors that have been identified as a barrier to retention, regardless of student's race. Economic policies can be exceptionally significant to minority student retention because they are more likely from low socioeconomic circumstances (Braxton et al., 2013). Therefore, institutions are challenged to identify funding sources, through external donors or community partnerships, to provide engagement opportunities (i.e., internships or scholarships) that can provide need-based assistance to individuals from lower socioeconomic backgrounds (Xu & Webber, 2016).

### **Study Abroad Program Types**

For the purpose of this study, the researcher investigated the relationship of study abroad participation based on program types. In the mid-1980s, study abroad administrators created a classification system to categorize study abroad programs by the academic organization of the program (Goodwin & Nacht, 1988). Students who participated in total immersion programs were abroad for a full academic year, enrolling in a foreign institution and taking courses in that foreign language. Next were programs where students took course work at institutions affiliated with universities, mostly language training schools, or American campuses for at most, an academic semester (Widenhoeft, 2011). Last, study abroad administrators grouped the various types of programs into three main categories: Island, Hybrid, and Direct Enrollment (Hoffa & Pearson, 1997).

The Hoffa and Pearson (1997) classification was a contrast to previous attempts in that it included additional programmatic details such as housing arrangements. "Island" programs

attempted to replicate US institution's academic environments, where the instructors are usually faculty from the home institution sent abroad with a group of students. Most island programs are taught in English since students do not have the ability to do the course work in the host language. The exception are those programs where students are involved in language training of the host country. Teaching could take place in a classroom, or a museum, or another culturally relevant site. Students on island programs live, learn, and travel with other participants in their programs, usually fellow North Americans (Goodwin & Nacht, 1988).

In contrast, direct enrollment programs are instances where students enroll directly into foreign institutions and take courses with local students (Hoffa & Pearson, 1997). Students chose courses from the foreign institute's curriculum and the program could include support from outside organizations or providers that could assist with housing arrangements and matriculation into the foreign institutions. Students who participated in direct enrollment classes have some command of the host language due to the fact of the level of independence required to participate in these programs (Hoffa & Pearson, 1997).

Last, hybrid programs combine the immersive environment of direct enrollment with the support created by the island program. Hybrid programs provide structure that encourages interaction with locals but have support from staff or providers that have knowledge of US culture and the expectations that US students bring (Hoffa & Pearson, 1997). Hybrid programs sometimes exist at the local university campus but have a separate administrative arm, such as an international center. Typically, hybrid programs provide a condensed version of a host institution's curriculum that is taught specifically for non-native speakers (Hoffa & Pearson, 1997).

In 2003, The Forum on Education Abroad adopted Engle and Engle's (2003) research on a new system which developed a more nuanced classification of study abroad program type that

addressed the program structure rather than the type of enrollment of the student. The new classification focused on student learning and described the design based on eight predetermined features:

1. Length of student sojourn
2. Student predeparture second language competence
3. Required second language use, in class and out (when applicable)
4. Context of academic work (i.e., with local students, or program students)
5. Types of student housing
6. Host or home institution faculty teaching students
7. Types of courses taken abroad
8. Presence or absence of mentoring, guided reflection

Vande Berg et al. (2004) tested Engle and Engle's (2003) classification and concluded that a number of learner characteristics and program components are significantly associated with student learning abroad. In particular, Vande Berg et al. stressed the importance of a program having a "trained cultural mentor abroad that would follow in training students to learn the intercultural concepts and skills that would allow them to interact appropriately and effectively with host country nationals" (p. 30). The mentor ought to teach students how to communicate and reflect on what they are learning, identify ways of becoming more self-aware, and combat sometimes negative judgments when responding to people or events abroad (Vande Berg et al., 2004).

### **Persistence and Retention**

Tinto and Others (1993) theorized that institutions are made up of groups of social and intellectual communities comprised of faculty, staff, and students. Tinto defined student persistence "as a process of social and intellectual integration leading to the establishment of

competent membership in those communities” (p. 121). Departure from an institution is indicative of a student failing to integrate into a community at the college or university (Tinto & Others, 1993). Many institutions promote the importance of increasing student retention but too few are inclined to pledge the resources needed or to investigate the issues that are influencing student persistence (Tinto, 2006). “Knowing why students leave does not tell us, at least not directly, why students persist” (Tinto, 2006, p. 6). While retention theory illustrates academic and social factors that influence student departure, individual variables that affect assimilation into institutional communities, and subsequently influence retention, need to be further explored (Metzger, 2006). Quaye et al. (2019) affirmed the point that students who engage in educational activities have a higher chance to persist to graduation.

### **Student Engagement**

According to Kuh (2009) student engagement is defined as the energy a student puts forth in activities that are associated with positive college outcomes as well as the measurement of support that an institution places on inducing student involvement. Student engagement is a measure of a student’s time and efforts into their education as well as how an institution organizes its resources, services, and learning opportunities to induce students to participate in such activities (Kuh et al, 2005; Kuh, 2009). Sweat et al. (2013) defined engagement as a

set of experiences and perceptions that bring students and institutions into greater alignment, such that there is a match between student goals and institutional expectations; this requires the provision of opportunities to participate in activities that result in an increased student commitment to learning and pursuing a degree. (p. 3)

Engagement is not solely the responsibility of the student, but rather both students and the institutions have ownership in creating the conditions and taking part in the engagement activities (Kuh, 2009). Braxton et al. (2013) established a connection between institutional integrity (where a university’s actions and community are aligned with its missions and goals)

and student retention. Student engagement is a measure of institutional quality (Kuh, 2009; Quaye et al., 2019). Tinto (2006) described the first lesson of institutional action as understanding why students leave but also what the institution can do to help students stay and succeed.

The literature suggested that the use of active learning practices can influence students' perception that the institution has a steadfast commitment to their personal growth, which leads to a greater sense of social integration (Braxton et al., 2008). "The greater a student's level of subsequent commitment to the college or university, the greater the likelihood of persistence in the college or university of initial choice" (Braxton et al., 2008, p. 81). Active learning requires students to participate and interact with their learning, while also thinking about the learning process (Braxton et al., 2008). Interaction, purpose, and cross-institutional collaboration are fundamentals for engagement and deep learning (Kinzie & Kuh, 2004; Kuh et al., 2005, 2007). Pascarella and Terenzini (2005) noted there is a possibility to enhance student learning and evidence exists of the types of activities that foster the best learning in college students. Synthesizing the literature, Bringle (2017) reported characteristics of deep learning which include (a) active learning, (b) frequent feedback from others, (c) collaboration with others, (d) mentored relationships through cognitive apprenticeships, and (e) real-world application of the learning that has occurred. Quaye et al. (2019) affirmed the fact that "those who are actively engaged in purposeful activities, both inside and outside the classroom are more likely to persist through graduation" (p. 3). Engaging educational practices should be rooted in the instruction of every student and institution-wide initiatives should be within grasp of all students (Coker & Porter, 2017). What is needed is a "model of institutional action that provides guidelines for the development of effective policies and programs that institutions can reasonably employ to enhance the persistence of all of their students" (Tinto, 2006, p. 6).

The more effort a student dedicates to educational activities, the more they are likely to achieve a desired outcome. All of these theories point out that engagement leads to desired outcomes; in this case, degree completion. Kuh (2008) has identified certain educational activities, called High Impact Practices (HIP), that promote positive associations with degree completion and retention. These HIPs have similar characteristics in that they are academically rigorous, they incorporate learning outside of the classroom, require engagement and interaction with faculty members, support collaboration with diverse populations, and provide students with feedback (Kuh et al., 2008). Study abroad is among one of these educational activities that promotes positive student engagement. As a HIP, study abroad has the “power to transform the lives of college students who are given the opportunity to participate and broaden their education” (Smith & Mrozek, 2016, p. 9). Most of the current study abroad research is centered around the growth of an individual during the experience, but there is a call for researchers to provide data that show the value of study abroad as it relates to the mission of an institution (Sutton & Rubin, 2004). The accountability to higher education stakeholders presents an opportunity for institutions to evaluate the performance of HIPs, such as study abroad, to see if they are contributing to an increase of student graduation rates (Hamir, 2011).

### **Student Success**

Kuh et al. (2005) defined “successful students” as those whose college experiences matches their expectations; they are pleased with their institution and they persist and graduate. A university’s goal for their students is that they achieve student success. Student success is defined by Kuh et al. (2017) as an experience characterized by academic achievement, consisting of educationally purposeful activities, and with the fulfillment of educational objectives, the coveted learning outcomes prepare one to live an independent, civically responsible, and gratifying life. Similarly, according to the results from the National Survey of Student

Engagement (Indiana University, N.S. of S.E., 2007) a means to enhance engagement and increase student success is to make it possible for every student to partake in at least two high-impact practices in their undergraduate career.

Astin's Theory of Student Involvement (1984) is among the most cited theories of student persistence (Pascarella & Terenzini, 2005). Student involvement suggests that the amount of physical and psychological energy a student applies to an experience is directly related to the extent of personal development and learning that will occur in that experience (Astin, 1984). Students place energy into "objects" which could be as wide-ranging such as their college experience or a more definitive object, like a mid-term paper. A student's energy can vary between different objects and students can have varying energy within the same object. Astin (1984) stated that involvement can be measured both quantitatively and qualitatively, though in this current study, involvement was measured quantitatively. Astin's IEO Model (1993) that guided this study conceptually advances that student success, as an output measure, is not determined solely by a single input measure (Astin & Antonio, 2012). Instead, outputs must always be evaluated in terms of inputs, and by themselves are of limited use without the addition of the student's educational environment (Astin & Antonio, 2012). Outputs can be viewed as "talents" that are trying to be developed, and inputs refer to the "personal qualities" a student brings with them to the program, while the environment refers to the "student's experiences" during the educational program (Astin & Antonio, 2012, p. 19).

Pedagogically, Chickering and Gamson (1987) created guidelines for Principles of Good Practice for Undergraduate Education. Their research identified seven fundamental teaching and learning practices based on student engagement in educationally effective practices: active learning, prompt feedback, time on task, high expectations, student-faculty contact, cooperation among students, and respect for diverse talents and ways of learning. Chickering and Gamson's

research connected engagement theory and provided pragmatic guidelines to build student engagement into the learning process. The Principles for Good Practice have outlined the research on college student success by serving as an instrument of measurement for engaging educationally purposeful activities that are known to directly affect student's development and learning process.

### **Student Engagement Theory (George Kuh)**

Building on the work of Astin, Tinto, Chickering and Gamson, George Kuh and a design team sponsored by The Pew Charitable trust convened to develop the National Survey of Student Engagement (NSSE). The NSSE was formed with the goal of providing a more reliable measure for university quality contrasting the other rankings at the time, which included institutional accreditation processes, governmental licensure reviews, and media rankings such as *U.S. News and World Report* (Indiana University, N.S. of S. E., 2007).

When George Kuh (2008), the founding director of the National Institute for Learning Outcomes and Assessment, began his innovative research into student engagement, he focused on identifying practices that had an overall impact on student success. At the onset, he purposefully avoided answering the question of how universities could increase engagement or to identify which educationally purposeful activity had more impact than others. Furthermore, the research at the time was clear that a student's experience in college was conditional on a number of interceding factors such as economical, organizational, and cultural variables.

### **High Impact Practices**

With 2 decades of student engagement research, Kuh and his colleagues have been able to identify answers to questions they initially avoided. Cooperatively with the National Survey of Student Engagement (NSSE) and the American Association of Colleges and Universities (AAC&U), Kuh and colleagues have identified a set of High Impact Practices (HIPs). These

practices have been credited to be favorable toward student success outcomes, such as degree attainment, and have shown an impact in engaging students, encompassing students' varying backgrounds (Vidaurri, 2019).

Participation in HIPs have been credited to increasing the amount of time students apply toward educationally purposeful activities, or problem-solve through real-world challenges (Kuh, 2008; Kuh & O'Donnell, 2013; Vidaurri, 2019). Academically, HIPs have been attributed toward gains in writing skills, critical thinking, and retention/persistence (Indiana University, 2007). Socially, it has been found that participation in HIP can foster an awareness of personal and social responsibility (Indiana University, N.S. of S. E., 2007), and help develop a greater appreciation for the views of diverse individuals different than themselves (Brownell & Swaner, 2009). This particular outcome has direct correlation with global learning. Additionally, research has shown that students self-report gains in measures of growth and boosts in self-esteem and confidence after participating in HIPs (Indiana University, 2007; Kuh et al, 2008).

The following section will review the full list of HIPs which include (a) first-year college seminars, (b) common intellectual experiences (e.g., the Common Core), (c) learning communities, (d) writing-intensive courses, (e) collaborative assignments and projects, (f) undergraduate research that is not part of a course requirement, (g) global learning (e.g., study abroad), (h) service learning/community service, (i) internships, and (j) capstone courses (Kuh, 2008).

### **First Year Experience**

Higher education research has, for decades, emphasized the importance of the experience of a student's first year of college and its connection to retention and campus assimilation (Pascarella & Terenzini, 2005; Tinto, 1987; Tinto & Others, 1993). A study by Porter and Swing (2006) revealed that 70% of US institutions provided a seminar or experience to first-year

students. The relationship between participation in first-year seminar and retention is unclear and has been disputed by various studies for the general college student population (Miller et al., 2007; Potts & Schultz, 2008). Nevertheless, Porter and Swing (2006) found positive gains on a student's intent to return for their second year; however, the content of the seminar was important and should be focused on topics around managing the stresses of university life such as study habits and good health (Porter & Swing, 2006). While exact connection between first-year seminars and retention have been dubious, first-year seminars have been shown to have longer-term impacts on student's development for cognitive activity such as critical inquiry, frequent writing, collaborative learning and intellectual curiosity (Kuh, 2008).

### **Common Intellectual Experience**

One of the most powerful socializing factors shaping a student's persistence is relationships with peers (Astin, 1993; Pascaella & Terenzini, 2005). Common core learning that intentionally brings together students from different disciplines could lead to gains in student interaction around academic material. Thus far, there has been limited research relating persistence and completion to a core liberal arts curriculum. Nora et al. (2005) were able to show that students who were enrolled in two of the same courses were twice as likely to graduate in 6 years versus their peers who did not participate in any common classes. There is evidence to suggest that purposeful sequencing of courses in a student's curricula does influence student's positive academic outcomes (Pascarella & Terenzini, 2005). Kuh (2008) asserted that common academic content should be a non-negotiable factor and should be included for all students in their early college experiences. There is still much research needed to investigate the connection between how involvement in a core or common curricula could impact a students' academic outcome.

## **Learning Community**

Learning communities originated in higher education the 1980s as a way to positively impact retention and persistence by creating integrated experience where students felt like they belonged (Cross, 1998; Kuh, 2008; Zhao & Kuh, 2004). Research illustrated that students are less likely to withdrawal from a program (Brownell & Swaner, 2009) or were less likely to feel as if they were not qualified (Kuh, 2008, Zhao & Kuh, 2004) to be members if they felt a connection to a peer group. NSSE results from 2007 validated this idea as it revealed a positive relationship between student engagement and participation in a learning community (Indiana University, N.S. of S. E., 2007). Furthermore, research has provided evidence that participation in learning communities have been shown to increase a student's involvement in academic experiences with faculty and peers (Braxton et al., 1997; Cross, 1998; Davig & Spain, 2003; Zhao & Kuh, 2004). Learning communities can take many forms on a college campus including residential learning communities or communities specifically designed for targeted groups such as students academically at risk or underrepresented clusters such as women in engineering (Zhao & Kuh, 2004).

## **Collaborative Assignments and Projects/Project-Based Learning**

Wurdinger et al. (2007) described project-based learning as “a teaching method where teachers guide students thorough a problem-solving process which includes identifying a problem, testing the plan against reality, and reflecting on the plan while in the process of completing a project” (p. 151). The main goal of project-based learning is that it supports active and collaborative learning that can adapt to students' varied learning styles (Kuh et al., 2005). According to Kuh et al. (2011),

Students learn more when they are intensely involved in their education and have opportunities to think about and apply what they are learning in different settings. Furthermore, when students collaborate with others in solving problems or mastering

difficult material, they acquire valuable skills that prepare them to deal with the messy, unscripted problems they will encounter daily during and after college. (p. 193)

Institutions need to keep in mind the importance of teaching students how to actively engage and collaborate. This can be done pedagogically or physically with calculated spaces that inspire collaboration.

### **Writing-Intensive Courses**

While limited, there is a small body of research that has connected extensive writing to heightened academic and personal progress (Bangert-Drowns et al., 2004). One tangent study that grew from the NSSE was the DEEP initiative: Documenting Effective Educational Practices. Kuh led research teams in identifying a diverse set of institutions with levels of proven student engagement success that were higher than the average. A shared practice among the engaged institutions was an emphasis on extensive writing (Kuh, 2008). Kuh (2008) identified writing-intensive courses as a high-impact practice if an institution emphasized writing across the curriculum which allowed connection to other simultaneous efforts in quantitative reasoning, oral communication, and information literacy. Writing practices that were interdisciplinary in nature challenged students to think critically about their assignments (Kuh et al., 2005). The Bielecki et al. (2018) study noted that even though students had initially little interest in participating in an intensive writing course, they still would be likely to partake in one.

### **Service Learning**

According to Bielecki et al. (2018) the objective of service-learning courses is to provide opportunities for students to serve organizations or the community at large. Typically, service-learning courses provide work for nonprofit organizations that are engaged in nurturing the community either through providing food or shelter to the needy, educating and inspiring the youth or beautifying the environment (Bielecki et al., 2018). Service learning has been shown to

impact academic performance as well as personal skills such as self-efficacy, and leadership skills (Bielecki et al., 2018). Other studies have shown that service learning is connected to civic engagement (Astin & Sax, 1998) including a high likelihood of volunteering and proactively helping to address societal problems (Gray et al., 1999). Astin et al. (2000) determined that the benefits of service-learning participation promoted a commitment to activism, encouraged racial understanding, and often guided a student's choice of career geared towards service.

### **Research With Faculty/Undergraduate Research**

The Association of American Colleges and Universities (AAC&U) expressed the goal of involving students with independent research as linking them with “actively contested questions, empirical observation, cutting-edge technologies, and the sense of excitement that comes from working to answer important questions” (Kuh, 2008, p. 10). The numerous benefits correlated with partaking in undergraduate research has led many universities to offer this activity to Science, Technology, Engineering, and Mathematics (STEM)-related fields (Kuh, 2008). Zhao and Kuh (2004) indicated that participation in research can lead to students increasing their proactivity, initiating actions in the classroom, foreseeing problems ahead of time, and striving to assist in solving those problems. Independent research, where a student is working on their problems versus assisting a faculty member in their research has been found to lead to more positive gains (Douglass & Zhao, 2013). Research participation as an undergraduate has also been shown to positively guide a student's academic career (Brownell & Swaner, 2010), help form more scholastic relationships with faculty and peers (Seymour et al., 2004), and sway a student to pursue a postgraduate education (Brownell & Swaner, 2010).

### **Internships or Field Experiences**

In 2011, the National Association of Colleges and Employers defined internships as a kind of experiential learning that combines the knowledge learned in a classroom with pragmatic

skills developed in a professional setting. Internships and field experiences provide students exposure to professional environments that help them acquire real-world experiences. The skills that students learn in these career experiences include time-management and self-discipline (Kane et al., 1992), along with increased critical thinking and communication skills (Maskooki et al., 1998). Students benefit from working through real-life problems with the support and feedback of their supervisors in their chosen fields (Kuh & O'Donnell, 2013; Vidaurri, 2019). Knouse et al. (1999) attributed participation in an internship to higher GPAs and a higher likelihood of being employed upon graduation than those who did not participate in such experience. Students who participate in internships are paid higher salaries and experience greater success in their jobs than those who do not participate in internships (Gault et al., 2000). Internship participants not only gain more knowledge, but just as importantly, gain knowledge about their intended profession and how they see themselves in that particular career (Greenhaus et al., 2010).

### **Capstone Courses/Senior Projects**

Capstone courses or senior projects are defined as culminating experiences that allow the students the opportunity to integrate all of the knowledge gained in their academic program and demonstrate their learning through a final project (Cueseo, 1998). The final project can take many forms such as an e-portfolio, dance performance (Kuh, 2008), or a senior project, thesis, or comprehensive exam (National Survey of Student Engagement, 2013). An examination by Brooks et al. (2004) found that students who participated in a capstone experience were found to have stronger written and oral skills than those who did not. Brooks et al. also concluded that participants had an increased motivation to work collaboratively with others. In Kinzie's (2013) review of the subject, she noted that participants increased collaboration with peers and faculty members validated high-order learning skills. While students who reach their senior year have a

high likelihood of graduation, Collier (2000) suggested that seniors who participate in a capstone experience have a better understanding of their future professional career as they transition from student to adulthood.

