LEARNING PROSOCIALITY THROUGH EXPERIENCE: MODELING THE OUTCOMES OF POSTSECONDARY STUDY ABROAD AND SERVICE LEARNING

CHRISTINA Monte

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LEARNING PROSOCIALITY THROUGH EXPERIENCE: MODELING THE
OUTCOMES OF POSTSECONDARY STUDY ABROAD AND SERVICE
LEARNING

A Dissertation Presented

by

CHRISTINA RACHEL MONTE

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2018

Education
LEARNING PROSOCIALITY THROUGH EXPERIENCE: MODELING THE OUTCOMES OF POSTSECONDARY STUDY ABROAD AND SERVICE LEARNING

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DEDICATIONS

This dissertation is dedicated to my parents – Tom and Toby Monte, whose love and support sustained me through this process. Thank you for your unwavering belief in my ability to complete a PhD, and for sharing in my joys and struggles along the way. I also dedicate this to Hailey, my Cavalier King Charles Spaniel who spent countless hours keeping me company while I wrote and forced me to get outside and take regular breaks. I am grateful for her company and unconditional love.
ACKNOWLEDGEMENTS

I am deeply grateful to my advisor, Dr. Ezekiel Kimball. Your systematic approach and expertise were invaluable throughout this process. You took my ideas and made them so much better. Thank you for giving your time and energy, and for directing this dissertation to its completion with incredible patience and dedication. I will always be grateful for your consistency, endless support and willingness to work with me to bring this dream to fruition.

I would like to express appreciation to my committee, Dr. Ryan Wells and Dr. Jane Miller. Ryan Wells, thank you for generously giving your time, insight and direction, particularly in the review of data and statistical analyses. Jane Miller, thank you for your feedback on my dissertation and consistent encouragement of both my dissertation and career at the Isenberg School of Management. I have always felt your support and it has been a privilege to have you in this role on my committee.

I owe a tremendous debt of heartfelt appreciation to my mentor, Dr. Linda Shea. It is with profound humility and gratitude that I thank you for your mentorship, guidance and friendship over the years. This achievement would not have been possible without you encouraging me to pursue a doctorate in the first place and then giving endless flexibility, understanding and support throughout the process. You have left an indelible mark on my life and I will always do my best to make you proud.

I also want to acknowledge the people who showed up along the way and gave their time and energy when they had no obligation to, but when I needed it most. Steve McGinty, Jessica Pearlman, Suzan Kommers and Cathy Manly, whether it was helping me navigate statistical and methodological challenges or offering information and support, I am grateful for the positive impact you had on my doctoral experience.
ABSTRACT

LEARNING PROSOCIALITY THROUGH EXPERIENCE: MODELING THE OUTCOMES OF POSTSECONDARY STUDY ABROAD AND SERVICE LEARNING

MAY 2018

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In recent years, study abroad and service learning programs have experienced rapid growth on college campuses. Study abroad requires students to travel to another country and experience a different culture while service learning exposes students to differences that exist in their own communities. Study abroad has the ability to internationalize the student experience. Service learning can help students recognize the needs of others. As a result, both study abroad and service learning programs have been tied to student development outcomes; however, the extent to which these experiences influence outcomes that persist after college graduation and into young adulthood is unclear. Studies have explored outcomes associated with domestic service learning and study abroad, yet few have looked at outcomes after college graduation. In addition, much of the evidence surrounding study abroad and service learning has been self-reported immediately after the experience and is based on limited evidence.

This dissertation addresses three gaps in existing literature. First, this study uses a longitudinal dataset to systematically investigate the long-term outcomes of study abroad,
service learning, and both study abroad and service learning. Second, this research uses a nationally representative dataset, rather than the small convenience samples that have been common in prior research, in order to produce generalizable claims. Finally, this research simultaneously investigates study abroad, service learning, and both study abroad and service learning to identify the effects of these programs and differences in prosociality outcomes. Research identifying how these activities influence prosocial outcomes in young adult life is necessary so that institutions can measure whether the objectives of these programs are realized. Additionally, with colleges and universities increasingly merging study abroad and service learning to offer international service learning programs, more research is necessary to explore differences in outcomes to determine whether institutional objectives are met.

This study is framed by a comprehensive review of extant literature on study abroad and service learning. Based on this review, a modified version of Terenzini and Reason’s (2005) Conceptual Model for College Student Experience is recommended. The modified model suggests outcomes should be extended beyond those defined in the current model. The modified model posits global citizenship to be a primary goal of higher education and suggests the model extend beyond learning, development, change and persistence, which are defined as the finite goals of the Terenzini and Reason (2005) model. As such, it incorporates outcomes related to civic engagement and prosociality, which contribute to global citizenship. To examine study abroad and service learning through the lens of this conceptual model, this study uses data from the Educational Longitudinal Study [ELS] of 2002-2012. ELS provides data on critical transitions experienced by students as they move through high school into postsecondary education
and their careers. For this study, data was drawn from the first follow-up survey, which was administered in 2004 to seniors in high school and then in 2012 to those who went on to college and graduated from a four year institution. The analytic sample for this study included those who completed the third follow-up survey and earned a bachelor’s degree or higher at that time. This study employed a quantitative research design using regression analyses, a Wald test and descriptive statistics to answer the three research questions.