### **Study Abroad/Global Learning**

Study abroad is defined as an “arrangement by which a student completes part of the college program studying in another country. It can be at a campus abroad or through a cooperative agreement with some other U.S. college or an institution of another country” (The Forum on Education Abroad, n.d.). A study abroad experience can take many forms, such as an exchange where a student enrolls in a foreign university or participation in a program run by a faculty member. It can vary by length where a student is abroad for a few weeks or up to an entire academic year. Regardless of their design, study abroad programs serve as a value-added component to higher education providing students daily opportunities to interact with people of diverse cultures (Gonyea, 2008).

Study abroad has been shown to promote learning (Hadis, 2005; Kubota, 2016; Pence & Macgillivray, 2008; Twombly et al., 2012), impact second language acquisition (Norris & Steinberg, n.d.; Savicki, 2011), and add value to a student in career development areas such as leadership (Earnest, 2003), self-awareness, and intercultural competence (Franklin, 2010). While study abroad has been found to be beneficial to increasing global awareness, typically only a small percentage of enrolled students participate in the experience every year (Baer et al., 2018). On the other hand, many US universities have courses on campus domestically that emphasize global-learning goals and also provide co-curricular activities that integrate global ideas and diversity-related issues. From the NSSE 2011 Annual Report, 52% of seniors took a class that encouraged an understanding of another culture, regardless of content area (National Survey of Student Engagement, 2011). Also, one-third of first-year freshmen indicated that they frequently

attended activities and events that increased their knowledge of world cultures or increased their own understanding of their own culture (National Survey of Student Engagement, 2011). Higher education institutions can benefit from having both types of high-impact practices that emphasize internationalization, study abroad opportunities, and global learning opportunities on campus.

### **HIP Engagement Indicators**

Simply presenting and naming an activity a high-impact practice does not automatically guarantee that students who participate in the activities will benefit in the way that much of the literature declares (Kuh & Kinzie, 2018). Just like any other learning experience, the implementation quality is critical to realizing the benefits of participation in HIP (Kuh & Kenzie, 2018). Institutions must be intentional and take into consideration the context of their institution as they develop HIPs on their campuses (Kuh & Kenzie, 2018).

The National Survey of Student Engagement (2014) further emphasized four themes that exist in effective educational practices. The four themes, academic challenge, learning with peers, experiences with faculty, and campus environment, are described in detail below.

1. Academic challenge: HIPs should be intentional, require effort, and contain reflective and integrative learning as well as quantitative reasoning (National Survey of Student Engagement, 2014). HIPs “demand that students devote considerable time and effort [and] require daily decisions that deepen students’ investment in the activity as well as their commitment to their academic program and the college” (Kuh, 2008, p. 14).

2. Learning with Peers: HIP should involve activities that emphasize student-to-student collaboration and engagement with people who are different from themselves (National Survey of Student Engagement, 2014). HIPs do more than expose students to diversity, they “challenge students to develop new ways of thinking” (Kuh, 2008, p. 15) by creating opportunities that require engagement across differences. Ideally, students emerge with perspectives they may not

have otherwise gained if left to their own efforts. Study abroad programs are a perfect example of such an opportunity, as are internships, service learning, and learning communities.

3. Experiences with Faculty: HIPs that are effectively developed demand meaningful interaction with faculty and peers (National Survey of Student Engagement, 2014). HIPs place students in opportunities with faculty that put them “in the company of mentors and advisors [who] are committed to seeing that students succeed” (Kuh, 2008, p. 15).

4. Campus Environment: HIPs provide students with quality interactions with the campus community, including academic advisors, student service offices, and other administrative staff. A supportive campus environment is created when the campus emphasizes support to help a student holistically, academically, and socially (National Survey of Student Engagement, 2014).

### **HIP Impact for Underserved Students**

One of the conclusions of Kuh’s high-impact research is that high-impact practices have a pronounced effect on the experiences of underserved students. Kuh (2008) was able to show a positive relationship between HIP and learning markers, such as grade point averages, self-reported gains, and retention. “Student engagement had a positive, statistically significant effect on persistence, even after controlling for background characteristics, other college experiences during the first college year, academic achievement, and financial aid” (Kinzie et al., 2008) Even with the success, there are data showing that historically underserved populations of students participate less in HIP than their peers (Kinzie et al., 2008). The university needs to make an effort to structure learning experiences so that every student has the right to do one or more of these activities. If an underserved student perceives that cost of an activity to be cost-prohibitive, such as study abroad or undergraduate research, they may skip the opportunity because they do not value the return on investment that activity can have on their learning (Braxton et al., 2013). Equally, if an underserved student does not expect to participate in a study abroad or research

with a faculty member, chances are those activities will be ignored (Kinzie et al., 2008). Besides working with an undoubting belief that every student deserves the same learning opportunities, Kinzie et al. (2008) suggested that faculty and staff's validation makes a difference in underserved student retention. Validation in the form of enabling words and as a supportive process in both teaching and the learning contexts has the capability of making transformational changes in students (Kinzie et al., 2008)

### **Criticism of Student Engagement Theory and High Impact Practices**

Student engagement theory is often criticized for its lack of precision and tidiness as a theoretical construct (National Survey of Student Engagement, 2013) . It is important to recall how the focus of the theory emerged as there were concerns with practice and providing a way to assess the quality of universities, focused on teaching and learning, instead of reputation and resources (National Survey of Student Engagement, 2013).

Student engagement focuses on what has been learned about the condition of student's efforts, measuring student involvement and the principles for good practice of undergraduate education. The National Survey of Student Engagement was a tool created to measure assessment and provide institutions with results and a way to improve (Kuh, 2008). Kuh and associates then attempted to provide a framework for the various types of engagement practices that were occurring on a college campus. That framework, called high-impact practices (HIP), provided a space to be able to measure university efforts evenly.

One of the criticisms of the effectiveness of high-impact practices is the equitable access to them. According to the National Survey of Student Engagement report (2018), only a small percentage of students are actually engaged in these practices. Specifically, concerning Research 1 (R1): Doctoral Universities, only 15% of students participated in a learning community their first year and 26% participated in a service-learning experience their senior year. When it comes

to study abroad, only 20% of senior students participated in that activity (National Survey of Student Engagement, 2018). Parsing out for underserved populations, such as African American students, participation rates were much lower with only 10% participating in a learning community their first year, 21% in a service-learning experience, and 9% in a study abroad their senior year (National Survey of Student Engagement, 2018). Finley and McNair (2013) concluded that underserved populations had to overcome higher barriers of entry to HIP than their peers in the form of being uninformed, overcoming financial hurdles, and perceived lack of support from others.

Second, it is important to remember that just by the mere fact that an institution provides a HIP does not automatically mean that students will move in some transformational way. In fact, a barrier of success of HIP stems from the lack of institutional intentionality. If institutions are not intentional about the design and implementations of HIP, the effectiveness of those practices will not be noticeable (McNair & Albertine, 2012). Brownell and Swaner (2009) found the effect of HIP can be amplified by intentionally aligning the practice with the institution's mission, culture, and academic need. Salisbury and Goodman (2009) found that it is not necessarily the specific HIP that stimulates student success, but instead how closely aligned the HIP characteristics to best practice is what causes the influence. Kuh himself warned practitioners stating, "[W]hile high-impact practices are appealing, to engage students at high levels, these practices must be done well" (Kuh, 2008, p. 30). Last, while student engagement practices have been found to have an effect on degree completion, others call for the need to look at administrative practices that can impact engagement and timely graduation, such as advising models, campus resources, and required co-curricular activities (Johnston & Stage, 2018).

Study abroad is an educational activity that promotes positive student engagement. As a HIP, study abroad has the "power to transform the lives of college students who are given the

opportunity to participate and broaden their education” (Smith & Mrozek, 2016, p. 9). Most of the current study abroad research is centered around the growth of an individual during the experience. There is a call for researchers to provide data that show the value of study abroad as it relates to the mission of an institution (Sutton & Rubin, 2004). The accountability to higher education stakeholders presents an opportunity for institutions to evaluate the performance of HIPs, such as study abroad, to see if they are contributing to an increase of student degree completion (Hamir, 2011).

### **Self-Selection in Study Abroad**

Study abroad students have been defined as a self-selected group in the literature (Cushner & Karim, 2004; Kato & Suzuki, 2019; Nowlan & Wang, 2018; Provencher & Kassel, 2019). Indeed, research shows that characteristics of study abroad students are quite different from those who do not participate. For instance, study abroad students have chosen to take an intense course compared to those who did not (Kato & Suzuki, 2019); they tend to be more social, predominantly female, and curious about foreign cultures (Nowlan & Wang, 2018). Likewise, study abroad students tend to have past history of travel, have fewer financial constraints (Nowlan & Wang, 2018), or have had a family member participate in a study abroad experience. “Researchers assessing HIPs have begun to employ quasi-experimental methods to address the selection bias” that exists in study abroad participation (Kato & Suzuki, 2019, p. 222). An overestimation of the effect of the independent variable on an outcome, for instance, degree completion, can happen if not taking into consideration self-selection bias. As this study was an exploratory study, the focus was to lay the ground work for a snapshot of the starting point of the academic impact of study abroad to degree attainment and time-to-degree. In subsequent studies, the researcher intends to control for selection bias by employing quasi-experimental practices, such as propensity score matching.

## **Summary**

This chapter summarized the literature that informs this study. The review provided a historical framework for study abroad, stated the common learning outcomes that are associated with that activity, and identified the lack of research detailing the relationship between study abroad and degree completion rates. This research is important because of its impact on students and it builds the case for institutions to leverage study abroad to increase overall degree completion. Chapter Three outlines the methodology and setting that were used for this study as well as details the method of extract used to create the secondary database for this study. Chapter Three also describes the secondary source in detail and identifies factors that will predict degree completion rates.

## CHAPTER THREE

### METHODS

#### **Overview**

Past researchers have linked the relationship of study abroad participation to degree completion, time-to-degree, retention and GPA (Hamir, 2011; Ingraham & Peterson, 2004; Malmgren & Galvin, 2008; Metzger, 2006; Rubin et al., 2012; University Planning, 2009; Xu et al., 2013). This research added to the current literature in identifying the relationship between study abroad participation and academic impact (degree completion and time-to-degree) and identified its relationship, if any, to the type of study abroad program in which a student participated in.

A quantitative study using a secondary database comprised of student records was utilized to answer the research questions. Descriptive statistics were used to analyze the demographics of the student characteristics. Using descriptive statistics, inferential statistical methods were used to investigate relationships between the independent variables and the dependent variable. The software tool, Statistical Package for the Social Sciences (SPSS), version 25, was used to complete the investigation between the independent and dependent variables.

#### **Research Questions**

The following quantitative questions guided this investigation of the demographic characteristics of the first-time, full-time students who enrolled at The University of Alabama in the Fall 2010 and Fall 2011 semesters. The study examined the extent of which relationships, if

any, occurred between the independent (predictor) variables and the dependent (criterion) variables, and through regressions, produced an equation that used the predictor variable to predict the criterion variable.

- What are the demographic characteristics of first time, full-time, freshman matriculating in Fall of 2010 and Fall 2011?

- What are the demographic characteristics of first time, full-time, freshman matriculating in Fall of 2010 and Fall 2011 who studied abroad?

The following inferential research questions guided this study:

1. Does a relationship exist between study abroad participation and degree completion?
2. To what extent, if any, does the relationship between the predictor variables (gender, ethnicity, SES, major) and degree completion (dependent variable) differ between study abroad participants and nonparticipants?

3. Controlling for race, and SES, does degree completion differ as a result of participation in a particular study abroad program type or duration?

4. Does a relationship exist between study abroad participation rate and time to degree?

5. To what extent, if any, does the relationship between the predictor variables (gender, ethnicity, SES, major) and time-to-degree (dependent variable) differ between study abroad participants and nonparticipants?

6. Controlling for race, and SES student demographics, does time-to-degree differ as a result of participation in a particular study abroad program type or duration?

### **Research Design**

The strategy of inquiry was a non-experimental research design with the creation of a secondary dataset to complete the data analyses. The dataset was initially created through a separate collaborative project with UA's Capstone International Center (CIC) and UA's Office

of Institutional Research and Assessment (OIRA) for the submission to the CASSIE: Consortium of Analysis on Student Success in International Education project. The dataset was compiled by combining UA Banner student records and Terra Dotta study abroad records. The dataset was exported into a Microsoft Excel file, and then transferred to the Statistical Package for the Social Sciences (SPSS) version 25 program for analysis.

A quantitative approach using a secondary dataset was utilized to examine the research questions of this study. Descriptive and inferential statistics were used to research and examine background characteristics of the students and their choices in college, specifically if they participated in a study abroad program. If a student participated in a study abroad program, the type of program was also investigated. The study included two independent sample *t*-tests to determine if there was a significant difference in degree completion and time-to-degree between those who participated in a study abroad compared to those who did not participate. Next, the study included four linear regression models to examine to what extent, if any, relationships existed between the independent variables (demographic, academic, study abroad engagement) and the dependent (criterion) variables, degree completion and time-to-degree. Last, controlling for ethnicity and SES, this study examined if there was a difference in degree completion and time-to-degree based on study abroad program type and duration using linear regression models.

### **Setting**

The study took place at The University of Alabama (UA), a public institution in the southeast. The University is accredited by Southern Association of Colleges and Schools—Commission on Colleges and is one of three universities within the University of Alabama System. The university was established in 1831, and as the flagship institution in Alabama, it is dedicated to excellence in teaching, research, and service. Total undergraduate enrollment for the Fall 2010 semester was 24,884, 91% (22,886) of whom were full-time students, 67.9% were

from the state of Alabama, and 17% reported as identifying themselves from an underserved population. The Fall 2010 freshman class consisted of 5,529 students with 19% reported as identifying themselves from an underserved population. Comparatively, total undergraduate enrollment for Fall 2011 was 26,234, 91% (23,945) of whom were full-time students, 67.9% were from the state of Alabama, and 18% reported as identifying themselves from an underserved population. The Fall 2011 freshman class consisted of 5,744 students with 19% reported as identifying themselves from an underserved population.

The University of Alabama has undergone significant transformation in the past 2 decades. Anderson (2015) reported in *The Washington Post* that The University of Alabama was the fastest-growing flagship university with a 92% enrollment growth from Fall 2000 to Fall 2013. It cited out-of-state enrollment as a contributing factor to that growth. Subsequently, out-of-state enrollment was cited as a revenue strategy as tuition for out-of-state students is far higher than for state residents (Anderson, 2015). Due to the population boom, there are various initiatives at The University of Alabama focused on the retention and persistence of students. Coincidentally, a few initiatives focused on the intersection of student success and international education. The multiple programs are listed below in chronological order and are shown visually in Figure 2

- Stemming from reaccreditation efforts in 2015, UA's Quality Enhancement Plan (QEP) 'Learning in Action' began as a 5-year plan to develop students' problem-solving skills through quality experiential learning opportunities. Experiential learning opportunities (ELOs) are curricular and co-curricular activities that integrate academics and have a high expectation of student involvement. The 'Learning in Action' plan expects its faculty and staff to be committed to the continued growth and development of high

quality ELOs for students in its support to the Commission on Colleges of the Southern Association of Colleges and Schools (SACSCOC) reaccreditation efforts.

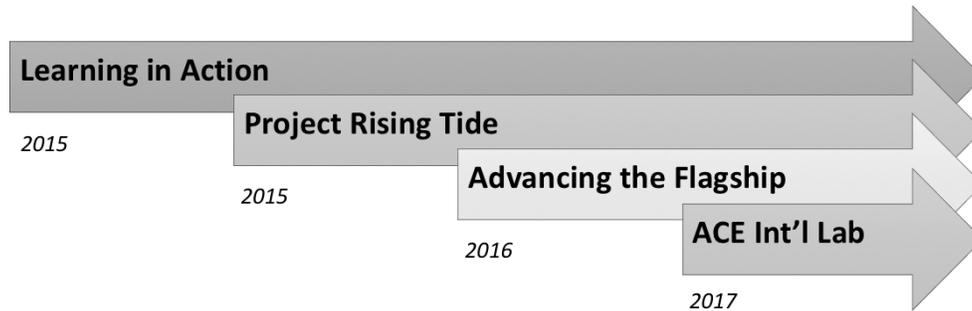
- Launched in 2015 by the Office of Academic Affairs, Project Rising Tide Student Success Initiative is a campus wide program that focuses on increasing persistence rates and 4-year and 6-year graduation rates at UA. Project Rising Tide is a collaboration between faculty, staff, and administrators and hosts joint sessions on brainstorming ideas and implementing best practices to further support UA students.
- In 2016, UA's President Bell unveiled a new Strategic Plan for The University of Alabama entitled Advancing the Flagship. Of the four goals, the first goal reads, Provide a premier undergraduate and graduate education that offers a global perspective and is characterized by outstanding teaching, high-quality scholarship and distinctive curricular and co-curricular programs (University of Alabama, 2016).

Two objectives mentioned in the Strategic Plan (2016) to measure that goal have specific relationships with study abroad:

- Expand transformational education experiences through community service, global outreach, and innovative study-abroad opportunities.
  - Enhance co-curricular activities that encourage collaboration among students, faculty, staff, and the community.
- In the Fall of 2017, UA joined the 15th cohort of the American Council of Education (ACE) Internationalization Lab. Participation in the Internationalization Lab allows the institution to review comprehensive internationalization efforts and makes recommendations on all international initiatives, programs, and policy.

**Figure 2.**

*Timeline of Initiatives Focused on Student Success at The University of Alabama*



All of these initiatives intersect and focus on the various factors that impact student success. In particular, study abroad, as a high-impact practice, has been an activity that has been discussed in the four campus-wide student success initiatives. More concrete evidence is necessary to determine if a relationship exists at UA between study abroad participation and indicators of student success such as degree completion.

### **Participants**

The target population of the study consisted of first-time freshman who matriculated directly to The University of Alabama in either Fall 2010 or Fall 2011. The target population, curated by OIRA, totalled 11,133 students; n = 5,500 students are included in the Fall 2010 cohort and n = 5,633 students are included in the Fall 2011 cohort. Excluded from this study were international students, part-time, and transfer students who started as Freshman during Fall 2010 and Fall 2011 academic years. The Fall 2010 and Fall 2011 cohorts were chosen for two reasons: (1) these are the sample cohorts that were chosen from the CASSIE submission which warranted the original creation of the dataset, and (2) these matriculation years allowed the researcher to fully investigate the dependent variable, degree completion.

Of the 11,133 students, 222 participated in a for-credit study abroad experience while 6 students participated in a not-for-credit experience. A not-for-credit experience could be any university-sponsored activity, such as competing in an athletic activity or participating in a conference with a faculty member abroad. For the purposes of this study, the researcher included only the students who participated in credit-bearing experiences in the analysis. The 222 students who participated in a study abroad are called *participants* in the sample group. The participant group has data on their study abroad experience, which includes location of experience, duration, type of program. The other 10,911 students who did not participate in a study abroad are called *nonparticipants*.

### **Data Management**

Data management was an important component of this study to ensure integrity and that no ethical violations happened during the research. Since a secondary database was used, the records were de-identified to ensure anonymity of student information. Secondly, the secondary database was secured online on UA Box password protected to ensure data security.

### **Reliability and Validity**

Since the researchers of this study did not use a survey instrument, reliability and validity were measured by the source of the data that were analyzed. The data for this research originated in the application process for admission to The University of Alabama. All high school students were required to complete documentation and submit high school transcripts prior to admission. Data were collected directly from Banner registration files which includes admission records, the Free Application for Federal Student Aid form stored in student's financial records, and registrar data that collects end of academic term information. Data were also gathered from student self-reported input such as gender, race, ethnicity, and residence. The data collected during the

admissions process were examined and checked for accuracy by the UA Scholarship and Admissions office.

### **Creation of Research Dataset**

Access to the data for this study was obtained through a separate collaborative project with UA's Capstone International Center (CIC) and UA's Office of Institutional Research and Assessment (OIRA) and was funded by the U.S. Department of Education with the Associate Vice Provost of International Education and Global Outreach as the principal investigator at UA. The current study was one part of a larger analysis of data which were collected for the submission to the CASSIE: Consortium of Analysis on Student Success in International Education project. The dataset was created through the partnership of OIRA and the Director of the Education Abroad office for submission into the CASSIE project. OIRA created the dataset by extracting key information from each student's admissions, financial aid, and Banner records for first time, full-time, first semester students matriculating in Fall of 2010 and 2011. The Director of Education Abroad supplied programmatic information for students who studied abroad. A codebook was created that identified and provided details on each variable created for the dataset, but not all variables in the dataset were used for the purposes of this study.

### **Study Variables**

Using Astin's (1993) IEO model, this study sought to examine the influence of background characteristics, and participation in study abroad programming, on degree completion and time-to-degree. A description of the variables follows.

#### **Dependent Variables**

Dependent variables for this study included data gathered from Banner registration data (degree completion and time-to-degree). Table 3.1 represents dependent variables found in the Banner registration data. An explanation for each is described below.

### ***Degree Completion***

Degree completion was measured by calculating a student's enrollment term (ENRL\_TERM) and enrollment year (ENRL\_YR) from their degree awarded term (TERM\_AW1) and degree awarded year (YEAR\_AW1). To duplicate CASSIE's method, a student could graduate within any term of the academic year. For instance, a Fall 2010 enrollee could graduate Spring 2014 or Summer 2014 to be counted as a student who completed the degree in 4 years. The calculation was an interval scale value that accounted for the number of years it took a student to graduate.

### ***Time-to-Degree***

Time-to-degree is measured by calculating the number of terms since a student enrolled until the term in which their degree was awarded. The researcher duplicated the CASSIE analysis methods in that they standardized the number of terms each student has (three in an academic year) to take classes toward academic progress. Using CASSIE's method, time-to-degree does not measure the number of terms in which a student was enrolled.

**Table 3.1**

*Dependent Variables*

<b>Variable</b>	<b>Coding</b>
<b>Degree Completion</b>	<b>Interval Scale</b> 0-9 years
<b>Time-to-degree</b>	<b>Interval</b> 0-24 semesters

**Independent Variables**

Independent variables of the study were organized by demographics (sex, ethnicity/race, first-generation, Pell-grant status, other need-based grant recipient, adjusted gross income, high school GPA), academic variables (enrollment term, enrollment year, major 1, major 2, double major, college term GPA, college cumulative GPA, advanced standing/placement hours, cumulative credit hours attempted, cumulative credit hours earned), and study abroad engagement variables [education abroad indicator, education abroad course taught in English, education abroad location(s), education abroad program type and region]. Table 3.2 characterizes demographic independent variables collected from Banner registration and FAFSA records, Table 3.3 represents environmental academic independent variables collected from Banner registration records, and Table 3.4 characterizes environmental engagement independent variables supplied collected from UA’s Education Abroad office study abroad records. An explanation of each variable is described below.

**Table 3.2***Demographic Independent Variables*

<b>Variable</b>	<b>Coding</b>
Unique Identifier	Nominal value 9-digit number
IPEDS Race/Ethnicity Part 2: Are you Hispanic?	Nominal value 0 = No 1 = Yes
IPEDS Race/Ethnicity Part 2: Are you American Indian or Alaskan Native?	Nominal value 0 = No 1 = Yes
IPEDS Race/Ethnicity Part 2: Are you Asian?	Nominal value 0 = No 1 = Yes
IPEDS Race/Ethnicity Part 2: Are you Black or African American?	Nominal value 0 = No 1 = Yes
IPEDS Race/Ethnicity Part 2: Are you Native Hawaiian or Other Pacific Islander?	Nominal value 0 = No 1 = Yes
IPEDS Race/Ethnicity Part 2: Are you White?	Nominal value 0 = No 1 = Yes

**Table 3.3***Academic Independent Variables*

<b>Variable</b>	<b>Coding</b>
Enrollment term	Nominal values 1 = Spring 2 = Summer 3 = Fall
Enrollment year	Nominal value 4-digit
Cohort 10-11 year	Nominal Value 0 = 2010 1 = 2011
Degree Awarded 1 Level	Nominal Value Degree Awarded = Bachelor's
Term awarded	Nominal value 1 = Spring 2 = Summer 3 = Fall
Degree Awarded 1 CIP	Nominal text 6-digit code
Degree Awarded 1 Term	Nominal values 1 = Spring 2 = Summer 3 = Fall
Degree Awarded 1 Term Year	Ordinal 4-digit text i.e., 2016
Concat Degree Awarded 1 Term Year	Nominal Text i.e. Spring2016

Variable	Coding
Concat Degree Awarded 1 Major	Nominal text 4-digit code
Recoded Degree Awarded Major 1	Categorical scale 0 = Undecided 1 = Business and Consumer Sciences 2 = Engineering/ Computer Science 3 = Arts and Humanities 4 = Life and Human Sciences 5 = Social Sciences 6 = Physical Sciences 7 = Communication Sciences 8 = Education 9 = Other
Degree Awarded Major 1 STEM	Nominal value 0 = No 1 = Yes
Double Degree Awarded Major	Nominal value 0 = No 1 = Yes
Double Degree Awarded Major— At least one STEM	Nominal value 0 = No 1 = Yes
Degree Awarded 2 Level	Nominal Value Degree Awarded = Bachelor's
Degree Awarded 2 CIP	Nominal text 6-digit code
Degree Awarded 2 Term	Nominal values 1 = Spring 2 = Summer 3 = Fall

Variable	Coding
Concat Degree Awarded 2 Major	Nominal text 4-digit code
Recoded Degree Awarded Major 2	Categorical scale 0 = Undecided 1 = Business and Consumer Sciences 2 = Engineering/ Computer Science 3 = Arts and Humanities 4 = Life and Human Sciences 5 = Social Sciences 6 = Physical Sciences 7 = Communication Sciences 8 = Education 9 = Other
Degree Awarded Major 2 – STEM	Nominal value 0 = No 1 = Yes
College Cumulative GPA	Interval scale 0.00–4.33
Advanced Standing/ Placement Hours	Interval scale 1-89
Sex	Nominal value 0 = Male 1 = Female
First-generation	Nominal value 0 = No 1 = Yes
Pell Grant Status	Nominal value 0 = No 1 = Yes
High School GPA	Interval scale 1.98 to 5.0

**Table 3.4***Study Abroad Engagement Independent Variables*

<b>Variable</b>	<b>Coding</b>
Education abroad indicator	Nominal value 0 = No 1 = Yes
Education abroad location	Nominal text 4-digit location code from IIE
Education abroad location 2	Nominal text 4-digit location code from IIE
Education abroad location 3	Nominal text 4-digit location code from IIE
Education abroad location 4	Nominal text 4-digit location code from IIE
Education abroad region	Categorical scale 1 = Africa 2 = Asia 3 = Australia/ NZ 4 = Central America 5 = Europe 6 = Multiple Countries 7 = Middle East 8 = North America 9 = South America
Education abroad program type	Nominal value 1= College & University Program 2 = Exchange 3 = Program Provider 4 = Other

Variable	Coding
Education abroad duration	Nominal Value 0 = Did not study abroad 1 = Eight to (less than) One Semester/Quarter 2 = Four to (less than) Eight Weeks 3 = Less than Two Weeks 4 = One Semester/Quarter 5 = Two to (less than) Four Weeks

### ***Demographics***

**Unique Identifier.** A de-identified ID indicating a student observation. The same student should have the same Unique ID for tracking purposes. Nominal value 9 digits long.

**Sex.** The concept describing the biological traits that distinguish males and females of a species. Dichotomous value 0 = male, 1 = female.

**Ethnicity.** Ethnicity is described as being of Hispanic or Latino decent. Dichotomous values, 0 = Not Hispanic or Latino, 1 = Hispanic or Latino.

**Race.** Race options from the Banner data indicate all races that apply among the following:

IPEDS Race/Ethnicity Part 2: Are you American Indian or Alaskan Native (Dichotomous values: 0 = not American Indian/Alaskan Native, 1 = American Indian/Alaskan Native)

IPEDS Race/Ethnicity Part 2: Are you Asian (Dichotomous values: 0 = not Asian, 1 = Asian)

IPEDS Race/Ethnicity Part 2: Are you Black or African American (Dichotomous values: 0 = not Black or African American, 1 = Black or African American)

IPEDS Race/Ethnicity Part 2: Are you Native Hawaiian or Other Pacific Islander (Dichotomous values: 0 = not Native Hawaiian or Other Pacific Islander, 1 = Native Hawaiian or Other Pacific Islander)

IPEDS Race/Ethnicity Part 2: Are you White (Dichotomous values: 0 = not White, 1 = White)

**Race (non-White).** A second race variable was created because the count of students for minority students was low. The ethnicity (non-White) variable included White (coded = 1) and non-White which combines American Indian/Alaskan Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander together (coded = 2).

**First-Generation.** A category used to describe a student based on parent/legal guardian's highest education attainment. Dichotomous values describe continuing generation or unknown parental status (coded = 0) or first-generation where neither parent completed a baccalaureate degree (coded = 1).

**Pell Grant Status.** Pell grant eligibility is coded into a dichotomous variable of not eligible (coded = 0) and eligible (coded = 1).

**High School GPA.** High school GPA scores the measurement of average performance in all courses taken by the student during their high school career. High school GPA is coded in interval scale from 1.98 to 5.0.

### *Academic Variables*

**Enrollment Term.** Category which indicates term of enrollment. Nominal text Spring (coded = 1), Summer (coded = 2), and Fall (coded = 3).

**Enrollment Year.** Category which indicates year of initial enrollment (Nominal text 4-digit code)

**Cohort 10-11 Year.** Category which indicated whether the student first semester of enrollment is either Fall 2010 or Fall 2011. Nominal text Fall 2010 (coded = 0) and Fall 2011 (coded = 1).

**Degree Awarded 1 Level.** All responses are in nominal form = "Bachelor's" because every student in the database was pursuing a bachelor's degree.

**Degree Awarded 1 CIP.** Major 1, first major, was recorded by using the classification of instruction programs (CIP; <https://nces.ed.gov/ipeds/cipcode/browse.aspx?y=55>). Responses are in six-digit nominal codes.

**Degree Awarded 1 Term.** Category which indicates the term in which degree was awarded. Nominal text for Spring, Summer, and Fall terms.

**Degree Awarded 1 Year.** Category which indicates the year in which degree was awarded. Nominal text for years ranging from 2012-2018.

**Concat Degree Awarded 1 Term Year.** Recoded category that combined Term and Year into one string with no spaces. Nominal text, written as TermYear (i.e., Spring2016).

**Concat Degree Awarded 1 Major.** Majors were trimmed from 6 digit CIP code to first-four digits as nominal text.

**Recoded Degree Awarded Major 1.** Majors were recoded by academic theme using the UCLA Higher Education Research Institute's CIRP Freshman Survey (2020) as a guide: 0 = undecided, 1 = business and consumer sciences, 2 = engineering and computer sciences, 3 = arts and humanities, 4 = life and human sciences, 5 = social sciences, 6 = physical sciences, 7 = communication sciences, 8 = education, and 9 = other.

**Degree Awarded Major 1 STEM.** Majors that were science, technology, engineering, or mathematics were recoded into STEM major (coded = 1) or non-STEM (coded = 0).

**Double Degree Awarded Major.** A double degree awarded major variable was created to indicate students who graduated with a second major. Double major is a dichotomous variable coded double major (coded = 1) and one major (coded = 0).

**Double Degree Awarded Major—At least one STEM.** A double degree awarded major—at least one STEM variable was created to indicate students who graduated in a STEM

major either as their first or second major degree awarded. Double degree awarded major—at least one STEM is dichotomous variable coded STEM (coded = 1) and not STEM (coded = 0).

**Degree Awarded 2 Level.** All responses are in nominal form = “Bachelor’s” because every student in the database was pursuing a bachelor’s degree.

**Degree Awarded 2 CIP.** The degree awarded second major was recorded by using the classification of instruction programs (CIP, <https://nces.ed.gov/ipeds/cipcode/browse.aspx?y=55>). Responses are in six digit nominal codes.

**Degree Awarded 2 Term.** Category which indicates the term in which the second major degree was awarded. Nominal text for Spring, Summer, and Fall terms.

**Degree Awarded 2 Year.** Category which indicates the year in which degree was awarded. Nominal text for years ranging from 2013-2018.

**Concat Degree Awarded 2 Major.** Second degree awarded majors were trimmed from 6 digit CIP code to first-four digits as nominal text.

**Recoded Degree Awarded Major 2.** Majors were recoded by academic theme using the UCLA Higher Education Research Institute’s CIRP Freshman Survey (2020) as a guide: 0 = undecided, 1 = business and consumer sciences, 2 = engineering and computer sciences, 3 = arts and humanities, 4 = life and human sciences, 5 = social sciences, 6 = physical sciences, 7 = communication sciences, 8 = education, and 9 = other.

**Degree Awarded Major 2—STEM 2.** Majors that were science, technology, engineering, or mathematics were recoded into STEM major (coded = 1) or non-STEM (coded = 0).

**College Cumulative GPA.** A measure of average performance in all courses taken by a student during all past terms of college (not including transfer hours). College cumulative GPA is coded in interval scale from 0.00 – 4.33.

**Advanced Standing/Placement Hours.** The number of credit hours accepted from Advanced Placement, International Baccalaureate, Dual Enrollment and other evaluated programs prior to a student's matriculation as a first-time freshman. This variable is on an interval scale from 1-89.

### **Study Abroad Engagement**

**Education Abroad Indicator.** Category used to indicate whether the student was enrolled in an education abroad program during the term. Dichotomous variable to indicate if a student studied abroad (coded = 1) or did not study abroad (coded = 0)

**Education Abroad Region.** Education abroad locations were recoded by regions of the world using UA's Education Abroad office reporting classifications as a guide: 1 = Africa, 2 = Asia, 3 = Australia/NZ, 4 = Central America, 5 = Europe, 6 = Multiple countries, 7 = Middle East, 8 = North America, 9 = South America.

**Education Abroad Duration.** Category used to indicate the length of the study abroad experience. Nominal variables were used to differentiate durations: Eight to (less than) One Semester/Quarter (code = 1), Four to (less than) Eight Weeks (code = 2), Less than Two Weeks (code = 3), One Semester/Quarter (code = 4), Two to (less than) Four Weeks (code = 5), Did not study abroad (code = 0).

**Education Abroad Program Type.** Education Abroad Program Type categorizes the type/format of the education abroad program. Allowable responses are

- College & University Program: Programs administered through the institution's education abroad office. Many are tied to curriculum, embedded into a course, and/or faculty led. Nominal text (code = 1)
- Reciprocal Exchange Program: Contractual exchanges between a host institution abroad and a U.S. home institution. Traditionally, these are one-for-one exchanges and students register at and pay tuition at their home university. Nominal text (code = 2)

- Program Provider: International education organizations that provide services in addition to course enrollment overseas. Nominal text (code = 3)
- Other. Nominal text (code = 4)

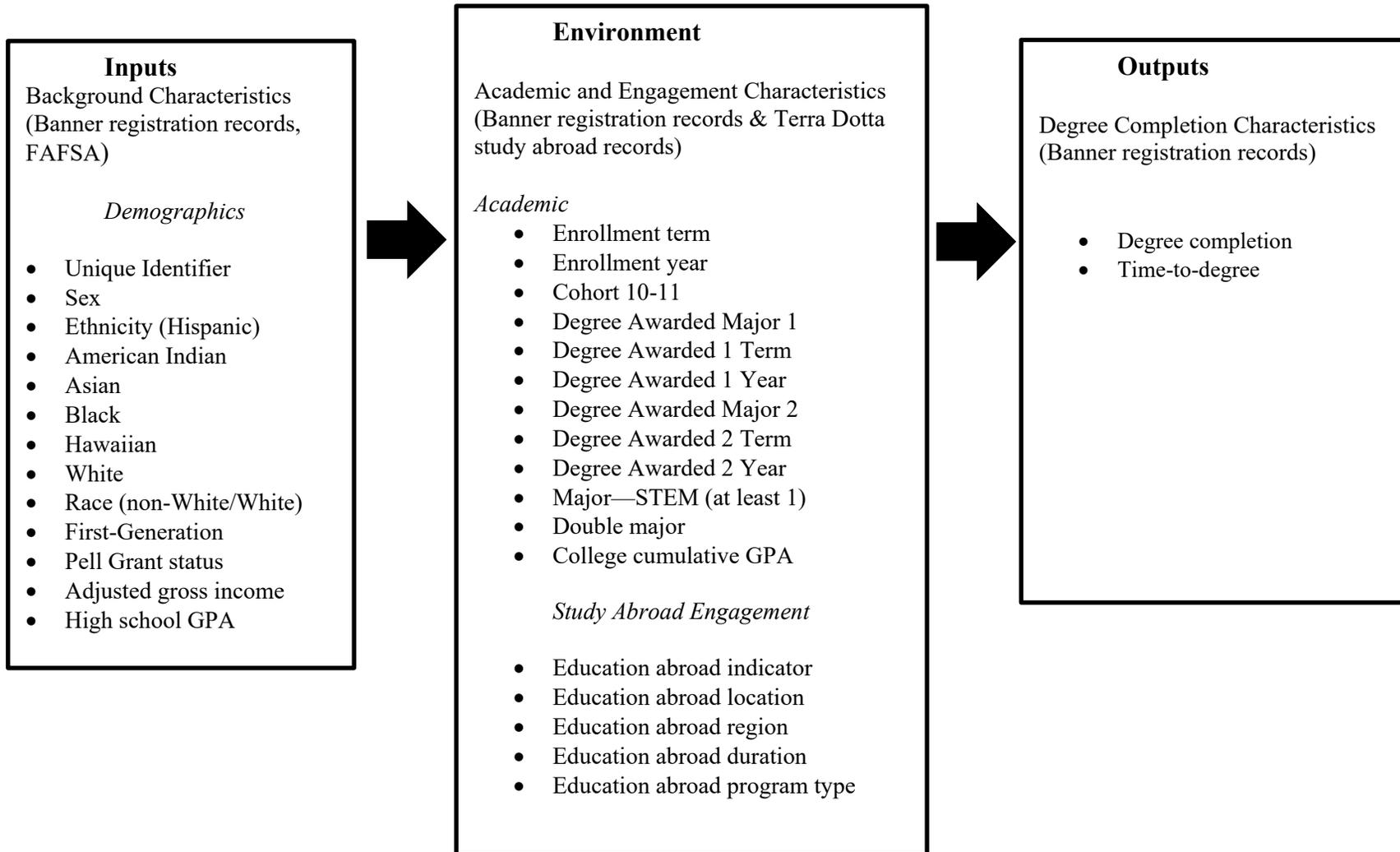
**Education Abroad Experience Type.** Education Abroad Experience Type categorizes the learning that took place on the study abroad program. Allowable responses are Classroom based learning (code = 1), Experiential based learning (code = 2), Mix (code = 3), Did not study abroad (code = 0).

### **Data Analysis**

Astin's (1993) Input-Environment-Outcome model (Figure 3) offered the framework to conceptually identify the variables that impacted time-to-degree and degree completion rates. The conceptual framework model aided in the identification of three groupings of independent variables. The first group consisted of students' background demographics, the second group consisted of students' university academic variables, the third group consisted of study abroad program characteristics. The dependent variables are time-to-degree and degree completion. Various descriptive and inferential statistical analyses were conducted to complete the answers to the research questions in this study. Independent sample *t*-tests and hierarchical linear regressions were used to answer the research questions. Hierarchical linear regression, with a nested design, was used to isolate the effect of each block of independent variables, identified in Astin's IEO model. As such, demographic variables (inputs) were entered into the regression equation first, followed by academic and engagement characteristics (environment variables) to identify the predictive powers of each block of independent variables. Figure 3 identifies the IEO Conceptual Model with Variables and Data Sources. Table 3.5 identifies the statistical test for each research question.

**Figure 3.**

*IEO Conceptual Model with Variables, and Data Sources*



**Table 3.5***Research Questions, Statistical Test and Framework*

Research Question	Variables	Statistical Test	Framework
1. What are the demographic characteristics of first time, full-time, first semester freshman matriculating in Fall 2010 and Fall 2011?	IV—Demographics and academic	Descriptive Statistics	IEO Conceptual Framework Astin (1993)
2. What are the demographic characteristics of first time, full-time, first semester freshman matriculating in Fall 2010 and Fall 2011 who studied abroad?	IV—Demographics, academic, and study abroad engagement	Descriptive Statistics	IEO Conceptual Framework Astin (1993)
3. Does a relationship exist between study abroad participation and degree completion?	IV—Study abroad engagement DV—Degree completion	Independent sample <i>t</i> tests	Kuh (2008) Student engagement theory
4. To what extent, if any, does the relationship between the predictor variables (gender, ethnicity, SES, major) and degree completion (dependent variable) differ between study abroad participants and nonparticipants?	IV—Demographic, academic DV—Degree completion	Hierarchical Linear Regression	IEO Conceptual Framework Astin (1993); Kuh (2008) Student engagement theory
5. Controlling for race and SES, does degree completion differ as a result of participation in a particular study abroad program type or duration?	IV—Demographic, academic, study abroad engagement DV—Degree completion	Hierarchical Linear Regression	IEO Conceptual Framework Astin (1993); Kuh (2008) Student engagement theory
6. Does a relationship exist between study abroad participation rate and time-to-degree?	IV—Study abroad engagement DV—Time-to-degree	Independent sample <i>t</i> test	Kuh (2008) Student engagement theory

Research Question	Variables	Statistical Test	Framework
7. To what extent, if any, does the relationship between the predictor variables (gender, ethnicity, SES, major) and time-to-degree (dependent variable) differ between study abroad participants and nonparticipants?	IV—Demographic, academic DV—Time-to-degree	Hierarchical Linear Regression	IEO Conceptual Framework Astin (1993); Kuh (2008) Student engagement theory
8. Controlling for race and SES student demographics, does time-to-degree differ as a result of participation in a particular study abroad program type or duration?	IV—Demographic, academic, study abroad engagement DV—Time-to-degree	Hierarchical Linear Regression	IEO Conceptual Framework Astin (1993); Kuh (2008) Student engagement theory

## **Ethical Considerations**

Compliance of all Institutional Review Board regulations and security measures were adhered to for this study. An application to complete research involving human subjects was approved on March 13, 2020 by The University of Alabama University Institutional Review Board (IRB) office. All protocols were followed to ensure database security and anonymity of student records. The research data were received by the researcher from UA's Office of Institutional Research and Assessment (OIRA) on May 14, 2020 in a Microsoft Excel format. It is also important to note the researcher's employment history in regard to ethical considerations of this study. The researcher has worked full-time in higher education for over 15 years at three large, public Research-1 institutions within international offices. Due to these employment experiences, the researcher is knowledgeable on FERPA regulations and the importance of confidentiality of information.