The results of this research revealed differences in study abroad, service learning, and both study abroad and service learning participation by gender, race and socioeconomic status. White, affluent females comprised the majority of study abroad and service learning participants. Additionally, females comprised the majority of those placing high value on helping others while in high school and were among those most likely to complete service work prior to college. In addition to looking at precollege characteristics and in college participation, this research explored the relationship between study abroad, service learning, and both study abroad and service learning on prosociality four years after college graduation. The results of the regression analyses indicated that service learning and both study abroad and service learning were predictors of prosociality four years after college graduation; however, study abroad alone was not a predictor. In addressing the differences in prosociality within each activity, the outcomes were compared. The results showed the highest mean found when both study abroad and service learning had occurred in college followed by service learning only. Study abroad produced the lowest prosociality among the activities; however, it was still higher than if a participant had done neither study abroad nor service learning.
The results of this dissertation show that study abroad and service learning appear successful in achieving certain developmental outcomes in students. Interpreting these results through the lens of Kolb’s Experiential Theory Model aids in better understanding the results of this study. Kolb’s Experiential Learning Theory emphasizes learning as a process of re-learning with reflection and active engagement as key components to successful learning. The integration of study abroad and service learning has the potential to deepen experiential learning, and with these two programs being merged with increasing frequency, more research needs to investigate the joint effects of study abroad and service learning. Notably, this study’s findings may understate the effects of combined study abroad and service learning due to the way that relevant ELS variables recorded study abroad and service learning participation. With better data, higher education administrators will be able to speak about international service learning more intentionally. Further, they will be more effective in setting objectives for these programs and meeting those objectives.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>v</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>vi</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xiii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xiv</td>
</tr>
<tr>
<td>CHAPTER</td>
<td></td>
</tr>
<tr>
<td>1. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>2</td>
</tr>
<tr>
<td>Research Questions</td>
<td>4</td>
</tr>
<tr>
<td>Significance</td>
<td>5</td>
</tr>
<tr>
<td>Outline of Study</td>
<td>7</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>8</td>
</tr>
<tr>
<td>2. LITERATURE REVIEW</td>
<td>10</td>
</tr>
<tr>
<td>Key Conceptual Constructs</td>
<td>10</td>
</tr>
<tr>
<td>Global Citizenship, Civic Engagement and Prosociality</td>
<td>10</td>
</tr>
<tr>
<td>Global Citizenship</td>
<td>12</td>
</tr>
<tr>
<td>Civic Engagement</td>
<td>14</td>
</tr>
<tr>
<td>Prosociality</td>
<td>16</td>
</tr>
<tr>
<td>Terenzini and Reason (2005) Conceptual Model</td>
<td>17</td>
</tr>
<tr>
<td>Student Precollege Characteristics and Experiences</td>
<td>20</td>
</tr>
<tr>
<td>Study Abroad</td>
<td>21</td>
</tr>
<tr>
<td>Service Learning</td>
<td>24</td>
</tr>
<tr>
<td>The College Experience: Organizational Context</td>
<td>26</td>
</tr>
<tr>
<td>Internal Structures, Policies, and Practices</td>
<td>26</td>
</tr>
<tr>
<td>Study Abroad</td>
<td>28</td>
</tr>
<tr>
<td>Service Learning</td>
<td>31</td>
</tr>
</tbody>
</table>
Curricula and Co-curricular Programs, Policies, and Practices…..32

Faculty Culture…………………………………………………..33

Study Abroad…………………………………………………….34
Service Learning…………………………………………………..34

The College Experience: Peer Environment…………………………….36

The College Experience: Individual Student Experience……………..37

Study Abroad…………………………………………………….38
Service Learning…………………………………………………..39

Outcomes……………………………………………………………….39

Study Abroad…………………………………………………….40
Service Learning…………………………………………………..42
Key Differences in Study Abroad and Service ………………….46

Summary of Relevant Literature……………………………………….47
Theoretical Framework Kolb's Experiential Learning Theory …………48
Modification to Terenzini and Reason Conceptual Model……………..52

3. METHODS…………………………………………………………………..55

Data Source………………………………………………………….56
Sample………………………………………………………………59
Missing Data…………………………………………………………59
Analytic Sample…………………………………………………….62
Variables……………………………………………………………….64

Outcome Variable……………………………………………………66

Prosociality…………………………………………………………….66

Test of Internal Consistency for Prosociality Variable……………….66

Independent Variables………………………………………………….67

Student Precollege Characteristics and Experiences………………….67

Race/Ethnicity…………………………………………………………67
Socioeconomic status………………………………………………….68
Sex……………………………………………………………………...68
Frequency of community services…………………………………….69
Importance of helping others in community