## **Assumptions**

This study included the following assumption:

1. The data retrieved from OIRA and the Education Abroad office were accurate and complete.

## **Limitations**

This study included the following limitations:

1. Currently, there is not one comprehensive data source to indicate if a student has participated in multiple high-impact practices at The University of Alabama. A student can be involved in multiple out-of-class opportunities such as freshman learning communities and/or undergraduate research, but that information is not gathered systematically and was not included

in the database. It is understood that this study was not trying to find a causal link but rather if study abroad, as an engagement practice, has a relationship with degree completion.

2. The demographic data regarding ethnicity/race are based on self-reported responses by students during the undergraduate admission process. Students have the ability to leave the question regarding ethnicity/race blank and not report their identity. Also, students do not have the ability to indicate multi-race status and are asked to choose one ethnicity in their admission application. As such, the accuracy of these responses cannot be verified.

3. This study contains a limitation due to the methodology used. This data set did not allow for the inclusion of affective measures, such as cognitive outcomes, behaviors, values, or beliefs. Using historical data, and quantitatively measuring the outcome of study abroad and time-to-degree is a start, but future studies would benefit from asking the student's directly if they believed study abroad had an effect.

4. A limitation of this study is the unequally sized samples between study abroad participants and nonparticipants. Unequal samples affect the power of the statistical tests. For this study, the committee agreed to continue with the design as-is. In future analyses of the data, researchers can use propensity score matching or nearest neighbor matching to solve the issue with unbalanced sample sizes.

5. Students may self-select to participate in a study program so HIP participation is not random. For instance, the researcher was not able to observe degree completion for a student after participating in a study abroad and not participating in a study abroad. As such, the effect of the study abroad participation on degree completion could be overestimated. Further statistical techniques, like propensity score matching, could help remedy inherent selection bias that may exist in this study.

## **Delimitations**

This study included the following delimitations:

1. Fall 2010 and Fall 2011 cohorts of freshman were included in this study for two reasons. First, these two cohorts were the cohorts included in the national CASSIE study which initiated the creation of the secondary database. Second, a Fall 2010 and Fall 2011 entering freshman cohort allowed for ample time to measure degree completion of students if the study was completed in 2020.
2. Excluded from this study were international students, part-time, and transfer students who started as freshman during Fall 2010 and Fall 2011 academic years.
3. Excluded from this study were students who participated in a university-sponsored international experience, but not for credit.

## **Summary**

This chapter summarized the research methods that informed this study. The study was set at The University of Alabama and was based on a secondary dataset that was created through a partnership with OIRA and Education Abroad. This chapter provided a comprehensive explanation of all of the variables that were used in this study, grouped by demographic, academic, and study abroad engagement categories. Quantitative statistical tests were run on a variety of variables that will inform the relationship between the independent variables (demographic, academic, study abroad engagement) and the dependent variables (degree completion and time-to-degree). Lastly, ethical considerations, assumptions, limitations and delimitations were discussed.

## CHAPTER FOUR

### RESULTS

#### **Overview**

This chapter provides an overview of the quantitative findings of this study. This chapter is organized into eight sections, two sections discussing preliminary analyses and a section for each corresponding research question, and then a summary. The preliminary analysis provides descriptive analysis of the study abroad participant group and the nonparticipant group. The descriptive reporting includes demographic, academic, and study abroad engagement variables. Percentages are reported for all of these characteristics.

Section RQ1 examines the relationship between study abroad participation and degree completion. Section RQ2 reports the relationship between the predictor variables (gender, race, SES, major) and degree completion (dependent variable) between study abroad participants and nonparticipants. Section RQ3 controls for race and SES and reports if there is a difference in degree completion based on participation in in particular study abroad program type or program duration. Section RQ4 examines the relationship between study abroad participation and time-to-degree. Section RQ5 reports the relationship between the predictor variables (gender, ethnicity, SES, major) and time-to-degree (dependent variable) difference between study abroad participants and nonparticipants. Section RQ6 controls for race and SES and reports if there is a difference in time-to-degree based on participation in a particular study abroad program type or duration.

## Descriptive Analysis

### Demographic

*What are the demographic characteristics of first time, full-time, first semester freshman matriculating in Fall of 2010 and 2011?*

This descriptive analysis examined the demographic characteristics of sex, ethnicity, race, first-generation status, Pell Grant status, and high school GPA, of students who did not study abroad, illustrated in Table 4.1. Females comprised of 55% of this sample, and 45% were males. The total non-White students was 1651 (or 15.1%) of the non-study abroad group. Of the 5,037 females in the group, 979 (19%) were non-White. Of the 4,217 males in the group, 672 (16%) were non-White males.

**Table 4.1**

*Demographic Characteristics of First-Time, Full-Time, First Semester Freshman Nonparticipants Matriculating in Fall 2010 and Fall 2011 (N=10,911)*

Characteristics	Fall 2010 (N=5382)		Fall 2011 (N=5529)		Total 1
	N	%	N	%	
<b>Gender</b>					
Female	2948	27.0%	3074	28.2%	6022
Male	2434	22.3%	2455	22.5%	4889
<b>Ethnicity</b>					
Hispanic	200	1.8%	143	1.3%	343
Non-Hispanic	5182	47.5%	5386	49.4%	10568
<b>Race</b>					
Am. Indian or Alaska Native	79	0.7%	95	0.9%	174
Asian	97	0.9%	90	0.8%	187
Black	696	6.4%	735	6.7%	1431
Hawaiian Pacific Islander	18	0.2%	11	0.1%	29
White	4542	41.7%	4718	43.3%	9260
Non-White	840	7.7%	811	7.4%	1651
<b>First-Generation</b>					
First-Gen	1243	11.4%	993	9.1%	2236
Non-First Gen	4139	38.0%	4536	41.6%	8675
<b>Pell Grant Status</b>					
Pell Grant	1163	10.7%	1139	10.4%	2302
Non-Pell Grant	4219	38.7%	4390	40.3%	8609
<b>High School GPA</b>					
Mean	3.5	*	3.53	*	

*What are the demographic characteristics of first time, full-time, first semester freshman matriculating in Fall of 2010 and 2011 who studied abroad?*

This second descriptive analysis examined the demographic characteristics of sex, ethnicity, race, first-generation status, Pell Grant status, and high school GPA, of students who did study abroad, illustrated in Table 4.2. Females comprised of 67% of this group, and 33% were males. The ethnicity of the students in this group is predominantly White. Only a very

small number of students in this study were from other racial groups. As such, they were categorized into one group: “non-White” students (see Table 4.1, 4.2, and 4.3). The total non-White students were 34 (or 15.1%) of the study abroad group. Of the 149 females in the group, 15 (6%) were non-White. Of the 73 males in the group, 2 (0.9%) were non-White males.

**Table 4.2**

*Demographic Characteristics of First-Time, Full-Time, First-Semester Freshman Study Abroad Participants Matriculating in Fall 2010 and Fall 2011 (N=222)*

Characteristics	Fall 2010 (N=118)		Fall 2011 (N=104)		Total
	N	%	N	%	
<b>Gender</b>					
Female	84	37.8%	65	29.3%	149
Male	34	15.3%	39	17.6%	73
<b>Ethnicity</b>					
Hispanic	115	51.8%	99	44.6%	214
Non-Hispanic	3	1.4%	5	2.3%	8
<b>Race</b>					
Am. Indian or Alaska Native	1	0.5%	3	1.4%	4
Asian	0	0.0%	3	1.4%	3
Black	7	3.2%	10	4.5%	17
Hawaiian Pacific Islander	0	0.0%	0	0.0%	0
White	112	50.5%	93	41.9%	205
Non-White	12	5.4%	22	9.9%	34
<b>First-Generation</b>					
First-Gen	24	10.8%	9	4.1%	33
Non-First Gen	94	42.3%	95	42.8%	189
<b>Pell Grant Status</b>					
Pell Grant	14	6.3%	10	4.5%	24
Non-Pell Grant	104	46.8%	94	42.3%	198
<b>High School GPA</b>					
Mean	3.82	*	3.82	*	

Of the 11,133 first-time, full-time freshman who matriculated in Fall 2010 and Fall 2011, 3,459 (31%) did not graduate. Their demographics are illustrated in Table 4.3. Since the basis of the study is based on graduation completion and time-to-degree, the 3,459 students who did not graduate have been removed from future analysis.

**Table 4.3**

*Demographic Characteristics of First-Time, Full-Time, First Semester Freshman Matriculating in Fall 2010 and Fall 2011 Who did not Graduate (Participants and Nonparticipants)*

Characteristic	Fall 2010 (N=1681)		Fall 2011 (N=1778)		Total
	N	%	N	%	
<b>Gender</b>					
Female	824	49.0%	915	51.5%	1739
Male	857	48.2%	863	48.5%	1720
<b>Ethnicity</b>					
Hispanic	83	2.4%	67	1.9%	150
Non-Hispanic	1598	46.2%	1711	49.5%	3309
<b>Race</b>					
Am. Indian or Alaska Native	31	0.9%	39	1.1%	70
Asian	25	0.7%	28	0.8%	53
Black	298	8.6%	323	9.3%	621
Hawaiian Pacific Islander	4	0.1%	6	0.2%	10
White	1341	79.8%	1432	85.2%	2773
Non-White	340	20.2%	346	19.5%	686
<b>First-Generation</b>					
First-Gen	475	28.3%	409	23.0%	884
Nonfirst Gen	1206	71.7%	1369	77.0%	2575
<b>Pell Grant Status</b>					
Pell Grant	510	30.3%	537	30.2%	1047
Non-Pell Grant	1171	69.7%	1241	69.8%	2412
<b>High School GPA</b>					
Mean	3.26	*	3.31	*	

Four-, 6-, and 8-year degree completion rates for the nonparticipant group is summarized in Table 4.4.

**Table 4.4***Degree Completion for 4-, 6-, AND 8-Years Post-Admission of Fall 2010 and Fall 2011 Cohorts*

	Fall 2010 (N=5500)		Fall 2011 (N=5633)	
	N	% graduated	N	% graduated
Graduated in 4 years or fewer	2353	43%	2429	43%
Graduated in 6 years	3702	67%	3762	67%
Graduated in 8 years or fewer	3812	69%	3855	68%

**Academic**

Descriptive academic statistics, such as degree awarded major, double degree, STEM major, and cumulative GPA were analyzed to answer the first descriptive question: *What are the demographic characteristics of first time, full-time, first semester freshman matriculating in Fall of 2010 and 2011?* The descriptive academic statistics of the nonparticipant group are illustrated in Table 4.5. The most prominent degree awarded major categories amongst the two incoming freshman classes was Business and Consumer Science (30%), followed by Social Sciences (15%) and Life and Human Sciences (12%). Of the nonparticipant group, 103 (1.38%) of the population were enrolled in a double major, and 103 (1.38%) of the population earned a degree in a STEM field.

**Table 4.5**

*Academic Characteristics of Nonparticipants Matriculating in Fall 2010 and Fall 2011 who Graduated (N=7,459)*

Characteristics	Fall 2010 (N=3706)		Fall 2011 (N=3753)		Total
	N	%	N	%	
<b>Degree Awarded (Major)</b>					
Business and Consumer Sciences	1106	14.8%	1128	15.1%	2234
Engineering/Computer Science	392	5.3%	428	5.7%	820
Arts and Humanities	137	1.8%	136	1.8%	273
Life and Human Sciences	473	6.3%	453	6.1%	926
Social Sciences	573	7.7%	592	7.9%	1165
Physical Sciences	199	2.7%	205	2.8%	404
Communication Sciences	474	6.4%	442	5.9%	916
Education	286	3.8%	277	3.7%	563
Other	66	0.9%	92	1.2%	158
<b>Double Degree</b>					
Graduated with double major	49	0.7%	54	0.7%	103
Graduated with one major	3658	49.1%	3698	49.6%	7356
<b>STEM Major</b>					
At least one STEM major	1143	15.3%	1181	15.8%	2324
No STEM major	3657	49.1%	3698	49.6%	7355
Cumulative GPA Mean	3.27	*	3.28	*	

Descriptive academic statistics, such as degree awarded major, double degree, STEM major and cumulative GPA were analyzed to answer the second preliminary question: *What are the demographic characteristics of first time, full-time, first semester freshman matriculating in Fall of 2010 and 2011 who studied abroad?* The academic descriptive statistics of the study abroad participant group are illustrated in Table 4.6. The most prominent degree awarded major categories among the two incoming freshman classes was Business and Consumer Science (24%) and Social Sciences (24%), followed by Life and Human Sciences (16%). Of the students who did participate in a study abroad, 14 (7%) of the population were enrolled in a double major, and 74 (34%) of the population earned a degree in a STEM field.

**Table 4.6**

*Academic Characteristics of Study Abroad Participants Matriculating in Fall 2010 and Fall 2011 who Graduated (N=215)*

Characteristics	Fall 2010 (N=113)		Fall 2011 (N=102)		Total
	N	%	N	%	
Degree Awarded (Major)					
Business and Consumer Sciences	29	13.5%	23	10.7%	52
Engineering/Computer Science	5	2.3%	22	10.2%	27
Arts and Humanities	9	4.2%	7	3.3%	16
Life and Human Sciences	24	12.0%	12	5.6%	36
Social Sciences	30	14.0%	22	10.2%	52
Physical Sciences	5	2.3%	4	1.9%	9
Communication Sciences	9	4.2%	7	3.3%	16
Education	2	0.9%	3	1.4%	5
Other	0	0.0%	2	0.9%	2
Double Degree					
Graduated with double major	6	2.8%	8	3.7%	14
Graduated with one major	107	49.8%	94	43.7%	201
STEM Major					
At least one STEM major	34	15.8%	40	18.6%	74
No STEM major	79	36.7%	62	28.8%	141
Cumulative GPA Mean	3.53	*	3.56	*	

### Study Abroad

Descriptive study abroad statistics, such region, program type, and duration were analyzed to answer the second preliminary question: *What are the demographic characteristics of first time, full-time, first semester freshman matriculating in Fall of 2010 and 2011 who studied abroad?* The descriptive statistics of the study abroad participants are illustrated in Table 4.7. The top destination for students who studied abroad was Europe (70%), followed by Central

America (15%) and South America (7%). The majority of students participated in a College and University Program (96%) and 91 of the 215 study abroad students studied abroad for 4 to 8 weeks (42%).

**Table 4.7**

*Study Abroad Participants and Program Characteristics (N=215)*

Characteristics	Fall 2010 (N=113)		Fall 2011 (N=102)		Total
	N	%	N	%	
<b>Study Abroad Region</b>					
Africa	5	2.3%	1	0.5%	6
Asia	6	2.8%	6	2.8%	12
Australia/New Zealand	5	2.3%	4	1.9%	9
Central America	14	12.0%	13	6.0%	27
Europe	70	32.6%	76	35.3%	146
South America	13	6.0%	2	0.9%	15
<b>Education Abroad Program</b>					
Type	9	4.2%	7	3.3%	16
College & University Programs	112	52.1%	95	44.2%	207
Program Provider	1	0.5%	7	3.3%	8
<b>Education Abroad Duration</b>					
8 to (less than) 1 Semester/Quarter	8	3.7%	21	9.8%	29
4 to (less than) 8 Weeks	51	23.7%	40	18.6%	91
Less than 2 Weeks	8	3.7%	12	5.6%	20
1 Semester	10	4.7%	6	2.8%	16
2 to (less than) 4 Weeks	36	16.7%	23	10.7%	59

Of the 215 students that studied abroad and graduated, 8 participated in more than one study abroad program during their academic degree. To simplify the analysis, the first study abroad experience of the student was included in the study abroad group. The subsequent experiences were removed from the analysis because it is impossible to compare single and multiple program participants on variables that cannot be averaged (i.e., program type, program

duration). The study abroad characteristics of the eight students with multiple study abroad programs is illustrated in Table 4.8. Of the 18 programs, 10 (55%) were conducted in Europe, 8 (44%) lasted between 4 to (less than) 8 weeks, and all were administered by the College and University.

**Table 4.8**

*Program Characteristics of Study Abroad Participants who Participated in Multiple Study Abroad Programs (N=8)*

Student	Study Abroad Region	Education Abroad Program Type	Education Abroad Duration
1	Central America	College and University Program	Less than 2 Weeks
1	Europe	College and University Program	Semester/Quarter
2	Australia/New Zealand	College and University Program	2 to (less than) 4 Weeks
2	Europe	College and University Program	4 to (less than) 8 Weeks
3	Australia/New Zealand	College and University Program	2 to (less than) 4 Weeks
3	Europe	College and University Program	4 to (less than) 8 Weeks
4	Central America	College and University Program	2 to (less than) 4 Weeks
4	Europe	College and University Program	Semester/Quarter
5	South America	College and University Program	2 to (less than) 4 Weeks
5	Africa	College and University Program	2 to (less than) 4 Weeks
6	Europe	College and University Program	4 to (less than) 8 Weeks
6	Europe	College and University Program	4 to (less than) 8 Weeks
7	Europe	College and University Program	4 to (less than) 8 Weeks
7	Europe	College and University Program	4 to (less than) 8 Weeks
7	Europe	College and University Program	4 to (less than) 8 Weeks
8	South America	College and University Program	Less than 2 Weeks
8	Central America	College and University Program	Less than 2 Weeks
8	Europe	College and University Program	4 to (less than) 8 Weeks

Last, there were six students in the original dataset who participated in a study abroad but their experience was not-for-credit. For this study, the researcher focused on credit-bearing programs only. A not-for-credit experience could be any university-sponsored activity, such as competing in Model U.N. competition, or participating in a conference with a faculty member abroad, which would not count as a study abroad for this study's purpose.

### **Summary of Descriptive Analyses**

The population of this study consisted of 11,133 first-time, full-time freshman who enrolled at The University of Alabama in Fall 2010 and Fall 2011. Of the 11,133 students, 222 students (or 2%) participated in a study abroad program during their tenure at the university. The first preliminary analysis question was *What are the demographic characteristics of first time, full-time, first semester freshman matriculating in Fall 2010 and Fall 2011?* The second preliminary analysis question was *What are the demographic characteristics of first time, full-time, first semester freshman matriculating in Fall 2010 and Fall 2011 who studied abroad?* The following summarizes the results of the aforementioned questions through demographic, academic, and study abroad engagement characteristics.

1. The descriptive tables reveal that within the nonparticipant group, there was very little difference between demographic and academic variables between the Fall 2010 and Fall 2011 cohorts.
2. There was a bit more variance between the Fall 2010 and Fall 2011 cohorts for those who studied abroad, but not enough to treat the cohorts as separate groups.
3. The nonparticipant group (10,911) was majority female (55%), majority non-Hispanic (96%), majority White (84%), 20% were first-generation, 21% received the Pell Grant, and they had an average high-school GPA of 3.5.

The study abroad participant group (222) was majority female (67%), majority non-Hispanic (96%), majority White (92%), 15% were first-generation, 11% received the Pell Grant, and they had an average high-school GPA of 3.82.

Of the population (11,113), 31% (3,459) did not graduate from The University of Alabama. The non-graduate group was evenly split between males and female (50-50), majority non-Hispanic (95%), majority White (80%), 25% were first-generation, and 30% received the Pell Grant, and they had an average high-school GPA of 3.28. The 3,459 non-graduates were removed from further analysis.

Of the nonparticipant group who graduated (7,459), 31% graduated with a degree in Business and Consumer Sciences, 16% graduated with a degree in Social Sciences, 12% graduated with a degree in Life and Human Sciences, 1% graduated with more than one major, 31% of the students graduated with at least one STEM major, and their average cumulative undergraduate GPA was 3.27.

Of the study abroad participant group who graduated (215), 24% graduated with a degree in Business and Consumer Sciences, 24% graduated with a degree in Social Sciences, 16% graduated with a degree in Life and Human Sciences, 6% graduated with more than one major, 34% of the students graduated with at least one STEM major, and their average cumulative undergraduate GPA was 3.54.

The top destination for students who studied abroad was Europe (68%), followed by Central America (15%), followed by South America (7%). The majority participated in a College and University Program (96%) and 91 of the 215 study abroad students studied abroad for 4 to 8 weeks (42%).

## Analysis of Research Questions

### Section RQ 1

*Does a relationship exist between study abroad participation and degree completion?*

Results of the independent samples *t*-test showed that the mean degree completion between students who participated in study abroad ( $M = 4.59$ ,  $SD = .922$ ,  $n = 215$ ) and those who did not ( $M = 4.80$ ,  $SD = 1.044$ ,  $n = 7459$ ) was statistically significant at the .05 level of significance ( $t(230.095) = 3.201$   $p > .002$ ). These results suggest that participating in a for-credit study abroad during a student's undergraduate degree program does have an effect on degree completion, albeit the calculation of Cohen's effect size value ( $d = .21$ ) indicated a small practical significance. Still, those who studied abroad were able to graduate earlier than the nonparticipants. Four-, 6-, and 8-year degree completion rates for students who participated in study abroad and those who did not are summarized in Table 4.9.

**Table 4.9**

*Degree Completion for Study Abroad Participants and Nonparticipants: 4, 6, and 8 Post-Admission (N=7,674)*

	Study Abroad Participants (N=222)		Non-Study Abroad (N=10911)	
	N	% graduated	N	% graduated
Graduated in 4 years or fewer	152	68%	4630	42%
Graduated in 6 years	214	96%	7250	68%
Graduated in 8 or fewer	215	97%	7452	68%

As reported, 68% of study abroad participants graduated in 4 years or fewer compared to 42% of nonparticipants. Strikingly, 96% of study abroad participants in this study graduated in 6 years compared to 68% of nonparticipants.

## **Section RQ 2**

*To what extent, if any, does the relationship between the predictor variables (gender, ethnicity, SES, major) and degree completion (dependent variable) differ between study abroad participants and nonparticipants?*

To approach Research Question #2, two linear hierarchical regression analyses were conducted with degree completion as the dependent variable. Background characteristics were entered at Step 1 of the regressions to control for demographic responses. The academic variables were entered at Step 2. Complete results of the multiple regression variables were reported in Table 4.10 for study abroad participants and Table 4.11 for nonparticipants.

**Table 4.10***Hierarchical Regression Results for Degree Completion of Study Abroad Participants (N=215)*

Variables	B	95 % CI for B		SE	<i>p</i>	$\beta$	R2	$\Delta R2$
		LL	UL					
Step 1							.03	.03
Constant	4.39 *	3.87	4.91	.26	.000			
Race/Non-white	.18	.28	.65	.24	.440	.05		
Gender	-.07	-.33	.20	.13	.610	-.35		
SES-Pell Grant	.43 *	.03	.83	.20	.034	.15		
Step 2							.11	.08
Constant	4.04 *	2.70	5.39	.68	.000			
Race/Non-white	.18	-.29	.64	.24	.448	.05		
Gender	-.22	-.51	.07	.15	.133	-.11		
SES-Pell Grant	.29	-.12	.69	.20	.161	.10		
Business	.26	-1.02	1.54	.65	.690	.12		
Engineering	.68	-.66	1.98	.66	.301	.25		
Arts & Humanities	.28	-1.04	1.61	.67	.673	.08		
Life & Human Sci	1.02	-.27	2.30	.65	.121	.41		
Social Science	.33	-.95	1.60	.65	.613	.15		
Physical Science	.49	-1.04	1.73	.70	.622	.08		
Comm. Science	.39	-.93	1.72	.67	.561	.11		
Education	.40	-1.07	1.87	.75	.593	.07		

Note. CI = confidence interval; LL = lower limit; UL = upper limit; \*  $p < .05$

**Table 4.11***Hierarchical Regression Results for Degree Completion of Nonparticipants (N=7,459)*

Variables	B	95 % CI for B		SE	<i>p</i>	B	R2	ΔR2
		LL	UL					
Step 1							.05	.05 *
Constant	4.68 *	4.60	4.77	.04	.000			
Race/Non-White	.25 *	.18	.33	.04	.000	.08		
Gender	-.39 *	-.43	-.34	.02	.000	-.18		
SES-Pell Grant	.30 *	.24	.37	.03	.000	.11		
Step 2							.08	.03 *
Constant	4.66 *	4.49	4.84	.09	.000			
Race/Non-White	.27 *	.20	.35	.04	.000	.09		
Gender	-.36 *	-.41	-.31	.03	.000	-.17		
SES-Pell Grant	.30 *	.24	.37	.03	.000	.11		
Business	-.04	-.20	.12	.08	.621	-.02		
Engineering	.33 *	.15	.50	.09	.000	-.01		
Arts & Humanities	-.03	-.22	.17	.10	.788	.10		
Life & Human Sci	.20 *	.03	.37	.09	.023	.06		
Social Science	-.25 *	-.42	-.08	.09	.003	.09		
Physical Science	-.28 *	-.46	-.09	.09	.003	.06		
Comm. Science	-.17 *	-.34	.00	.09	.050	-.05		
Education	.09 *	-.09	.26	.09	.334	.02		

Note. CI = confidence interval; LL = lower limit; UL = upper limit; \*  $p < .05$

The hierarchical regression model, represented in Table 4.10, revealed that at Step 1, race, gender, and SES-Pell Grant, when taken as a set, was not significant for study abroad participants. Introducing the eight major variables in Step 2 contributed significantly to the model  $F(11, 214) = 2.30, p < .011, R = .33$  and  $R^2 = .11$ . The regression coefficient was .33, indicating when taken as a set (race, gender, SES, and major) approximately 11% of the variance can be explained in degree completion for the study abroad participants. Further, Cohen's *f*-square effect size value ( $f^2 = .09$ ) for the participant group indicated a small effect size attributed to the block of variables that were added at Step 2 of the regression.

The predictive equation for the Step 2 model was as follows for raw scores on race/non-White (dichotomous), gender (dichotomous), SES (dichotomous), and the eight majors (dichotomous): Degree completion =  $4.04 + (.18 * \text{race}) + (.29 * \text{SES}) + (-.22 * \text{gender}) + (.25 * \text{Business}) + (.68 * \text{Engineering}) + (.28 * \text{Arts \& Humanities}) + (1.02 * \text{Life \& Human Sci}) + (.33 * \text{Social Science}) + (.35 * \text{Physical Science}) + (.39 * \text{Comm. Science}) + (.40 * \text{Education})$ . For the study abroad participant group, none of the independent variables were statistically significant when reviewed individually.

The hierarchical regression model, represented in Table 4.11, revealed at Step 1, background characteristics (race, gender, and SES-Pell Grant) contributed significantly for nonparticipants,  $F(3, 7458) = 142.59, p < .000$ , and accounted for 5% of the variation. Introducing the eight major variables in Step 2 explained an additional 3.1% of the variation in degree completion and this change in  $R^2$  was significant,  $F(11, 7458) = 63.23, p < .000$ . Further, Cohen's *f*-square effect size value ( $f^2 = .04$ ) for the nonparticipant group indicated a small effect size attributed to the block of variables that were added at Step 2 of the regression. Complete results for the multiple regression are presented in Table 4.11.

The predictive equation for the Step 2 model was as follows for raw scores on race/non-White (dichotomous), gender (dichotomous), SES (dichotomous), and eight major categories (dichotomous): Degree completion =  $4.63 + (.27 * \text{race}) + (.30 * \text{SES}) + (-.36 * \text{gender}) + (.41 * \text{Business}) + (.33 * \text{Engineering}) + (-.03 * \text{Arts \& Humanities}) + (.20 * \text{Life \& Human Sci}) + (-.25 * \text{Social Science}) + (-.28 * \text{Physical Science}) + (-.17 * \text{Comm. Science}) + (.08 * \text{Education})$ .

For the nonparticipant group, and controlling for SES, gender, and majors, the regression coefficient [B = .274, 95% C.I. (.202, .347)  $p < .000$ ] associated with race suggests that for non-White students, degree completion (in years) increases by approximately .274. For the nonparticipant group, and controlling for race, gender, and majors, the regression coefficient [B = .303, 95% C.I. (.238, .368)  $p < .000$ ] associated with SES suggests that for Pell Grant students, degree completion (in years) increases by approximately .303. For the nonparticipant group, and controlling for race, SES, and majors, the regression coefficient [B = -.360, 95% C.I. (-.410, -.310)  $p < .000$ ] associated with gender suggests that for female students, degree completion (in years) decreases by approximately -.360. Last, controlling for race, SES, and gender, students majoring in Social Science [B = -.250, 95% C.I. (-.417, -.084)  $p < .003$ ] and Physical Science [B = -.276, 95% C.I. (-.460, -.091)  $p < .003$ ] see a decrease in degree completion (in years) and Engineering [B = .325, 95% C.I. (.152, .497)  $p < .003$ ] and Life & Human Sciences [B = .196, 95% C.I. (.027, .091)  $p < .365$ ] see an increase, in reference to the Other major group.

### **Section RQ 3**

*Controlling for race/non-White and SES, does degree completion differ as a result of participation in a particular study abroad program type or duration?*

To approach Research Question #3, a linear hierarchical regression analysis was conducted with degree completion as the dependent variable. Background characteristics were entered at Step 1 of the regressions to control for demographic responses. The academic and

engagement characteristics were entered at Step 2. Study abroad engagement characteristics were added in Step 3. Complete results of the multiple regression variables were reported in Table 4.12 for study abroad participants.

**Table 4.12**

*Hierarchical Regression Results for Degree Completion of Study Abroad Participant by Study Abroad Program Characteristics (N=215)*

Variables	B	95 % CI for B		SE	p	B	R2	ΔR2
		LL	UL					
Step 1							.02	.03
Constant	4.36 *	3.86	4.87	.26	.000			
Race/Non-White	.17	-.30	.63	.23	.479	.05		
SES-Pell Grant	.44 *	.04	.83	.20	.031	.15		
Step 2							.09	.07*
Constant	4.44 *	3.95	4.94	.25	.000			
Race/Non-White	.04	-.41	.49	.23	.852	.01		
SES-Pell Grant	.51	.12	.89	.20	.100	.17		
Exchange	-	-	-	-	-	-	-	
Program Provider	1.26 *	.62	1.89	.32	.000	.26		
Other	-	-	-	-	-	-	-	
Step 3							.12	.07*
Constant	4.15 *	3.57	4.72	.29	.000			
Race/Non-white	.01	-.44	.45	.23	.976	.00		
SES-Pell Grant	.44 *	.07	.82	.19	.022	.15		
Exchange	-	-	-	-	-	-	-	
Program Provider	1.40 *	.77	2.04	.32	.000	.29		
Other	-	-	-	-	-	-	-	
4 weeks less 8 weeks	.21	-.15	.58	.19	.247	.12		

Variables	B	95 % CI for B		SE	<i>p</i>	B	R2	$\Delta R^2$
		LL	UL					
Less than 2 weeks	.74 *	.23	1.24	.26	.004	.23		
1 Semester	.27	-.26	.80	.27	.321	.08		
2 Less than 4 Weeks	.57 *	.18	.96	.20	.005	.28		

Note. CI = confidence interval; LL = lower limit; UL = upper limit; \*  $p < .05$

The hierarchical regression model, represented in Table 4.12, revealed at Step 1, background characteristics (race, and SES-Pell Grant) contributed significantly for study abroad participants,  $F(2, 214) = 2.962, p < .05$ , and accounted for 2.7% of the variation. Introducing the program type variables explained an additional 6.5% of the variation in degree completion and this change in  $R^2$  was significant,  $F(3, 214) = 7.159, p < .000$ . Finally, the addition of the duration variables to the regression model in Step 3 explained an additional 6% of the variation in degree completion and this change in  $R^2$  was significant,  $F(7, 214) = 5.259, p < .000$ . Further, Cohen's  $f$ -square effect size value ( $f^2 = .04$ ) for the participant group indicated a medium effect size attributed to the block of variables that were added at Step 3 of the regression. Complete results for the multiple regression are presented in Table 4.12.

The predictive equation for the Step 3 model was as follows for raw scores on race/non-White (dichotomous), SES (dichotomous), program type (dichotomous) and duration (dichotomous): Degree completion =  $4.16 + (.01 * \text{race/non-White}) + (.44 * \text{SES}) + (1.40 * \text{program provider}) + (.21 * \text{4 weeks less 8 weeks}) + (.74 * \text{Less than 2 weeks}) + (.27 * \text{1 semester}) + (.57 * \text{2 weeks less than 4 weeks})$ .

Controlling for race, program provider, and multiple durations, the regression coefficient [ $B = .444, 95\% \text{ C.I. } (.065, .823) p < .022$ ] associated with SES suggests that for Pell Grant students, degree completion (in years) increases by approximately .443. Controlling for race, SES, and duration, the regression coefficient [ $B = 1.403, 95\% \text{ C.I. } (.770, 2.037) p < .000$ ] associated with program provider suggests that for students going on a provider program, degree completion (in years) increases by approximately 1.403. Controlling for race, SES, and multiple durations, the regression coefficient [ $B = .735, 95\% \text{ C.I. } (.231, 1.238) p < .004$ ] associated with less than 2 weeks (duration) suggests that for students going on a program for that duration,

degree completion (in years) increases by approximately .735. Controlling for race, SES, and multiple durations, the regression coefficient [ $B = .567$ , 95% C.I. (.176, .957)  $p < .005$ ] associated with 2 less than 4 weeks suggests that for students going on a program for that duration, degree completion (in years) increases by approximately .567. As reported in Table 4.12, race and duration (4 weeks less than 8 weeks, 1 semester) were not statistically significant for the study abroad participants.

#### **Section RQ 4**

*Does a relationship exist between study abroad participation rate and time to degree?*

Results of the independent samples  $t$ -test showed that the mean degree completion between students who participated in study abroad ( $M = 11.81$ ,  $SD = .1.776$ ,  $n = 215$ ) and those who did not ( $M = 12.34$ ,  $SD = 2.286$ ,  $n = 7459$ ) was statistically significant at the .05 level of significance ( $t(7672) = 3.355$ ,  $p > .001$ ). These results suggest that participating in a for-credit study abroad during a student's undergraduate degree program does have an effect on time-to-degree, albeit the calculation of Cohen's effect size value ( $d = .25$ ) indicated a small practical significance. Still, those who studied abroad were enrolled in fewer terms than those who did not.

Four-, 6-, and 8-year time-to-degree for students who participated in study abroad and those who did not are summarized in Table 4.13.

**Table 4.13**

*Time-to-Degree for Study Abroad Participants and Nonparticipants: 4, 6, and 8 or Fewer Years Post-Admission (N=7,674)*

Time-to-degree (in semesters)	Nonparticipants (N=7,459)		Participants (N=215)	
	N	% graduated	N	% graduated
5	3	0.0%		
6	6	0.1%		
7	13	0.2%	1	0.5%
8	92	1.2%	4	1.9%
9	61	0.8%	2	0.9%
10	331	4.4%	14	6.5%
11	3,503	47.0%	112	52.1%
12	621	8.3%	19	8.8%
13	1,081	14.5%	36	16.7%
14	878	11.8%	14	6.5%
15	199	2.7%	2	0.9%
16	244	3.3%	3	1.4%
17	160	2.1%	6	2.8%
18	58	0.8%	1	0.5%
19	65	0.9%		
20	60	0.8%	1	0.5%
21	23	0.3%		
22	39	0.5%		
23	9	0.1%		
24	6	0.1%		
25	7	0.1%		

While the mode of both participants and nonparticipants was equally 11, the mean for the participant group was 11.81 semester terms versus 12.34 for the nonparticipant group.

### **Section RQ 5**

*To what extent, if any, does the relationship between the predictor variables (gender, ethnicity, SES, major) and time-to-degree (dependent variable) differ between study abroad participants and nonparticipants?*

To approach Research Question #5, two linear hierarchical regression analyses were conducted with time-to-degree completion as the dependent variable. Background characteristics were entered at Step 1 of the regressions to control for demographic responses. The academic variables were entered at Step 2. Complete results of the multiple regression variables were reported in Table 4.14 for study abroad participants and Table 4.15 for nonparticipants.

**Table 4.14***Hierarchical Regression Results for Time-to-Degree of Study Abroad Participants (N=215)*

Variables	B	95 % CI for B		SE	p	$\beta$	R2	$\Delta R2$
		LL	UL					
<b>Step 1</b>							.04	.04 *
Constant	11.48 *	10.49	12.48	.51	.000			
Race/Non-white	.29	-.61	1.18	.45	.524	.04		
Gender	-.16	-.66	.35	.26	.542	-.04		
SES-Pell Grant	1.06	.30	1.82	.39	.007	.19		
<b>Step 2</b>							.12	.07 *
Constant	11.12 *	8.54	13.71	1.31	.000			
Race/Non-white	.24	-.66	1.13	.45	.605	.04		
Gender	-.36	-.91	.20	.28	.208	-.10		
SES-Pell Grant	.89 *	.12	1.66	.39	.024	.16		
Business	.17	-2.29	2.63	1.25	.892	.04		
Engineering	1.22	-1.28	3.71	1.27	.337	.23		
Arts & Humanities	.30	-2.24	2.84	1.29	.816	.04		
Life & Human Sci	1.38	-1.08	3.85	1.25	.270	.29		
Social Science	.43	-2.01	2.88	1.24	.727	.11		
Physical Science	.29	-2.37	2.94	1.35	.832	.03		
Comm. Science	.06	-2.49	2.60	1.29	.965	.01		
Education	.20	-2.63	3.03	1.44	.889	.02		

Note: CI = confidence interval; LL = lower limit; UL = upper limit; \*  $p < .05$

**Table 4.15***Hierarchical Regression Results for Time-to-Degree of Nonparticipants (N=7,459)*

Variables	B	95 % CI for B		SE	p	$\beta$	R2	$\Delta R2$
		LL	UL					
Step 1							.06	.06 *
Constant	12.05*	11.86	12.23	.10	.000			
Race/Non-white	.62*	.46	.78	.08	.000	.09		
Gender	-.90*	-1.00	-.80	.05	.000	-.20		
SES-Pell Grant	.66*	.51	.80	.07	.000	.11		
Step 2							.09	.03 *
Constant	11.87*	11.48	12.26	.20	.000			
Race/Non-white	.66*	.50	.82	.08	.000	.10		
Gender	-.84*	-.95	-.73	.06	.000	-.18		
SES-Pell Grant	.66*	.51	.80	.07	.000	.11		
Business	.03	-.32	.39	.18	.860	.01		
Engineering	.83*	.45	1.31	.19	.000	.11		
Arts & Humanities	.30	-.13	.73	.19	.171	.03		
Life & Human Sci	.50*	.13	.87	.50	.008	.07		
Social Science	-.41	-.71	.02	.19	.063	-.05		
Physical Science	-.41*	-.81	.00	.21	.049	-.04		
Comm. Science	-.20	-.58	.16	.19	.275	-.03		
Education	.23	-.16	.61	.20	.247	.03		

Note: CI = confidence interval; LL = lower limit; UL = upper limit; \*  $p < .05$

The hierarchical regression model, represented in Table 4.14, revealed at Step 1, background characteristics (race, gender, and SES-Pell Grant) contributed significantly for study abroad participants,  $F(3, 214) = 3.06, p < .029$ , and accounted for 4.2% of the variation. Introducing the eight major variables in Step 2 explained an additional 7.3% of the variation in degree completion and this change in  $R^2$  was significant,  $F(11, 214) = 2.393, p < .008$ . Further, Cohen's  $f$ -square effect size value ( $f^2 = .03$ ) for the nonparticipant group indicated a small effect size attributed to the block of variables that were added at Step 2 of the regression. Complete results for the multiple regression are presented in Table 4.14.

The predictive equation was as follows for raw scores on race/non-White (dichotomous), gender (dichotomous), SES (dichotomous), and the eight majors (dichotomous): Time-to-degree =  $11.122 + (.24 * \text{race}) + (.89 * \text{SES}) + (-.36 * \text{gender}) + (.17 * \text{Business}) + (1.22 * \text{Engineering}) + (.30 * \text{Arts \& Humanities}) + (1.38 * \text{Life \& Human Sci}) + (.43 * \text{Social Science}) + (.29 * \text{Physical Science}) + (.06 * \text{Comm. Science}) + (.10 * \text{Education})$ .

For the participant group, and controlling for race, gender, and majors, the regression coefficient [ $B = .89, 95\% \text{ C.I. } (-.12, 1.66) p < .024$ ] associated with SES suggests that for Pell Grant students, time-to-degree (in semesters) increases by approximately .89. As reported in Table 4.14, all other variables were not statistically significant for the study abroad participants.

The hierarchical regression model, represented in Table 4.15, revealed at Step 1, background characteristics (race, gender, and SES-Pell grant) contributed significantly for nonparticipants,  $F(3, 7458) = 159.30, p < .000$ , and accounted for 6% of the variation. Introducing the eight major variables in Step 2 explained an additional 3% of the variation in degree completion and this change in  $R^2$  was significant,  $F(11, 7458) = 64.22, p < .000$ . Further, Cohen's  $f$ -square effect size value ( $f^2 = .08$ ) for the participant group indicated a small effect size

attributed to the block of variables that were added at Step 2 of the regression. Complete results for the multiple regression are presented in Table 4.15. The predictive equation of Step 2 was as follows for raw scores on race/non-White (dichotomous), gender (dichotomous), SES (dichotomous), and the majors (dichotomous): Time-to-degree = 11.871 + (.66 \* race) + (.66 \* SES) + (-.84\* gender) + (.03 \* Business) + (.83 \* Engineering) + (.30 \* Arts & Humanities) + (.50 \* Life & Human Sci) + (-.35 \* Social Science) + (-.41 \* Physical Science)+ (-.21 \* Comm. Science) + (.23 \* Education).