Organizational Context

Institution type
Transfer
Major

Individual Student Experience

Study Abroad
Service Learning
Study Abroad and Service Learning
SASLupdated
High-impact activities

Statistical Analysis
Assumptions of Regression
Limitations
Summary

4. RESULTS

Research Question 1
Research Question 1a
Research Question 1b
Research Question 1c
Research Question 2
Research Question 3
Summary

5. DISCUSSION

Terenzini and Reason: Student Precollege Characteristics and Experiences
Terenzini and Reason: The College Experience: Organizational Context
Terenzini and Reason: The College Experience: Peer Environment and Individual Student Experiences
Terenzini and Reason: Outcomes
Implications for Future Survey Research Design
Implications for Practice
Recommendations for Future Research
Conclusion

APPENDIX: MISSING AND SAMPLE UNWEIGHTED PERCENTAGES

REFERENCES
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Missing versus Sample</td>
<td>61</td>
</tr>
<tr>
<td>2. Descriptive Statistics for Analytic Sample</td>
<td>63</td>
</tr>
<tr>
<td>3. Participation in Study Abroad, Service Learning, Both and Neither by Sex</td>
<td>83</td>
</tr>
<tr>
<td>4. Sex by Study Abroad, Service Learning, Both and Neither</td>
<td>84</td>
</tr>
<tr>
<td>5. Race/Ethnicity by Study Abroad, Service Learning, Both and Neither</td>
<td>86</td>
</tr>
<tr>
<td>6. Socioeconomic Quartile by Study Abroad, Service Learning, Both and Neither</td>
<td>88</td>
</tr>
<tr>
<td>7. Study Abroad, Service Learning, Both and Neither by Race/Ethnicity</td>
<td>90</td>
</tr>
<tr>
<td>8. Study Abroad, Service Learning, Both and Neither by Socioeconomic Quartile</td>
<td>92</td>
</tr>
<tr>
<td>9. Demographics by Community Service Participation Pre-College</td>
<td>95</td>
</tr>
<tr>
<td>10. Demographics by Helping Others in Community</td>
<td>98</td>
</tr>
<tr>
<td>11. Helping Others in Community by Sex</td>
<td>100</td>
</tr>
<tr>
<td>12. Helping Others in Community by Race/Ethnicity</td>
<td>101</td>
</tr>
<tr>
<td>13. Value of Helping Others in Community by Socioeconomic Quartile</td>
<td>103</td>
</tr>
<tr>
<td>14. Service Learning Participation by Sex</td>
<td>104</td>
</tr>
<tr>
<td>15. Service Learning Participation by Race/Ethnicity</td>
<td>105</td>
</tr>
<tr>
<td>16. Service Learning Participation by Socioeconomic Quartile</td>
<td>107</td>
</tr>
<tr>
<td>17. STEM/Transfer Status by Study Abroad, Service Learning, Both and Neither</td>
<td>109</td>
</tr>
<tr>
<td>18. High Impact Activities by Study Abroad, Service Learning, Both and Neither</td>
<td>111</td>
</tr>
<tr>
<td>19. Study Abroad, Service Learning, Both and Neither by Prosociality</td>
<td>113</td>
</tr>
<tr>
<td>20. Regression Results</td>
<td>117</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Prosociality, Civic Engagement and Global Citizenship</td>
<td>12</td>
</tr>
<tr>
<td>2.</td>
<td>Terenzini and Reason (2005) College Impact Model for College Student Experience</td>
<td>20</td>
</tr>
<tr>
<td>4.</td>
<td>Variance of Residuals</td>
<td>77</td>
</tr>
<tr>
<td>5.</td>
<td>Histogram Plot</td>
<td>78</td>
</tr>
<tr>
<td>6.</td>
<td>Participation in Study Abroad, Service Learning, Both and Neither by Sex</td>
<td>83</td>
</tr>
<tr>
<td>7.</td>
<td>Sex by Study Abroad, Service Learning, Both and Neither</td>
<td>85</td>
</tr>
<tr>
<td>8.</td>
<td>Race/Ethnicity by Study Abroad, Service Learning, Both and Neither</td>
<td>87</td>
</tr>
<tr>
<td>9.</td>
<td>Socioeconomic Quartile by Study Abroad, Service Learning, Both and Neither</td>
<td>89</td>
</tr>
<tr>
<td>10.</td>
<td>Study Abroad, Service Learning, Both and Neither by Race/Ethnicity</td>
<td>91</td>
</tr>
<tr>
<td>11.</td>
<td>Study Abroad, Service Learning, Both and Neither by Socioeconomic Quartile</td>
<td>93</td>
</tr>
<tr>
<td>12.</td>
<td>Demographics by Community Service Participation Pre-College</td>
<td>96</td>
</tr>
<tr>
<td>13.</td>
<td>Demographics by Helping Others in Community</td>
<td>99</td>
</tr>
<tr>
<td>14.</td>
<td>Helping Others in Community by Sex</td>
<td>100</td>
</tr>
<tr>
<td>15.</td>
<td>Helping Others in Community by Race/Ethnicity</td>
<td>102</td>
</tr>
<tr>
<td>16.</td>
<td>Value of Helping Others in Community by Socioeconomic Quartile</td>
<td>103</td>
</tr>
<tr>
<td>17.</td>
<td>Service Learning Participation by Sex</td>
<td>104</td>
</tr>
<tr>
<td>18.</td>
<td>Service Learning Participation by Race/Ethnicity</td>
<td>106</td>
</tr>
<tr>
<td>19.</td>
<td>Service Learning Participation by Socioeconomic Quartile</td>
<td>108</td>
</tr>
</tbody>
</table>
20. STEM and Transfer Status by Study Abroad, Service Learning, Both and Neither
21. High Impact Activities by Study Abroad, Service Learning, Both and Neither
22. Study Abroad, Service Learning, Both and Neither by Prosociality
23. Average Prosociality by Study Abroad, Service Learning, Both and Neither
CHAPTER 1