For the nonparticipant group, and controlling for SES, gender, and majors, the regression coefficient [B = .660, 95% C.I. (.501, .809)  $p < .000$ ] associated with race suggests that for non-White students, degree completion (in years) increases by approximately .660. For the nonparticipant group, and controlling for race, gender, and majors, the regression coefficient [B = .656, 95% C.I. (-.945, -.726)  $p < .000$ ] associated with SES suggests that for Pell Grant students, time-to-degree (in semesters) increases by approximately .656. For the nonparticipant group, and controlling for race, SES, and majors, the regression coefficient [B = -.836, 95% C.I. (-.945, -.726)  $p < .000$ ] associated with gender suggests that for female students, degree completion (in years) decreases by approximately -.836. Last, controlling for race, SES, and gender, students majoring in Physical Science [B = -.405, 95% C.I. (-.808, -.002)  $p < .049$ ] has a decrease in time-to-degree (in semesters) and Engineering [B = .831, 95% C.I. (.453, 1.208)  $p < .000$ ] and Life & Human Sciences [B = .502, 95% C.I. (.133, .871)  $p < .365$ ] see an increase, in reference to the Other major group. The following independent variables (Business, Arts & Humanities, Social Science and Communication Sciences) were not statistically significant for the non- participant group.

## **Section RQ 6**

*Controlling for race/non-White and SES, does time-to-degree differ as a result of participation in a particular study abroad program type or duration?*

To approach Research Question #6, a linear hierarchical regression analysis was conducted with time-to-degree as the dependent variable. Background characteristics were entered at Step 1 of the regressions to control for demographic responses. The characteristics were entered at Step 2. Study abroad engagement characteristics were added in Step 3. Complete results of the multiple regression variables were reported in Table 4.16 for study abroad participants.

**Table 4.16**

*Hierarchical Regression Results for Time-to-Degree Completion of Study Abroad Participants by Study Abroad Program Characteristics (N=215)*

Variables	B	95 % CI for B		SE	p	$\beta$	R2	$\Delta R^2$
		LL	UL					
Step 1							.03	.03
Constant	11.42*	10.45	12.39	.49	.000			
Race/Non-White	.25	-.63	1.14	.45	.577	.04		
SES-Pell Grant	1.07	.31	1.83	.38	.006	.19		
Step 2							.09	.07 *
Constant	11.55*	10.59	12.50	.48	.000			
Race/Non-White	.05	-.82	.93	.44	.906	.01		
SES-Pell Grant	1.18*	.44	1.93	.38	.002	.21		
Exchange	-	-	-	-	-	-		
Program Provider	2.01	.78	3.24	.62	.001	.22		
Other	-	-	-	-	-	-		
Step 3							.12	.06 *
Constant	11.02*	9.90	12.15	.57	.000			
Race/Non-White	.06	-.09	.93	.44	.888	.01		
SES-Pell Grant	1.08*	.44	1.82	.37	.004	.19		
Exchange	-	-	-	-	-	-		
Program Provider	2.37*	1.134	3.60	.63	.000	.25		
Other	-	-	-	-	-	-		
4 weeks less 8 weeks	.42	-.29	1.14	.36	.244	.12		

Variables	B	95 % CI for B		SE	<i>p</i>	$\beta$	R2	$\Delta R2$
		LL	UL					
Less than 2 weeks	.99*	.00	1.96	.50	.050	.16		
1 Semester	-.27	-1.30	.77	.52	.609	-.04		
2 Less than 4 Weeks	.95*	.19	1.71	.39	.015	.24		

Note. CI = confidence interval; LL = lower limit; UL = upper limit; \*  $p < .05$

The hierarchical regression model, represented in Table 4.16, revealed at Step 1, background characteristics (race, and SES-Pell Grant) contributed significantly for study abroad participants,  $F(2, 212) = 4.420, p < .013$ , and accounted for 4% of the variation. Introducing the program type variables explained an additional 5% of the variation in degree completion and this change in  $R^2$  was significant,  $F(3, 214) = 6.548, p < .000$ . Finally, the addition of the duration variables to the regression model in Step 3 explained an additional 5% of the variation in degree completion and this change in  $R^2$  was significant,  $F(7, 214) = 4.52, p < .000$ . Further, Cohen's  $f$ -square effect size value ( $f^2 = .12$ ) for the participant group indicated a small effect size attributed to the block of variables that were added at Step 3 of the regression. Complete results for the multiple regression are presented in Table 4.16.

The predictive equation for Step 3 was as follows for raw scores on race/non-White (dichotomous), SES (dichotomous), program type (dichotomous) and duration (dichotomous):  
Time-to-degree =  $11.02 + (.06 * \text{race/non-White}) + (1.08 * \text{SES}) + (2.37 * \text{program provider}) + (.42 * \text{4 weeks less 8 weeks}) + (.98 * \text{Less than 2 weeks}) + (-.27 * \text{1 semester}) + (.95 * \text{2 weeks less than 4 weeks})$ .

Controlling for race, program provider, and multiple durations, the regression coefficient [ $B = 1.083, 95\% \text{ C.I. } (.346, 1.820) p < .022$ ] associated with SES suggests that for Pell Grant students, time-to-degree (in semester terms) increases by approximately 1.08. Controlling for race, SES, and duration, the regression coefficient [ $B = 2.367, 95\% \text{ C.I. } (1.134, 3,601) p < .000$ ] associated with program provider suggests that for students going on a provider program, time-to-degree (in semester terms) increases by approximately 2.367. Controlling for race, SES, and multiple durations, the regression coefficient [ $B = .982, 95\% \text{ C.I. } (.002, 1.962) p < .050$ ] associated with less than 2 weeks (duration) suggests that for students going on a program for

that duration, time-to-degree (in semester terms) increases by approximately .982. Controlling for race, SES, and multiple durations, the regression coefficient [ $B = .947$ , 95% C.I. (.187, 1.707)  $p < .015$ ] associated with 2 less than 4 weeks suggests that for students going on a program for that duration, time-to-degree (in semester terms) increases by approximately .567.

For the study abroad participant group, race, 4 weeks less than 8 weeks, and 1 semester were not statistically significant.

### **Summary**

This chapter presented the quantitative results of the study through various descriptive and inferential statistical analyses. The preliminary analysis provided descriptive statistics of this study's population by demographic, academic, and study abroad characteristics. The significant finding of this study's research population was that there was very little variance between the Fall 2010 and Fall 2011 cohorts. Parsing the group by study abroad participation, those who did not participate were majority female (55%), majority non-Hispanic (96%), majority White (84%), 20% were first-generation, 21% received the Pell Grant, and they had an average high-school GPA of 3.5. Of those who did participate, the group was majority female (67%), majority non-Hispanic (96%), majority White (92%), 15% were first-generation, 11% received the Pell Grant, and they had an average high-school GPA of 3.82. There were 3,459 students who did not graduate from The University of Alabama and they were removed from the degree completion and time-to-degree analysis. For both the participant and nonparticipant groups, the most popular majors were Business and Consumer Sciences, Social Science, and Life and Human Sciences. Study abroad participants had a higher level of students who graduated as a double major; 6% compared to 1%. Study abroad participants also had a higher level of students who graduated having a STEM major as one of their degrees; 34% compared to 31%. Last, the top destination

for students who studied abroad was Europe (68%), followed by Central America (15%), followed by South America (7%). The majority participated in a College and University Program (96%) and 91 of the 215 study abroad students studied abroad for 4 to 8 weeks (42%).

Sections RQ 1-6 provided the inferential statistical results for all of the research questions. Statistically significant differences in degree completion earned by study abroad participants and nonparticipants were reported in Section RQ 1. Of those who studied abroad, 68% of study abroad participants graduated in 4 years or fewer compared to 42% of nonparticipants. Strikingly, 96% of study abroad participants in this study graduated in 6 years compared to 68% of nonparticipants.

RQ 2 explored the relationship between study abroad participation and degree completion. Taken as a set, race, gender, SES, and major can be used as predictors for 11% of the variance in degree completion for the study abroad participants. Individually, the independent variables are not a significant predictor of degree completion. Regarding the nonparticipant group, race, gender, SES, and major can be used as predictors for 9% of the variance in degree completion. Race and gender are factors that increase degree completion while the effect of gender decreases degree completion among nonparticipants.

RQ 3 reported the linear regression analysis results of the relationship between two predictor variables (study abroad participation type and duration) and the dependent variable (degree completion) controlling for race and SES. The key finding was the significant relationship between these variables and the dependent variable. In the linear regression model, program provider type and program duration lengths (less than 2 weeks and 2 weeks to less than 4 weeks) contributed most to the model. These findings are important for determining what study abroad program characteristics effect degree completion.

Statistically significant differences in time-to-degree by study abroad participants and nonparticipants were reported in Section RQ 4. While the mode of both participants and nonparticipants was equally 11, the mean for the participant group was 11.81 semester terms versus 12.34 for the nonparticipant group.

RQ 5 explored the relationship between study abroad participation and time-to-degree. Taken as a set, race, gender, SES, and major can be used as predictors for 12% of the variance in time-to-degree for the study abroad participants. Individually, the independent variables were not a significant predictor of degree completion. SES was the only independent variable that was found to be statistically significant to the study abroad participation group. For the non-participation group, race, gender, SES, and majors (Physical Science, Engineering, and Life & Human Sciences) were contributors to the model.

RQ 6 reported the linear regression analysis results of the relationship between two predictor variables (study abroad participation type and duration) and the dependent variable (time-to-degree) controlling for race and SES. The key finding was the significant relationship between these variables and the dependent variable. In the linear regression model, program provider type and program duration lengths (less than 2 weeks to less than 4 weeks) contributed most to the model. These findings are important for determining which study abroad program characteristics affect time-to-degree. Comprehensive descriptive and inferential statistical analyses were reported in Chapter Four. The important results outlined in this chapter provide the implications for practice and the recommendations for future research discussed in Chapter Five.

## CHAPTER FIVE

### DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

This chapter discusses the results of the quantitative analysis and the findings of the study. First, a summary of the study is provided followed by the results of each research question. Last, the researcher will discuss implications of the study, recommendations for future research, and conclusions.

#### **Summary of the Study**

The purpose of this study was to explore the academic impact of study abroad participation as it relates to degree completion and time-to-degree, for first-time, full-time freshman enrolled at The University of Alabama during Fall 2010 and 2011 semesters. Particularly, this study sought to identify contributors to said impact including race, socioeconomic status, academic major, and study abroad program characteristics. Exploring the variables in this study provided an important investigative context for learning more about the influence of these variables to important measures of student success, including time-to-degree and degree completion.

The two descriptive analyses and six inferential research questions that guided the research study were presented in Chapter 1. Kuh's Theory on Student Engagement (2008) provided the theoretical framework for this study while Astin's (1984) Input-Environment-Outcome model provided the conceptual framework. Chapter One delivered the statement of the program, purpose statements, research questions, theoretical perspective, and conceptual framework of this study. Despite the upward trend in matriculation into higher education

institutions in the United States, degree completion rates are still dismal (McFarland, 2018). Higher education institutions must identify ways to retain and graduate more students. High-impact practices (HIPs) have been shown to be engaging educational activities that lead to positive outcomes such as increased student retention and degree completion rates (Kuh et al., 2008). Study abroad has been identified as a HIP and participation in study abroad opportunities had recently seen an increase at The University of Alabama (UA). Therefore, the purpose of this study was to identify the academic impact of study abroad as it related to degree completion and time-to-degree at UA.

The literature review in Chapter Two provided a summary of the existing research related to the impact and outcomes of study abroad. Chapter Two also closely examined Kuh's Student Engagement Theory and provided a detailed sketch of the various high-impact practices. This chapter also provided information about the variables used in the study, such as socioeconomic status (SES) and study abroad program types. Last, Chapter Two presented two debated topics in student engagement, HIP's impact for underserved students and criticisms to Kuh's (2008) Engagement Theory.

Chapter Three presented the quantitative methodology and the rationale of using the secondary database that guided the study. The database was initially created through a separate collaborative project with UA's Capstone International Center (CIC) and UA's Office of Institutional Research and Assessment (OIRA). This secondary database has provided a foundational benchmark for any future studies tracking the progress of study abroad at UA. Descriptive and inferential statistics were used to analyze the demographic characteristics of and the impact of the academic environment and engagement activities (study abroad) on freshman entering the University during the Fall of 2010 and Fall of 2011. Chapter Three focused on the

design of the study, including data management, assumptions, limitations, delimitations, and a detailed explanation of each dependent and independent variable that was used.

The results of the two preliminary descriptive analyses and six-inferential research questions were presented in Chapter Four. Research questions RQ1 and RQ4 were solved with independent sample *t*-tests while RQ 2, RQ 3, RQ5 and RQ6 were solved by using hierarchical linear regressions. The results were presented in three areas: demographics, academic, and study abroad characteristics. Demographically, the Fall 2010 and Fall 2011 cohorts were quite similar, so no further delineation of the cohorts was made past the original descriptive inquiries. The nonparticipant group was comprised of 10,911 students while the participant group was comprised of 222 students. As a reminder, the study abroad participant number indicates how many freshman students from each class (2010 and 2011) studied abroad during their academic tenure at The University of Alabama. It does not describe the total number of students who studied abroad annually, which is how institutional participation is recorded to the Institute of International Education through the Open Door's Report. The nonparticipant group (10,911) was majority female (55%), majority non-Hispanic (96%), majority White (84%), 20% were first-generation, 21% received the Pell Grant, and had an average high school GPA of 3.5. The study abroad participant group (222) was majority female (67%), majority non-Hispanic (96%), majority White (92%), 15% were first-generation, 11% received the Pell Grant, and had an average high-school GPA of 3.82. One-third of all students (11,133) did not graduate.

Academically, of the nonparticipant group who graduated (7,459), 31% graduated with a degree in Business and Consumer Sciences, 16% graduated with a degree in Social Sciences, 12% graduated with a degree in Life and Human Sciences, 1% graduated with more than one major, 31% of the students graduated with at least one STEM major, and their average

cumulative undergraduate GPA is 3.27. Of the study abroad participant group who graduated (215), 24% graduated with a degree in Business and Consumer Sciences, 24% graduated with a degree in Social Sciences, 16% graduated with a degree in Life and Human Sciences, 6% graduated with more than one major, 34% of the student graduated with at least one STEM major, and their average cumulative undergraduate GPA is 3.54.

To summarize, the top destination for students who studied abroad was Europe (68%), followed by Central America (15%), followed by South America (7%). The majority participated in a College and University Program (96%) and 91 of the 215 study abroad students studied abroad for 4 to 8 weeks (42%).

The results of two independent sample *t*-tests found that the relationship between study abroad participation and degree completion and study abroad participation and time-to-degree were both statistically significant, albeit with small effect sizes. The results of the first three hierarchical linear regression (RQ2 and RQ3) analyses were presented in Chapter Four. The first two regression analysis were conducted to evaluate the prediction of various independent variables to degree completion of the participant and nonparticipant groups. For nonparticipants, the regression model at Step 1 (demographic variables) was statistically significant. At Step 2, the model was significant ( $p < .05$ ), and taken as a set, the demographic and academic variables were used as predictors toward 9% of the variance for degree completion. Eight predictor variables, gender, SES, Engineering, Social Science, race/non-White (dichotomous), Life & Human Sciences, Physical Science, and Communication Science were statistically significant with  $p$  values  $< .05$  (listed in the order of highest strength of effect). For the participant group, the regression model at Step 1 which included demographic information was not significant. At Step 2, the model was significant ( $p < .05$ ), and taken as a set, the demographic and academic

variables were used as predictors towards 11% of the variance for degree completion. When observed independently, none of the variables were statistically significant for the group of study abroad participants. A third hierarchical linear regression (RQ3) was conducted to evaluate degree completion, based on particular study abroad program types and differing durations, while controlling for race/non-White and SES. The model was statistically significant at Step 1 (demographic variables), Step 2 (inclusion of study abroad program type variables), and at Step 3 (inclusion of study abroad program duration variables), at a medium effect size. When taken as a set, the demographic and study abroad characteristic variables were used as predictors towards 12% of the variance for degree completion. Four predictor variables, program provider, 2 weeks less than 4 weeks, less than 2 weeks, and SES were statistically significant with p values < .05 (listed in the order of highest strength of effect).

Two hierarchical linear regressions (RQ5) were conducted to evaluate the prediction of various independent variables to time-of-degree of the participant and nonparticipant groups. For nonparticipants, when taken as a set, race, gender, SES, and majors were used as predictors toward 12% of the variance for time-to-degree. Only SES was statistically significant with p value < .05, at the final Step 2 model, albeit with a low effect size.

For participants, when taken as a set, race, gender, SES, and majors were used in the final Step 3 model as predictors toward 9% of the variance for time-to-degree, albeit with a small effect size. Six predictor variables, gender, SES, Engineering, race/non-White (dichotomous), Life & Human Sciences, and Physical Science were statistically significant with p values < .05 (listed in the order of highest strength of effect). Last, the final hierarchical linear regression analysis (RQ6) was conducted to evaluate time-to-degree, based on particular study abroad program types and differing durations, while controlling for race/non-White and SES. When

taken as a set, race, gender, SES, and majors, as the Step 3 model, were used as predictors toward 13% of the variance for time-to-degree, albeit with a small effect size. Three predictor variables, program provider, SES, and less than 2 weeks were statistically significant with p values < .05 (listed in the order of highest strength of effect).

### **Research Results Related to Conceptual and Theoretical Frameworks**

This section will attempt to center the results of this study as they relate to the conceptual and theoretical frameworks in this study. It also discusses the results within the context of the literature review found in Chapter Two.

The results of this study support the scope of Astin's (1993) input-environment-outcome (I-E-O) conceptual framework. Per Astin, student outcomes are functions of two factors, including inputs (demographics) and experiences in college. The researcher chose Astin because they were interested in the influence of background traits and college experiences which were central to this study. The input variables (pre-existing characteristics) that informed this study were gender, race, ethnicity, and socioeconomic status/Pell Grant status. Descriptive statistics of demographic characteristics, including first-generation status and high-school GPA were presented in Table 4.1 for nonparticipants and Table 4.2 for participants. Environmental variables in this study included those related to academics as presented in Table 4.5 and 4.6 (degree awarded major, double degree, STEM major, cumulative GPA) and to study abroad engagement as presented in Table 4.7 (study abroad indicator, region, program type, and duration). The two outcome variables of this study, or the dependent variables, were degree completion and time-to-degree. Hierarchical linear regression, with a nested design, was used to isolate the effect of each block of independent variables, identified in Astin's IEO model. As such, demographic variables (inputs) were entered into the regression equation first, followed by

academic and engagement characteristics (environment variables) to identify the predictive powers of each block of independent variables.

Sweat et al. (2013) defined engagement as

set of experiences and perceptions that bring students and institutions into greater alignment, such that there is a match between student goals and institutional expectations; this requires the provision of opportunities to participate in activities that result in an increased student commitment to learning and pursuing a degree. (p. 3)

Tinto (2006) described the first lesson of institutional action as understanding why students leave but also what the institution can do to help students stay and succeed. Quaye et al. (2019) affirmed the fact that “those who are actively engaged in purposeful activities, both inside and outside the classroom are more likely to persist through graduation” (p. 3).

The more effort a student dedicates to educational activities, the more they are likely to achieve a desired outcome. All of these theories point out that engagement leads to desired outcomes, in this case, degree completion. Kuh (2008) has identified certain educational activities, called High Impact Practices (HIP), that promote positive associations with degree completion and retention. These HIPs have similar characteristics in that they are academically rigorous, they incorporate learning outside of the classroom, require engagement and interaction with faculty members, support collaboration with diverse populations, and provide students with feedback (Kuh et al., 2008). Study abroad is among one of these educational activities that promotes positive student engagement. As a HIP, study abroad has the “power to transform the lives of college students who are given the opportunity to participate and broaden their education” (Smith & Mrozek, 2016, p. 9).

This study supports the literature that participating in a study abroad program has a positive effect on degree attainment, albeit at a small effect size. As reported, 68% study abroad participants graduated in 4 years or fewer as compared to 42% of nonparticipants. Also, the

mean for time-to-degree for study abroad participants is 11.81 as compared to nonparticipants, 12.34. The results of this study determined through linear regression models that gender, SES, race, and program type are critical variables affecting degree completion and time-to-degree, with SES and program type having the most predictability to outcomes. The review of the literature on student engagement and study abroad supported the need to complete this research and the results of the research confirmed that need.

### **Discussion of Findings**

This section will attempt to summarize and discuss the findings of the study, divided according to the topics of the outcome variables, historically underrepresented students, and faculty-led programming.

#### **Analysis of Degree Completion and Time-to-Degree**

Even though the effect size was small, there was an actual difference between study abroad participation group and nonparticipants on degree completion and time-to-degree. Two independent sample *t*-tests verified that degree completion and time-to-degree were significantly different between groups. Second, the study abroad participant group had a shorter degree completion mean time than the nonparticipant group (4.59 compared to 4.80). Third, the study abroad participant group had a lower degree completion mean than the nonparticipant group (11.81 compared to 12.34). Last, 96% of the study abroad participant group graduated within 6 years of enrollment compared to 68% of the nonparticipant group. Study abroad, a high-impact practice, has been credited by Kuh to be favorable toward student success outcomes, such as degree attainment, and has shown an impact in engaging students, while encompassing student's varying backgrounds (Vidaurri, 2019).

## **Increased Access for Underrepresented Student Populations**

Section RQ1 reported that 14% of the study abroad group were first-generation college students; compared to 20% of the nonparticipant group. While non-Whites comprised 15% of both the study abroad participant group and nonparticipant group, when the races were parsed out, a real disparity was made evident. The number of African American study abroad participants equated to 7% while that racial group made up 13% of the nonparticipant group. There were only 2 non-White males who studied abroad, belonging to the American Indian and African American racial group. First-generation students made up 21% of the population of the nonparticipant group but only 10% of the study abroad group. Significantly, these findings indicate that non-White students, specifically Black students, first-generation, and Pell Grant students are not participating in study abroad at proportionate levels. Unfortunately, these results are in line with national study of Research 1 (R1) doctoral universities that saw low participation in HIP, and parsing out for underserved populations, such as African American students, their rates are much lower with 10% engaging in a learning community and 9% participating in a study abroad in their senior year (National Survey of Student Engagement, 2018). According to Coker and Porter (2017), engaging educational practices should be rooted in instruction of every student and institutional-wide initiatives should be within grasp of all students. The University of Alabama has the opportunity to implement intentional strategies to support and increase access to high-impact practices for historically underrepresented groups.

Historically underrepresented students, such as first-generation, ethnically and racially diverse students with lower socioeconomic status often come without the same cultural capital about college as those who are representative of the majority (Lareau, 2003). Adding the expectation or opportunity of international travel to a student who is coming to college with less

cultural capital can be overwhelming. According to the National Center for Education Statistics (2019), roughly 60% of students who started their bachelor's degree in the Fall of 2011 graduated in 6 years from that same institution. For Black and Hispanic students, that percentage was lower at 39.8% and 55%, respectively (National Center for Education Statistics, 2019). Since this study added to the literature that participation in engaging activities, such as high-impact practices, can lead to degree attainment, then it is imperative to ensure that historically underrepresented students are afforded the same opportunity of participation.

### **Majority of UA Participation Focused on Faculty-Led Programming**

As reported in Section RQ1, study abroad students had oversubscribed participation (96%) in College and University programming as compared to other types of programming. Students participated in provider programs (3.6%) and other programs, though the other programs were excluded from this analysis because they were non-credit bearing experiences. Only credit-bearing experiences were included in the study. The data did not report any participation in an exchange program. A few reasons why Alabama would not have data on exchange participation for these terms could be that Terra Dotta, the application and location database that maintains study abroad records, was not instituted into the Education Abroad office until Fall of 2012. Second, exchange participation at The University of Alabama is always historically low based on how the State of Alabama legislature requires out-of-state students to pay out-of-state tuition. This affects exchange participation at UA since they are not able to charge a negotiated, subsidized tuition rate (normally in-state tuition) for international students. It is customary for universities to charge all students participating in an exchange, both outgoing domestic students, and incoming international students, the same rate so that tuition is essentially a wash. The University of Alabama is provided 55 semester exchange grants from the Provost to

cover the differential tuition between outgoing domestic students, and incoming international students and oftentimes, these semester grants go unused.

As reported in Section RQ3, participation in a program provider increased degree completion (in years) by approximately 1.403 as compared to participation in College and University programs. As reported in Section RQ3, participation in a program provider increased time-to-degree (in terms) by 2.367-fold as compared to participation in a College and University programs. College and University programs, or faculty-led, are run by professors at the university who take groups of students abroad. The majority of the faculty-led programs are run during the summer term as the faculty are usually teaching full course loads during the semester. As described in Table 4.7, 42% of study abroad students participated in a program that was 4 to (less than) 8 weeks in duration, while 27% participated in a program that was 2 to (less than) 4 weeks in duration.

In the Section RQ3 linear regression model, program duration lengths (less than 2 weeks and 2 weeks to less than 4 weeks) contributed most to the model. In the Section RQ6 linear regression model, program duration lengths (less than 2 weeks to less than 4 weeks) contributed most to the model. There is an oversubscription of study abroad participation in shorter-term programs for students at The University of Alabama.

### **Several Variables Affect Degree Completion and Time-to-Degree**

Results from Section RQ2 and RQ 5 noted the predictor variables (gender, race, SES, and major) were statistically significant in understanding the relationship between study abroad and degree completion. When taken as a set, race, gender, SES, and major are used as predictors and about 11% of the variance in degree completion for the study abroad participants can be

predicted. Moreover, when race, gender, SES, and major are used as predictors, about 9% of the variance in time-to-degree for the nonparticipants can be predicted.

Astin's IEO Model (1993) guided this study. Astin's IEO model furthers the idea that student success, as an output measure, is not determined solely by a single input measure (Astin & Antonio, 2012). Instead, outputs must always be evaluated in terms of inputs, and by themselves are of limited use without the addition of the student's educational environment (Astin & Antonio, 2012). Outputs can be viewed as "talents" that are trying to be developed, and inputs refer to the "personal qualities" a student brings with them to the program, while the environment refers to the "student's experiences" during the educational program (Astin & Antonio, 2012, p. 19).

### **Implications for Policy**

#### **Compelling Need to Track More Student Engagement Indicators**

The findings of this study provide useful information for university administrators, faculty, advisors, and students, particularly at The University of Alabama. Although the researcher in this study identified four predictor variables that were statistically significant to this study (race, gender, SES, and major), they understand that this study does not encompass all of the variables that may also be affecting the outcomes. It is clear, through the literature, that a student's experience in college is conditional on a number of interceding factors such as economical, organizational, and cultural variables. As Astin (1984) stated, outputs must always be evaluated by inputs and are useless unless also taking into consideration a student's environment. With the results of this study identifying that participation in a study abroad contributes positively toward degree completion, the University has the opportunity to make a concrete effort in tracking students' HIP participation. Currently, there is no way to track

students' participation in the multitude of curricular and co-curricular experiences that exist on campus. It is quite common for a student to participate in a first-year experience and then later a service-learning opportunity. UA's current curriculum requires all students to take part in a writing intensive class, and that HIP has been connected to heightened academic and personal progress (Bangert-Drowns et al., 2004). We can only speculate the percentage of participation in HIP because there is no standardized method to track participation campus-wide.

Elon University, which has a 26-year history of recording and validating student participation across five Elon Experiences HIPs (research, leadership, internships, service, and global engagement/study abroad) could be used as an aspirational model. The five Elon Experiences reflect "important values which add to the total college experiences and prepare students to be lifelong learners and citizens" (Elon Experiences Transcript, 2021). Pittinsky, an ASU professor and CEO of Parchment, purported that a digital transcript challenges a traditional transcript in that the traditional does not convey how well an institution is doing to prepare students and believes that the main problem is that schools are not assessing, documenting, and communicating their outcomes (Pittinsky, 2017). Tracking HIPs and documenting the activities on a co-curricular transcript could help showcase the true value of a University of Alabama degree.

### **Implications for Practice**

Based on literature on student engagement and the results of this study, there are several suggested practice implications that could result in student success. Research such as Kuh's Student Engagement Theory (2008) reported student participation in high-impact practices have been credited to be favorable toward student success outcomes, such as degree attainment, and have shown an impact in engaging students, encompassing student's varying backgrounds.

Therefore, information that defines predictor variables regarding which students may be most affected by programs to support degree attainment is important. Thus, institutions may implement several strategies to improve their student degree attainment rates and time-to-degree.

### **Passport Pathway Program**

One of the conclusions of Kuh's research is that high impact practices have a pronounced effect on the experiences of underserved students. Even with the success, there are data that indicate historically underserved populations of students participate less often in HIP than their peers (Kinzie et al., 2008). The university should make an effort to structure learning experiences so that every student has the right to do more than one HIP, including participate in a study abroad. Student engagement had a positive, statistically significant effect on persistence, even after controlling for background demographics, other first-year experiences, academic achievement, and financial aid status (Kinzie et al., 2008).

UA could implement a Passport Pathway Program that would target historically underrepresented students in their first year. This pathway program would be a way to begin engaging students internationally with globally focused but locally delivered curricular and/or non-curricular activities. Such activities could include listening to an international guest lecturer, participating in one of the Education Abroad's weekly workshops such as Money Matters, Study Abroad 101, and engaging with the international student community through a buddy program. At the end of the first-year pathway program and after the submission of a reflective deliverable, such as a portfolio or report, the student would earn a passport paid for by the university. While a passport seems like a low-cost commitment, just over \$100, it is a tremendous barrier of entry for study abroad students. Obtaining a passport, while also attaining the knowledge about the benefits and importance of study abroad, its expansion of one's cross-cultural communication

and global marketability, could really support an underserved student who was not thinking about going abroad in the first place. A more developed pathway program, or one that would include a 2nd year, would involve placement into an actual study abroad program.

### **Expanded and Enhanced Faculty-Led Programming**

Synthesizing the literature on student engagement, Bringle (2017) reported characteristics of deep learning which include (a) active learning, (b) frequent feedback from others, (c) collaboration with others, (d) mentored relationships through cognitive apprenticeships, and (e) real-world application of the learning that has occurred. Kuh et al. (2008) described HIPs as having similar characteristics in that they are academically rigorous, they incorporate learning outside of the classroom, require engagement and interaction with faculty members, support collaboration with diverse populations, and provide students with feedback. Students in the current study participated in College and University programs, or faculty-led programs, more than any other types of programs. Well-designed faculty-led programs that are associated with student learning take into consideration the length of the student sojourn, context of academic work, appropriate predeparture orientation, and provide the presence of mentoring and guided reflection. In particular, Vande Berg et al. (2004) stressed the importance of a program having a “trained cultural mentor abroad that would follow in training students to learn the intercultural concepts and skills that would allow them to interact appropriately and effectively with host country nationals” (p. 30). The mentor should teach students how to communicate and reflect on what they are learning, identify ways of becoming more self-aware, and combat sometimes negative judgments when responding to people or events abroad (Vande Berg et al., 2004).

Simply presenting and naming an activity a high-impact practice does not automatically guarantee that students who participate in the activities will benefit in the way that much of the

literature declares (Kuh & Kinzie, 2018). Just like any other learning experience, the implementation quality is critical in realizing the benefits of participation in HIP (Kuh & Kenzie, 2018). Professors at The University of Alabama have the opportunity to take advantage of the popularity of the faculty-led programs and develop academically challenging courses that emphasize student-to-student collaboration and engagement while demanding meaningful engagement with the faculty-led director. The nature of the faculty-student relationship changes when a professor takes students abroad. They are responsible for students, 24-7, so their interaction and engagement are more intense than a normal college experience.

The university could implement the following based on the results of this study:

1. Expand faculty led programming to the departments that are not currently represented in study abroad.

2. Clearly align faculty-led programs to the curriculum by making study abroad courses count toward major and minor credit. The most successful study abroad programs, in recruitment and meeting their enrollment minimums, are those that count toward students' degrees.

3. Develop longer term study abroad programs that are still considered faculty-led programs. Longer study abroad programs tend to be more transformative, based on the fact that students are in-country longer and are able to participate in many more immersive and engaging activities. The university could develop longer study abroad programs, up to a semester, that would provide UA credit toward graduation.

### **Implications for Future Research**

While the purpose of this study was to provide clarity on the relationship between study abroad participation and degree attainment, an equally important purpose was the creation of the secondary database that provides a foundational snapshot of this practice at The University of

Alabama. Study abroad participation has seen incredible growth under the current Director of Education Abroad. Participation has risen from 1,074 students in AY 14-15 to 1,713 in AY 18-19, a 59.5% increase in 5 years. Continued research on the academic impact of study abroad should occur by running similar analyses on an annual basis which could provide more opportunity to document the impact of this HIP at UA. Equally important, there are several known variables that have been shown to affect academic outcomes that were not included for consideration in this study. Future research could focus on digging deeper on the role of academics, by measuring whether students changed their major, the frequency of the change, or if students moved from a STEM to non-STEM major. Similarly, future research could look at high school indicators, either through a student's admission index, SAT/ACT scores, or the earning of AP credit to see if there is correlation with degree attainment.

The results from the analyses indicated that it took Pell Grant students longer to graduate than non-Pell Grant students, regardless of group affiliation (participants vs. nonparticipants). Those familiar with the Pell Grant understand that it is a grant to pay for college expenses for low-income students. A future study could take a critical look at Pell-eligible students and explore their starting point in college as compared to non-Pell Grant students. For instance, are some Pell Grant students also first-generation students, and if so, how does that prepare them to access curricular activities such as study abroad? It would be interesting to investigate Pell Grant students' personal travel habits and see if that is affecting their interest in study abroad when they arrive at college. Future researchers can study "college readiness" indicators and their effect on study abroad participation. These would include AP or dual enrollment hours, ACT/SAT scores, admission indexes, and institutional ranking systems/admission indexes.

As mentioned previously in the implications, UA does not have a campus-wide HIP tracking system. If a tracking system did exist, an area of study could address whether there were benefits in participating in multiple influential practices, such as research or learning communities, within a student's tenure at the university. Kuh had noted,

When I am asked, what one thing we can do to enhance student engagement and increase student success? I now have an answer: make it possible for every student to participate in at least two high impact activities during his or her undergraduate program, one in the first year, and one taken later in relation to the major field. (2008, p. 21)

Astin (1984) stated that involvement can be measured both quantitatively and qualitatively. An area of future investigation could exist by adding a qualitative component to the study for future participants. The University of Alabama reinstated delivering the National Survey of Student Engagement (NSSE) as a part of its Quality Enhancement Plan (QEP) for reaccreditation. The NSSE now has a Global Learning Topical Module (2020) that “assesses student experiences and coursework that emphasize global affairs, world cultures, nationalities, religions, and other international topics” (NSSE, 2020). Future research could implement the Global Learning Module to offer another set of data to triangulate the results of this study. Conversely, a set of questions could be devised to secure students' voices as related to their interpretation of the results. The researcher predicts that questions could be crafted around the four themes that exist in making HIPs effective educational practices. Some sample questions could be the following:

1. Academic challenge of the study abroad program—Questions could ask student participants to speak on the required effort of their program, if opportunities existed to reflect, and if their program had a connection toward their academic program or college.

2. Learning with peers during the study abroad program—Questions could ask student participants to speak on the emphasized student-to-student collaboration or perceived engagement with people who are different from themselves.

3. Experiences with faculty during the study abroad program—Questions could ask student participants to speak on perceived meaningful interactions with faculty.

4. Experiences with the campus environment—Questions could ask student participants to speak on perceived supportive campus environment (abroad) or domestically such as the application process, scholarship advising, pre-departure orientation, and return programming.

### **Conclusion**

In closing, one of the leading purposes for higher education is to prepare students for a global workforce. The retention and graduation of said students is key to managing this purpose. Increasing college degree attainment rates is essential not only for an institution's reputation with its stakeholders, but also for the increased transparency due to the fact of the substantial investment of attending college. Students who participate in study abroad programs experience expansion in academic and personal growth, and oftentimes consider their experience life changing (Metzger, 2006). High impact practices, such as studying abroad, have been shown to be engaging educational activities that lead to positive outcomes such as increased student retention and degree completion rates (Kuh, 2008). While study abroad had been "identified as a modern retention theory by researchers, more work could be done to connect the practice to specific academic outcomes" (Di Maggio, 2016). A promising area for international education research is its impact on college success, such as academic performance and degree completion (Rubin et al., 2014). This study on the academic impact of study abroad at The University of

Alabama has added to the literature and the call that is placed on the field of international education.

In an unprecedented manner, the insurgence of the Coronavirus-19 pandemic halted international travel world-wide and crippled the field of international education in 2020. NAFSA (Association of International Educators) reported in a survey of the financial impact of COVID-19 on international education that US higher education lost nearly \$1 billion due to shortened or canceled study abroad programs (NAFSA, 2020). Ninety-four percent of institutions in the survey reported shortened or canceled programs in 2020 and 64% responded that staff positions have already and may in the future be impacted by the cancellations of such programs (NAFSA, 2020). Our country's restrictions on entry, quarantine requirements, slow rollout of the vaccine, and new COVID-19 variants have created a lot of uncertainty of future international travel. Original plans to restart study abroad for Spring 2021 have been altered due to safety concerns, continued entry restrictions, and lockdowns sweeping nations in Europe, South America, and Asia. Study abroad has hit rock bottom and will need to be rebuilt when the pandemic is under control. Even through these tragic events, university officials can take the time to reconstruct study abroad with an intentionality that is clearly aligned with the curriculum and focused on engaging peer-to-peer interaction, both within members of a study abroad program, and the citizens of the countries abroad. One of the lessons that the pandemic has taught us is that we crave authentic human connections. There is hope that study abroad will continue to be the venue that allows students to open their minds, learn from another culture, and create new holistic foundations in which they can build their own life and achieve their potential as citizens of the world.

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APPENDIX A:  
DATA CODEBOOK

<u>Variable Name</u>	<u>Description</u>	<u>Value</u>	<u>Literature/notes</u>
UNIQUE_ID	Unique identifier: A de-identified ID indicating a student observation. The same student should have the same Unique ID for tracking purposes	Nominal # of digits, unknown	
IPEDS_ID	IPEDS Institutional ID: Unique institutional ID assigned by IPEDS	Nominal 100751	
SEMESTER	Semester: A calendar system that consists of two sessions called semesters during the academic year with about 15 weeks for each semester of instruction. There may be an additional summer session.	Dichotomous 0 = No 1 = Yes Always = 1 = Yes	
QUARTER	Quarter: A calendar system in which the academic year consists of 3 sessions called quarters of about 12 weeks each. The range may be from 10 to 15 weeks as defined by the institution. There may be an additional quarter in the summer.	Dichotomous 0 = No 1 = Yes Always = 0 = No	
SEM_WINT	Semester Winter: A calendar system that typically includes two four month-long semesters, with a month-long mini-session in between. At many colleges, this means that students are enrolled in courses in the fall and spring semesters, but spend January pursuing one specific class or opportunity.	Dichotomous 0 = No 1 = Yes Always = 0 = No	
ENRL_TERM	Enrollment Term: For Semester based schools, allowable responses are: Summer, Fall, Spring	Nominal 1 = Spring 2 = Summer 3 = Fall	Hamir (2011); Xu, de Silva, Neufeldt, Dane (2013) <i>when to SA; SA earlier would increase 4 year GRate;</i> BaileyShea (2009) <i>early involvement predicts invol. In SA</i>
ENRL_YR	Calendar year. Twelve-month period starting with January 1 and ending with December 31.	Ordinal	i.e. 2010 or 2011
Cohort_10_11	Recoded major to identify which cohort a student is in based on enrollment term and year	Nominal 0 = Fall 2010 1 = Fall 2011	
SAT_MATH	SAT Math: For students that took the SAT between 2005-2016, provide their Math,	Interval 0 - 800	

	Critical Reading, and Writing scores (Range: 0-800). For students that took the SAT prior to 2005, provide their Math and Verbal score (Range: 0-800). Use the Critical Reading/Verbal column in the Data Template to report Critical Reading and Verbal scores.		
SAT_READ	SAT Reading: For students that took the SAT between 2005-2016, provide their Math, Critical Reading, and Writing scores (Range: 0-800). For students that took the SAT prior to 2005, provide their Math and Verbal score (Range: 0-800). Use the Critical Reading/Verbal column in the Data Template to report Critical Reading and Verbal scores.	Interval 0-800	
SAT_WRITE	SAT Writing: For students that took the SAT between 2005-2016, provide their Math, Critical Reading, and Writing scores (Range: 0-800). For students that took the SAT prior to 2005, provide their Math and Verbal score (Range: 0-800). Use the Critical Reading/Verbal column in the Data Template to report Critical Reading and Verbal scores.	Interval 0-800	
SAT_COMP	SAT Composite: For students that took the SAT between 2005-2016, provide their Math, Critical Reading, and Writing scores (Range: 0-800). For students that took the SAT prior to 2005, provide their Math and Verbal score (Range: 0-800). Use the Critical Reading/Verbal column in the Data Template to report Critical Reading and Verbal scores.	Interval Composite	Use composite score? Will need to investigate data to see which to choose, SAT verbal vs. writing  Briggs (2012); Heller (2003); O'Reat et al (2012); Reason (2009); Haupt, Ogden, & Rubin (2018)
ACT_ENG	ACT Scores English: Five ACT Scores are requested: English, Math, Reading, Science, and Composite. Score range: 1-36	Interval 1-36	