INTRODUCTION

In his inaugural address, President Barack Obama (2009) challenged the U.S and global community to become more aware of human and ecological needs and to consider the consequences of one’s actions. In doing so, the President tapped into a long-running discourse emphasizing the importance of educating future leaders to be prepared to devise creative solutions to today’s global challenges. With the world becoming increasingly interconnected through communication and technology, the importance of understanding how actions taken in one part of the world influence the lives of those in other parts of the world has only grown since the President’s remarks (Burns, 2009; Takanishi, 2015; Fuligi & Tsai, 2015).

The recognition of the interdependence of human experiences and commitment to contribute positively to the lives of others, which many writers refer to as global citizenship, has long been a commonly shared value in education (Waks, 2007). Higher education institutions have taken a notable leadership role in cultivating global citizenship (e.g., Annette, 2002; Bok, 2006; Galston, 2001, Pace & Bixby, 2008). Most now actively seek to produce global citizens who embody the characteristics of “awareness, responsibility, and participation” on a global scale (Schattle, 2009, p. 17).

With the concept of global citizenship emerging in scholarly literature, (Association of American Colleges and Universities, 2011; Braskamp, 2008; Brustein, 2007; Tarrant, 2010) institutions have developed programmatic initiatives that foster global citizenship skills by encouraging interactions across differences (Stokamer, 2011, Lewin, 2010, Hanson, 2010). Study abroad and service learning are two such practices and offer deep
Scholars claim that study abroad develops the knowledge, skills and attitudes necessary for students to compete in the global marketplace (Lewin, 2010; Ogden, 2010). Likewise, service learning programs often include learning objectives associated with global citizenship such as a recognition of community needs and the development of prosocial ethos (Furco, 2003). Prosociality, which describes a way of thinking and behaving that benefits other people or society as a whole (Noriega, 2016), is a key intended outcome of both programs and an important part of global citizenship. With institutions looking to study abroad and service learning programs to foster global citizenship skills, it is necessary to identify whether study abroad is linked to prosocial outcomes. Additionally, recognizing the merits of both study abroad and service learning, colleges and universities have recently begun to develop integrated programs that include elements of each, which are commonly referred to as International Service Learning (ISL) programs. However, limited empirical literature has mapped the outcomes of either study abroad or service learning and almost none has explored ISL programs. Work of this sort is vitally necessary in order for institutions to optimize educational experiences in order to produce desired attitudes and behaviors related to global citizenship (Lewin, 2010).

Statement of the Problem

Study abroad and service learning programs have grown rapidly over the past few decades (Bringle & Hatcher, 2011, Niser, 2010). Alongside this growth, institutions of
higher education have experienced increased pressure to become more globally connected and internationalized (Kreber, 2009; Rhoads & Szelenyi, 2011). Research has revealed connections between participation in civic engagement programs—including study abroad and service learning—and key student success metrics such as grade point average, graduation rates, employment outcomes, and measures of personal well-being (Association of American College and Universities, 2012). However, while study abroad and service learning programs have consistently been recognized for fostering student development (Crabtree, 2008; Eyler & Giles, 1999), the extent to which they create persistent changes that lead to global citizenship remains unclear.

Higher levels of education have a positive association with prosocial outcomes, including but not limited to democratic participation, volunteering one’s time and services to non-profit organizations, and philanthropic giving (Bekkers, 2004; Brown, 2002). Research has also revealed, however, that prosocial values are not necessarily a direct result of attaining higher levels of education but rather an outcome of specific high impact educational experiences encountered during college or university attendance (Stroup et. al, 2013, Weerts & Cabrera, 2015). Existing empirical work has shown that both study abroad and service learning have positive associations with educational attainment and that educational attainment is a strong predictor of civic engagement (Stroup, Bunting, Dodson, Horne, & Portilla, 2013; Putnam, 2000), but it has not yet concretely linked study abroad and service learning to persistent prosocial outcomes.

In fact, only two studies have examined the persistence of college outcomes following service learning (Keen & Hall, 2009; Vogelgsang & Astin, 2000). Keen and Hall (2009) explored whether co-curricular service learning influenced one’s appreciation
of diversity and dialogue across boundaries of perceived difference at senior year of college. The study found that a moderate to strong positive difference was found from freshman to senior year regarding the importance of service work and found seniors who had completed service learning courses placed greater emphasis on social justice issues and dialogue across perceived difference. Vogelgesang and Astin (2000) compared course based service learning with generic community service and the effect on degree of commitment to activism, growth in interpersonal skills, career choice, GPA and plans to do volunteer work. This study found that service learning was a stronger predictor of academic and affective outcomes. More specifically, Vogelgesang and Astin (200) found service learning a superior predictor of choosing a service-oriented career. In short, while these studies provide a plausible justification for the belief that study abroad and service learning promote prosociality, the evidentiary basis is simply too limited to reach a definitive conclusion.

**Research Questions**

In response to this gap in literature, this research study investigates how study abroad and service learning during one’s undergraduate years relate to prosociality in young adulthood. This research will aid institutions in making informed decisions regarding the development of new programs, as well as provide direction on altering existing programs to achieve desired outcomes. More specifically, the following research questions guide this study:

1. Who participates in study abroad, service learning, and both study abroad and service learning?
• How do precollege factors relate to participation in study abroad, service learning, and in both study abroad and service learning in college?

• What factors are associated with pre-college measures of participation in community service work and values in helping others pre-college?

• How do within-college factors relate to study abroad, service learning, and both study abroad and service learning in college?

2. To what extent does study abroad, service learning, and participation in both study abroad and service learning in college relate to prosociality four years after graduation?

3. How do outcomes of prosociality in study abroad, service learning, and both study abroad and service learning different from one another?

With higher education institutions increasingly interested in civic engagement and global citizenship, increased attention to the role study abroad and service learning play in influencing students’ prosocial behaviors and attitudes after college is needed. If institutions of higher education are expected to produce civically engaged individuals - that is, citizens who will leave college and make a difference in society, it is critical that the outcomes tied to in-college activities be identified, measured after graduation, and used to improve programs. In response to the statement of the problem referenced above, addressing these research questions will provide useful information pertaining to high impact activities and their influence on prosociality in young adulthood.

Significance

Many studies have explored outcomes associated with study abroad and service learning experiences in college; however, only limited research has used longitudinal
datasets that measure outcomes into adulthood. The majority of research on civic outcomes and service learning, in particular, has focused on outcomes during college (Astin & Vogelgesang, 2006, Vogelgesang & Astin, 1999), and while service learning literature demonstrates positive effects on various civic engagement measures, it frequently measures immediate outcomes and future intentions, rather than persistent behavioral and dispositional changes (Eyler & Giles, 1999; Eyler, Giles & Braxton, 1997; Bringle & Hatcher, 1996, Strage, 2000; Billig, Root & Jesse, 2005). Additionally, most service learning research relies on small convenience samples, warranting more attention to methodological consistency in order to make effective claims and recommendations about service learning policy (Batchelder & Root, 1994; Giles & Eyler, 1994; Markus, Howard, & King, 1993). Too often, faculty, teachers, and other researchers employing service learning pedagogy in their classrooms are experts in their own field of research, but are not familiar with the most appropriate research methods for investigating service learning (Steinberg, Bringle & Williams, 2010).

Methodological limitations also plague research on study abroad. Few studies have systematically investigated the long-term outcomes of study abroad, especially the impact these experiences have on civic engagement, which must be measured longitudinally. Instead, study abroad research has focused primarily on outcomes related to language learning, intercultural understanding and learning in the specific major of study (Brecht & Robinson, 1993; Engle & Engle, 2004; Paige et al., 2004; Redden, 2007; Vande Berg, Connor-Litton & Paige, 2009). Further complicating this issue is that colleges and universities are merging study abroad and service learning and there is little evidence of learning outcomes or effectiveness. The combination of service learning and
study abroad (i.e, International Service Learning [ISL]) may meet institutional objectives by producing global citizens more effectively than domestic service learning or study abroad alone, but without adequate empirical evidence, it is not possible to distinguish effective ISL programs from poorly-designed ones.

The need for civic values in an increasingly globalizing economy requires a thoughtful new approach to educational practice. This study will provide richer data on outcomes related to engagement by investigating longitudinal data that connects study abroad and service learning activities with students’ prosocial values after college and into young adulthood. This research will look at outcomes of service learning and study abroad independently as well as jointly. Further, this research will aid institutions in making informed decisions regarding the development of new programs, as well as provide direction for altering existing programs to achieve institutional objectives. Answers to these research questions will provide empirical information that will help to understand the problem and determine how these high impact activities relate to prosociality after college.