ACT_MATH	ACT Scores Math: Five ACT Scores are requested: English, Math, Reading, Science, and Composite. Score range: 1-36	Interval 1-36	
ACT_READ	ACT Scores Reading: Five ACT Scores are requested: English, Math, Reading, Science, and Composite. Score range: 1-36	Interval 1-36	
ACT_SCI	ACT Scores Science: Five ACT Scores are requested: English, Math, Reading, Science, and Composite. Score range: 1-36	Interval 1-36	
ACT_COMP	ACT Scores Composite: Five ACT Scores are requested: English, Math, Reading, Science, and Composite. Score range: 1-36	Interval 1-36	Use this composite score Briggs (2012); Heller (2003); O'Reat et al (2012); Reason (2009); Haupt, Ogden, & Rubin (2018)
HS_GPA	High School GPA: A measure of average performance in all courses taken by a person during his or her high school career as determined for record-keeping purposes. This is obtained by dividing the total grade points received by the total number of credits attempted. Report GPA with 2 decimal points (e.g., 2.68)	Ratio 0-5.00	Look to see what the highest GPA is, weighted Malgreen & Glavin (2008); Briggs (2012); Heller (2003); O'Reat et al (2012); Reason (2009); Haupt, Ogden, & Rubin (2018)
INST_ADMI	Institution Specific Admissions Index: If your institution uses a specific index for determining admission or rank, please provide (e.g. Freshman Index, HS Rank), along with information about how to interpret this rank (e.g. 1 to 100 with 100 being highest). This institution specific admission index will only be used for micro-analyses at your specific institution, if requested.	Interval 1-100	

IPED_HISP	IPEDS Race: Categories developed in 1997 by the Office of Management and Budget (OMB) that are used to describe groups to which individuals belong, identify with, or belong in the eyes of the community. The categories do not denote scientific definitions of anthropological origins. The designations are used to categorize <i>U.S. citizens, resident aliens, and other eligible non-citizens</i> . IPEDS records race/ethnicity through two questions. Please provide the responses to both questions if available.	Dichotomous 0 = Not Hispanic/Latinx 1 = Hispanic/Latinx	Raby, Rhodes, & Biscarra (2014)
IPED_RACE	IPEDS Ethnicity: Categories developed in 1997 by the Office of Management and Budget (OMB) that are used to describe groups to which individuals belong, identify with, or belong in the eyes of the community. The categories do not denote scientific definitions of anthropological origins. The designations are used to categorize <i>U.S. citizens, resident aliens, and other eligible non-citizens</i> . IPEDS records race/ethnicity through two questions. Please provide the responses to both questions if available.	Nominal 1 = American Ind/ Alaska Native 2 = Asian 3 = Black or African American 4 = Native Hawaiian or other Pacific Islander 5 = White	Can we recode this data to represent White, Black, Other? Or White and Non-White?  Raby, Rhodes, & Biscarra (2014)
IPED-American Indian	American Indian race self-reported by student	Dichotomous 0 = Not American Indian 1 = American Indian	
IPED-Asian	Asian race self-reported by student	Dichotomous 0 = Not Asian 1 = Asian	
IPED-Black	Black/African American race self-reported by student	Dichotomous 0 = Not Black 1 = Black	
IPED-Hawaiian	Hawaiian or Other Pacific Islander race self-reported by student	Dichotomous	

		0 = Not Hawaiian 1 = Hawaiian	
IPED - White	White race self-reported by student	Dichotomous 0 = Not White 1 = White	
Race (non-white)	Recoded variable A second race variable was created because the count of students for minority students was low. The ethnicity (non-White) variable included White (coded = 1) and non-White which combines American Indian/Alaskan Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander together (coded = 2).	Dichotomous 1 = White 2 = Not White	
SEX	Sex: The concept describing the biological traits that distinguish the males and females of a species. Allowable responses are: Male; Female; NA	Dichotomous 0 = Not Female 1 = Female	Further coding is necessary to make these 3 values into 2 (male, female, NA)
FIRST_GEN	First Generation: Categories used to describe a student based on parent/legal guardian's highest educational attainment. Allowable responses are: Yes-Neither parent has completed a baccalaureate degree. If information is only known about one parent/guardian and that person did not complete a baccalaureate respond Yes. Unknown-Information about parental education is not known about any parent/guardian. · No-Otherwise	Dichotomous 0 = No and Unknown 1 = Yes, neither parent completed baccalaureate degree	Further coding is necessary to make these 3 values into 2.  Raby, Rhodes, & Biscarra (2014)
BIRTH_DT	Birthdate: Month and year of birth. Format ###/#####	Nominal 031980 March 1980	Check the data to confirm format if it does or doesn't have "slash"
DEGREE_LVL	Degree Level Being Pursued: Person is enrolled in courses for credit and recognized by the institution as seeking a degree. Allowable responses are: · Associate's	Dichotomous 0 = Bachelor with Masters 1 = Bachelors	

	Bachelor's · Bachelor's with Master's		
MAJOR	Categories used to describe a student's curriculum of study for their major and/or minor. For a complete list of CIP codes, see: <a href="https://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55">https://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55</a> . Response should have six digits. The Data Template has space for up to 3 majors and 3 minors. If a student has more than 3 majors and/or minors please add additional columns.	Nominal 6 digits; i.e., 10.0304	Lee & Green (2016) <i>SA requirement for major/minor</i>
MINOR	Categories used to describe a student's curriculum of study for their major and/or minor. For a complete list of CIP codes, see: <a href="https://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55">https://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55</a> . Response should have six digits. The Data Template has space for up to 3 majors and 3 minors. If a student has more than 3 majors and/or minors please add additional columns.	Nominal 6 digits; i.e., 10.0304	Lee & Green (2016) <i>SA requirement for major/minor</i>
FL_IND	Foreign Language Indicator Yes/No indicator for whether the student took a foreign language course in the term		
FL_COURSE1	Provide Course Acronym and Number. Acronym is the 4-character abbreviation of the program of study of the course. Number is the 4-character sequence designating the level of the course. Students may take multiple foreign language courses in a term. The Data Template provides space for up to 4 foreign courses per term. If a student takes more than 4 foreign language courses in a term please add additional columns.	Nominal i.e., SPAN 101	
FL_COURSE2	Provide Course Acronym and Number. Acronym is the 4-character abbreviation of the program of study of the course. Number is the 4-character sequence designating the level of the course. Students may take multiple foreign language courses in a term. The Data Template provides space for up to 4 foreign courses per term. If a student takes	Nominal i.e. SPAN 101	

	more than 4 foreign language courses in a term please add additional columns.		
FL_COURSE3	Provide Course Acronym and Number. Acronym is the 4-character abbreviation of the program of study of the course. Number is the 4-character sequence designating the level of the course. Students may take multiple foreign language courses in a term. The Data Template provides space for up to 4 foreign courses per term. If a student takes more than 4 foreign language courses in a term please add additional columns.	Nominal i.e. SPAN 101	
FL_COURSE4	Provide Course Acronym and Number. Acronym is the 4-character abbreviation of the program of study of the course. Number is the 4-character sequence designating the level of the course. Students may take multiple foreign language courses in a term. The Data Template provides space for up to 4 foreign courses per term. If a student takes more than 4 foreign language courses in a term please add additional columns.	Nominal i.e., SPAN 101	
EA_DEF	Education abroad is the act of a student pursuing educational opportunities in a country other than the U.S. Education abroad can be done in various contexts-as a stand-alone course, as part of a course which predominantly takes place at the domestic institution but involves a period abroad, etc. It also includes programs that are both credit bearing and non-credit bearing (e.g., Student Engineers without Borders).	Data unknown?	Check with data to confirm.
EA_IND	Education Abroad Indicator: Yes/No indicator for whether the student was enrolled in an education abroad program during the term.	Dichotomous 0 = No, study abroad 1 = Yes, study abroad	NSSE (2007); Kuh (2009); Hamir (2011); Metzger (2006); Xu, de Silva, Neufeldt, Dane (2013) <i>EA does affect retention</i> Haupt, Ogden, Rubin (2018);

			Johnson & Stage (2018)
EA_LOC1	Education Abroad Location: Country Code of the country the education abroad program took place in. Use the IIE Country Code list provided in the Data Template. If the education abroad took place in multiple locations, please add columns listing the various destinations. Use the following naming convention for column headings: Education Abroad Location 1, Education Abroad Location 2, etc.	Nominal	Use the list provided by template  Do we want to use Western Europe and Non-Western Europe (non-traditional locations) or set up by Region (Africa, Asia, Middle East, etc...)
EA_LOC2	Education Abroad Location: Country Code of the country the education abroad program took place in. Use the IIE Country Code list provided in the Data Template. If the education abroad took place in multiple locations, please add columns listing the various destinations. Use the following naming convention for column headings: Education Abroad Location 1, Education Abroad Location 2, etc.	Nominal	Use the list provided by template  Do we want to use Western Europe and Non-Western Europe (non-traditional locations) or set up by Region (Africa, Asia, Middle East, etc...)
EA_LOC3	Education Abroad Location: Country Code of the country the education abroad program took place in. Use the IIE Country Code list provided in the Data Template. If the education abroad took place in multiple locations, please add columns listing the various destinations. Use the following naming convention for column headings: Education Abroad Location 1, Education Abroad Location 2, etc.	Nominal	Use the list provided by template  Do we want to use Western Europe and Non-Western Europe (non-traditional locations) or set up by Region (Africa, Asia,

			Middle East, etc...)
EA-Region			
EA_LANGI	Education Abroad Language of Instruction: Was the Education Abroad program taught in English? Allowable responses are Yes, No, Mix.	Nominal 0 = No 1 = Yes 2 = Mix	
EA_DUR	Education Abroad Duration: Length of education abroad participation. Do not include time spent in the program that was conducted at the domestic institution (e.g. If a student participates in a semester long course, but only 1 week was spent abroad, then the duration of the program should be listed as Less than Two Weeks). Allowable responses are: Less than Two Weeks Two to (less than) Eight Weeks. If more granular information is available, please specify if program was: Two to (less than) Four Weeks Four to (less than) Eight Weeks Eight to (less than) one Semester/Quarter One Semester/Quarter More than One Semester/Quarter	Nominal	Confirm the data that was answered to determine the duration breakdown. Also confirm literature  Kuh (2009) <i>longer experience</i> ; Xu, de Silva, Neufeldt, Dane (2013) <i>is semester better</i>  *** Adding to the literature ***
EA_PRGTY	Education Abroad Program Type: hat was the type/format of the education abroad? Allowable responses are: College & University Program: Programs administered through the institution's education abroad office. Many are tied to curriculum, embedded into a course, and/or faculty led Reciprocal Exchange Program: Contractual exchanges between a host institution abroad and a U.S. home institution. Traditionally, these are a one-for-one exchanges and students register at and pay tuition at their home university.	Nominal 1 = College or University (UA Faculty led) 2 = Exchange 3 = Provider 4 = Other	

	<p>Program Provider: International education organizations that provide services in addition to course enrollment overseas.</p> <p>Other: Please offer a brief description</p>		
EA_EXPTY	<p>Education Abroad Experience Type: Specify whether the education abroad experience was classroom based, experiential learning (e.g. internship, service learning, Independent or field based research), or a mix of the two.</p>	<p>Nominal</p> <p>1 = Classroom</p> <p>2 = Experiential</p> <p>3 = Mix</p>	
EA_CREDIT	<p>Education Abroad for Credit: Is the education abroad a credit bearing program/course (s)? Allowable responses are Yes, No.</p>	<p>Dichotomous</p> <p>0 = No</p> <p>1 = Yes</p>	
TVI_PART	<p>Title VI, Language Flagship, or Institution-Specific Foreign Language Support Program Participation Indicator: Yes/No indicator for whether the student participated in a Title VI, Language Flagship, or Institutional Foreign Language Support program.</p> <p>Title VI participation encompasses (a) receiving a fellowship from Title VI funds (e.g., FLAS), (b) completing a credit bearing class that was developed or substantially revamped using Title VI funds (e.g., developed as part of a UISFL grant), or receiving special advising or substantive academic affiliation enabled via a Title VI grant (e.g., engaging in a global business simulation team sponsored by a CIBE project)</p> <p>Language Flagship is a Department of Defense sponsored program at 21 universities and colleges around the U.S. The program provides undergraduate students with the opportunity to pursue professional-level language</p>	<p>Dichotomous</p> <p>0 = No</p> <p>1 = Yes</p>	
TVI_TYPE	<p>Title VI, Language Flagship, or Institution-Specific Foreign Language Program Type: Please list one or more of the programs students may have participated in.</p> <p>Centers for International Business Education</p>		

	<p>Foreign Language and Area Studies Fellowships</p> <p>Language Resource Centers</p> <p>National Resource Centers</p> <p>Undergraduate International Studies and Foreign Language Program</p> <p>Language Flagship</p> <p>Institution-Specific Foreign Language Support</p>		
PELL	Pell Grant Recipient: Yes/No indicator for whether student received a Pell Grant this term.	Dichotomous 0 = No 1 = Yes	Raby, Rhodes, & Biscarra (2014)  *** Adding to the literature; Replicates CASSIE ***
NB_AID	Received Any Other Need-Based Grant Recipient: Yes/No indicator for whether student received a need-based grant this term (does not include Pell)	Dichotomous 0 = No 1 = Yes	Raby, Rhodes, & Biscarra (2014) *** Adding to the literature; Replicates CASSIE ***
AD_GROSSI	Adjusted Gross Income: This is an individual/family's total gross income minus specific deductions as defined by the Internal Revenue Service. AGI can be found on a student's FAFSA form. If this information is not available, leave this field blank.	Interval Format XXX, XXX	Confirm format when see data  *** Adding to the literature; Replicates CASSIE ***
CTERM_GPA	College Term GPA: A measure of average performance in all courses taken by a person during a term. This is obtained by dividing the total grade points received by the total number of credits attempted in that term. Report GPA with 2 decimal points (e.g., 2.68). Do not include transfer hours.	Ratio 0-5.00	
CCUM_GPA	Cumulative GPA: A measure of average performance in all courses taken by a person during all past terms of college. This is obtained by dividing the total grade points received by the total number	Ratio 0-5.00	Raby, Rhodes, & Biscarra (2014); Malgreen & Glavin (2008)

	of credits attempted up to and including term of interest. Report GPA with 2 decimal points (e.g., 2.68). Do not include transfer hours.		
ADV_STD	Advanced Standing Hours Accepted by your Institution: The number of credit hours accepted from Advanced Placement, International Baccalaureate, Dual Enrollment, CLEP, ACE, DANTES, and other evaluated programs prior to a student's matriculation as a First Time Freshman.	Interval 0-100	
CUMHR_ATM P	Cumulative Credit Hours Attempted (at your institution): The sum of the course credit hours attempted during the current term and all past terms. Exclude transfer hours.	Interval 0-200	
CUMHR_EAR N	Cumulative Credit Hours Earned (at your institution): The sum of the course credit hours earned during the current term and all past terms. Exclude transfer hours.	Interval 0-200	Raby, Rhodes, & Biscarra (2014)
CUMTRF_HR	Cumulative Transfer Hours: The sum of course credit hours taken at another institution and accepted for credit by your institution as of the current term.	Interval 0-200	
DGLV_AW1	Degree Level Awarded: Degree student was awarded. Allowable responses are: · Associate's · Bachelor's · Bachelor's with Master's If a student received more than 2 degrees please add additional columns.	Dichotomous 0 = Bachelor with Masters 1 = Bachelors	
DGLV_AW2	Degree Level Awarded: Degree student was awarded. Allowable responses are: · Associate's · Bachelor's · Bachelor's with Master's If a student received more than 2 degrees please add additional columns.	Dichotomous 0 = Bachelor with Masters 1 = Bachelors	
CIP_AWARD1	CIP Awarded: Six digit CIP code reflecting the curriculum of study the student received an award in.	Nominal 6 digits; i.e. 10.0304	
CIP_AWARD2	CIP Awarded: Six digit CIP code reflecting the curriculum of study the student received an award in.	Nominal 6 digits; i.e. 10.0304	

TERM_AW1	Term Awarded: Term that the student was awarded a degree	Nominal 1 = Spring 2 = Summer 3 = Fall	Students may receive multiple degrees. The Data Template provides space for up to 2 degrees; please add more columns if a student received more than 2 degrees. If your institution records minor, please also provide that. Raby, Rhodes, & Biscarra (2014); Malgreen & Glavin (2008); Kuh (2009); Johnson & Stage (2018)
TERM_AW2	Term Awarded: Term that the student was awarded a degree	Nominal 1 = Spring 2 = Summer 3 = Fall	Raby, Rhodes, & Biscarra (2014); Malgreen & Glavin (2008); Kuh (2009); Johnson & Stage (2018)
YEAR_AW1	Year Awarded: Calendar year the student was awarded a degree	Ordinal i.e., 2010 or 2011	Raby, Rhodes, & Biscarra (2014); Malgreen & Glavin (2008); Kuh (2009); Johnson & Stage (2018)
YEAR_AW1	Year Awarded: Calendar year the student was awarded a degree	Ordinal i.e., 2010 or 2011	Raby, Rhodes, & Biscarra (2014); Malgreen & Glavin (2008); Kuh (2009);

			Johnson & Stage(2018)
Concat_TermYear1	Concat Degree Awarded 1 Term Year	Nominal Text i.e., Spring2016	
DegAwdMajor1	Recoded Degree Awarded Major 1	Categorical scale 0 = Undecided 1 = Business and Consumer Sciences 2 = Engineering / Computer Science 3 = Arts and Humanities 4 = Life and Human Sciences 5 = Social Sciences 6 = Physical Sciences 7 = Communication Sciences 8 = Education 9 = Other	
DegAwdMajor1 STEM	Is the major a science, technology, engineering and mathematics?	Nominal value 0 = No 1 = Yes	
DoubleDegree	Is this student enrolled in two bachelor's degree	Nominal value 0 = No 1 = Yes	

DegAwd Major OneStem	Double Degree Awarded Major – At least one STEM	Nominal value 0 = No 1 = Yes	
Concat_TermYear2	Concat Degree Awarded 2 Term Year	Nominal Text i.e.. Spring2016	
DegAwdMajor2	Recoded Degree Awarded Major 2	Categorical scale 0 = Undecided 1 = Business and Consumer Sciences 2 = Engineering / Computer Science 3 = Arts and Humanities 4 = Life and Human Sciences 5 = Social Sciences 6 = Physical Sciences 7 = Communicati on Sciences 8 = Education 9 = Other	
DegAwd Major2 STEM	Is the major 2 a science, technology, engineering and mathematics?	Nominal value 0 = No 1 = Yes	

APPENDIX B:

IRB



The University of Alabama
801 University Blvd
Tuscaloosa AL
TEL: 205 348 6457
FAX:

NOTICE OF APPROVAL FOR HUMAN RESEARCH

DATE: March 13, 2020
TO: Robinson, Carolina, Educational Leadership, Policy and Technology Studies (ELPTS)
Laanan, Frankie, Educational Leadership, Policy, and Technology Studies, Wright, Vivian, Educational Leadership, Policy, and Technology Studies
FROM: Graham, Jeanelle, MPH, Research Compliance Specialist, NM Expedited
PROTOCOL TITLE: Impact of Study Abroad Participation on Graduation Rates
FUNDING SOURCE: NONE
PROTOCOL NUMBER: 20-01-3257

The Institutional Review Board (IRB) for the protection of human subjects has reviewed the protocol entitled: Impact of Study Abroad Participation on Graduation Rates. The project has been approved for the procedures and subjects described in the protocol. This protocol must be reviewed for renewal on a yearly basis for as long as the research remains active. Should the protocol not be renewed before expiration, all activities must cease until the protocol has been re-reviewed.

If approval did not accompany a proposal when it was submitted to a sponsor, it is the PI's responsibility to provide the sponsor with the approval notice.

This approval is issued under University of Alabama's Federal Wide Assurance 00004939 with the Office for Human Research Protections (OHRP). If you have any questions regarding your obligations under Committee's Assurance, please do not hesitate to contact us.

Please direct any questions about the IRB's actions on this project to:

Graham, Jeanelle

Graham, Jeanelle

Review Type: EXEMPT
IRB Number: 03

February 9, 2021

Carolina Robinson  
Department of ELPTS  
College of Education  
The University of Alabama  
Box 870302

Re: IRB # EX-20-CM-084-R1 "Impact of Study Abroad Participation on Graduation Rates"

Dear Ms. Robinson:

The University of Alabama Institutional Review Board has granted approval for your renewal application. Your renewal application has been given exempt approval according to 45 CFR part 46.104(d)(4) as outlined below:

*(4) Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met: (ii) Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects;*

The approval for your application will lapse on February 8, 2022. If your research will continue beyond this date, please submit the annual report to the IRB as required by University policy before the lapse. Please note, any modifications made in research design, methodology, or procedures must be submitted to and approved by the IRB before implementation. Please submit a final report form when the study is complete.

Good luck with your research.

Sincerely,



Director & Research Compliance Officer