**Outline of Study**

This dissertation is organized into five chapters. Following this introduction (Chapter 1), Chapter 2 reviews the relevant literature on the key conceptual constructs of global citizenship. Chapter 2 also uses Terenzini and Reason’s (2005) conceptual model of college student experience to provide a conceptual framework for a review of literature related to study abroad and service learning in higher education. The literature review highlights gaps referenced in the introduction. Finally, Chapter 3 introduces the study’s theoretical framework, Kolb’s Experiential Learning Theory. In Chapter 3,
methodological framework and limitations of this study are reviewed. This study used descriptive statistics, linear regression, and a Wald Test to examine the relationship between study abroad, service learning, and outcomes related to prosociality. Chapter 4 presents the study’s findings. Finally, Chapter 5 discusses key findings, highlights contributions to the literature, offers implications for practice, and recommendations for future research. Chapter 5 also addresses underlying issues in measuring development, data collection, and analysis related to study abroad and service learning.

**Definition of Terms**

Research on service learning and study abroad uses a variety of similar terms to describe outcomes, and the definitions are not always consistent. For the sake of clarity, the following glossary provides definitions of terminology used often in this study.

**Service learning:** Service learning is a credit bearing educational experience whereby students apply the theoretical aspects of an academic course to the practical needs of the community. Based on a mutually beneficial partnership and identified community need, along with the incorporation of ongoing reflection, students gain a deeper understanding of the course curriculum and an enhanced appreciation and commitment to their own civic responsibilities and engagement (Bringle & Hatcher, 1996; Astin, Vogelgesang, Ikeda & Yee, 2000).

**Study abroad:** Study abroad is an undergraduate or graduate educational program conducted outside of the United States that awards academic credit to postsecondary students (Lincoln Commission Report, 2005).

**High-impact practices** (HIPs): High impact practices are activities taking place in college that have been widely tested and found to have profound beneficial effects,
including but not limited to increased rates of student retention and student engagement. The full list includes: first-year college seminars, common intellectual experiences (e.g., general education requirements, common read programs), learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research that is not part of a course requirement, global learning (i.e., study abroad), service learning/community service, internships, capstone courses and projects (Kuh, 2008).

*Civic engagement:* Civic engagement refers to the ways in which citizens participate in a community in order to improve conditions for others or to help shape the community's future (Adler & Goggin, 2005).

*Globalization:* Globalization refers to the trend toward a global culture, global society, global capitalism, and global market (Mok & Welch, 2002).

*Global citizenship:* Global citizenship is comprised of global competence, global civic engagement and global responsibility (Morais & Ogden, 2010), signifying “ways of thinking and living within multiple cross-cutting communities—cities, regions, states, nations, and international collectives…” (Schattle, 2007, p. 9).

*Prosociality:* Prosociality refers to the degree to which ideals such as care, justice and tolerance influence symbols, practices and interactions (Sax, 2000) and behaviors are altruistic or motivated by a sense of empathy that stems from compassion for another's emotional wellbeing (Eisenberg, Fabes & Spinrad, 2006, p. 646).
CHAPTER 2
LITERATURE REVIEW

The following literature review describes the key conceptual constructs utilized in this dissertation, including global citizenship, civic engagement, and prosociality. It then explores literature on study abroad and service learning using Terenzini and Reason’s (2005) Conceptual Model for College Student Experience as a framework. The following literature review demonstrates the need for research investigating the extent to which within-college participation in study abroad and service learning relate to prosociality after graduation. Finally, Kolb’s Experiential Learning Theory is described as a way to understand how study abroad and service learning experience may be modified to promote outcomes such as global citizenship, civic engagement, and prosociality.

Key Conceptual Constructs

Students must exemplify the skills of global citizenship in order to function successfully in an increasingly globalized environment. Alongside growing awareness of the importance of global citizenship, higher education institutions are emphasizing internationalization efforts and expanding programs that foster civically engaged students. Understanding the role of higher education and experiential learning in achieving these goals is essential to identifying avenues through which improvements can be made to programmatic initiatives.

Global Citizenship, Civic Engagement, and Prosociality

Global citizenship is comprised of global competence, global civic engagement and global responsibility (Morais & Ogden, 2010). Global competence refers to the capacity to analyze global issues critically and from multiple perspectives (Schleicher,
Global civic engagement refers to civic engagement on a global scale (Jacoby & Brown, 2009). Global responsibility describes one who has the characteristics of global mindedness (Borcan, 2012) and signifies “ways of thinking and living” in various communities around the world (Schattle 2007, p. 9). Scholars have discussed globalization and global citizenship as ways of thinking or acquired dispositions resulting from one’s experience with changes in environment, business, economy, and politics (Borcan, 2012; Witteborn, 2010). Individuals developing global citizenship acquire the mindset to observe the knowledge, skills and attitudes necessary to understand diverse cultural values. It is through these interactions that individuals will have an enhanced level of cross-cultural awareness and global competence (Reysen & Katzarska-Miller, 2013). Therefore, developing global competence and cultural awareness are critical elements to achieving global citizenship.

The following literature review demonstrates that global citizenship is comprised of many constructs – including civic engagement and prosociality. Global citizenship would not develop without first developing global competence and cultural awareness. By engaging in activities of public concern, individuals foster awareness, appreciation and understanding of others. At the same time, the individual who is inspired to seek civic opportunities already possess a prosocial mentality, which leads to their civic behavior. Therefore, in order to achieve the highest-level desired outcome of global citizenship, one must first be civically engaged and embody prosociality. These critical components leading to global citizenship can be viewed as a funnel, with prosociality leading to civic engagement and ultimately helping to realize global citizenship.
Global Citizenship

Scholars describe global competence, global civic engagement, and global responsibility as integral to the cultivation of global citizenship (e.g., Morais & Ogden, 2010; Gibson, Rimmington & Landwehr-Brown 2008; Pless, Maak, & Stahl 2011, National Research Council, 2005). While national citizenship is determined by birth, global citizenship represents a way of thinking and living that considers cities, regions, states, nations, and people all over the world (Schattle, 2007). Global citizenship has been linked to desirable outcomes such as awareness of the wider world, taking responsibility for one’s own actions, participation in community at a range of levels from the local to the global, cross-cultural empathy, international mobility, and personal achievement (Schattle, 2007). Though the term global citizenship is still emerging in scholarly literature (Association of American Colleges and Universities, 2011; Braskamp, 2008; Brustein, 2007; Tarrant, 2010), national and international organizations have long aimed to develop civically engaged individuals who are prepared to become responsible citizens.
As a result of emerging scholarly literature on global citizenship, institutions are looking for ways to cultivate civically engaged global citizens. Helping students consider their responsibility to communities in the world yields benefits to the student, institution and society (Altinay, 2010). Altinay (2010) notes, "a university education which does not provide effective tools and forums for students to think through their responsibilities and rights as one of the several billions on planet Earth, and along the way develop their moral compass, would be a failure" (p.1). Therefore, providing opportunities for students to strengthen moral values not only benefits communities but also reaffirms institutional commitment to society (Altinay, 2010).

In the past decade, the goal of internationalization in higher education has become central to the mission of many institutions (Altbach, Reisberg & Rumbley, 2009). Many institutions now discuss global citizenship in their mission statement and emphasize internationalization efforts in their strategic plans (Olds, 2012). Additionally, institutional objectives related to civic education and engagement have shifted from a national to a global focus. Yet, despite institutional objectives to cultivate global citizenship, the United States was found significantly behind other countries in outcomes tied to skilled global citizens (Hammond, 2015; Spellings Commission Report, 2006).

Higher education in the United States has been one of the country’s greatest success stories and points of pride however, despite these achievements; higher education in the U.S. needs to improve in dramatic ways (Stearns, 2009; Spellings, 2006; Altbach, Reisberg & Rumbley, 2009). The commission highlighted the ability of American postsecondary institutions to produce informed and skilled citizens who are able to lead and compete in the global marketplace, and emphasized that this ability may soon be in
question. In order to compete successfully in a global marketplace, US based businesses need employees with “knowledge of foreign languages and cultures to market to customers around the world and work effectively with foreign employees and partners in other countries” (Gross & Lewis, 2006, pp. 1-2). The United States has world-renowned universities but other countries have followed America’s lead and may now be educating their citizens to more advanced levels than the United States (Fiske, 2012; Spellings, 2006). At a time when “we need to increase the quality of learning outcomes and economic value of a college education, there are disturbing signs that suggest we are moving in the opposite direction” (Spellings, 2006, p.12). The commission report emphasized the importance of producing globally literate citizens to strengthen the nations position in the global economy. Recommendations to address this need include placing greater emphasis on experiential learning through international education, study abroad and foreign language, in an effort to produce graduates with the skills necessary to work effectively in the global marketplace. Civic actions and engagement through experiential learning can foster qualities of global citizens (Banks, 2008).

**Civic Engagement**

Civic engagement refers to individual and collective actions designed to address issues of public interest (Campus Compact, 2016). Civic engagement can occur in a variety of forms. Some examples include working with community members to solve a specific problem, dedicating time at a soup kitchen, serving on a council, organizing a group around an issue, advocating for a campaign, cleaning up a neighborhood or voting. Civically engaged individuals have the opportunity, ability, and agency to take part in a variety of different types of civic activities (Campus Compact, 2016).
Historically, the purpose of school was to cultivate active citizens (Astin, 2002; Dewey, 1916). Dewey (1916) asserted that education serves as a mechanism to transfer beliefs and aspirations when a social group raises its younger “members into its own social form” (p.9). A commonly held belief is that institutions of higher education share a responsibility to teach and train the next generation of citizens how to function in society (Annette, 2002; Bok, 2006; Galston, 2001; Pace & Bixby, 2008). Jacoby and Brown (2009) note, “[United States] institutions of higher education universally recognize their fundamental role in preparing students to engage responsibly and productively in a world that is becoming increasingly interconnected and interdependent” (p. 213).

Today, civic engagement is articulated in the mission statement of more than 64% of higher education institutions (ACE, 2017). In order to achieve this goal, many institutions seek to identify activities that foster civic values and commitment, so that educational practices can be implemented to increase students’ engagement (Jacoby & Ehrlich, 2009). Civic engagement has the ability to transform individuals, who are citizens of their communities into empowered agents of social change (Jacoby & Ehrlich, 2009). Moreover, a number of organizations are working to support and promote civic engagement in higher education and society.

A number of initiatives have been put in place to provide funding for programs that have increased service learning on university campuses. The National and Community Service Act (1990) and the National and Community Service Trust Act (1993), for example, provide funding for new programs that increase awareness of service learning on university campuses. More recently, initiatives to promote civic engagement in higher education come from organizations and higher education
associations. Campus Compact is an example of an organization that promotes community service at colleges and universities and provides resources and partnerships to support community service (Campus Compact, 2016; Jacoby, 2009). The Association of American Colleges and Universities (AAC&U) also promotes civic engagement and emphasizes the role of higher education in cultivating engaged citizens. In their 2013-2017 strategic plan, the AAC&U references a number of goals related to social responsibility and civic learning (AAC&U, 2017).

**Prosociality**

Over the course of the past few decades, institutions of higher education in the United States have sought ways to cultivate prosociality, which refers to a set of dispositional and behavioral attributes believed to translate to good citizenship and active engagement among students (Boyer & Hechinger, 1981; Ehrlich, 2000; Colby, 2003; Jacoby & Brown, 2009; Musil, 2012). Many of the values that formal education systems aim to cultivate point to moral ideals associated with democracy (Colby, Elrich, Beaumont, Rosner & Stephens, 2000). These include principles of tolerance, respect for others and concern for the wellbeing of the group. Further, the issues confronted through civic engagement always revolve around moral themes such as housing or environmental issues. Institutions of higher education have long aimed to increase domestic civic education (Stokamer, 2011). However, institutions are now being called upon to foster global competency and awareness because “the challenges our graduates will face with growing urgency are increasingly defined as global problems: environment and technology, health and disease, conflict and insecurity, poverty and development”
These sorts of disposition can broadly be consider prosocial.

Cultivating prosociality requires “modifying values and beliefs to include more human frames of reference, balancing the ethic of care with the ethic of justice” (Chickering & Reisser, 1993, p. 246). It also requires ongoing reflection, which forces one to reconsider their own ideas and can lead to profound transformation (Kolb, 1984). Prosocial values are also evident in activities that center around helping others in need, promoting social justice, contributing to the public good, donating money and volunteering (e.g., Sagiv, Sverdlik, & Schwarz, 2011; Wilhelm & Bekkers, 2010; Maio & Olson, 1995; Oreg & Katz-Gerro, 2006). Prosocial actions have been linked to constructs of empathy (Eisenberg & Fabes, 1990) and awareness of social problems (Steg & de Groot, 2010).

**Terenzini and Reason’s (2005) Conceptual Model of College Student Experience**

Terenzini and Reason’s (2005) Conceptual Model of College Student Experience presents a platform through which to review key aspects of the college experience. By exploring the characteristics of students prior to entering college, organizational content and peer environment, one can better understand how desired outcomes are achieved. By exploring these features alongside literature on study abroad and service learning, the need for further research is demonstrated. Further, the following review of relevant literature proves the need to investigate how high impact activities such as study abroad and service learning in college relate to prosociality into young adulthood.
Pascarella and Terenzini (2005) noted that studies of college impact on students have an overly narrow conceptual focus, resulting in a body of evidence that “presents only a partial picture of the forces at work” (p. 630). Part of the problem with those studies was that, with the exception of Berger (2000), few models at the same time incorporated the impact of organizational effects on students’ outcomes. In response to the need for a more comprehensive framework, Terenzini and Reason (2005) developed a framework for studying college student experience that expanded upon previous models by Astin (1993) and Pascarella (1985) while incorporating the attention to organizational effects suggested by Berger (2000).

Terenzini and Reason’s model consists of four sets of constructs that influence student outcomes. These include student precollege characteristics and experiences, the organizational context, the student peer environment and the individual student experience (Terenzini & Reason, 2005). Embedded in this framework is the hypothesis that students arrive at their college campus with a variety of personal, social and academic backgrounds and experiences that prepare them to engage with the formal and informal learning opportunities presented in college.

The Terenzini and Reason (2005) college experience model draws on years of college experience research, linking aspects of college experience with various elements of student development (Astin, 1993; Pascarella & Terenzini, 2005, Whitt, Edison, Pascarella & Terenzini, 2001). The model guides in understanding the effects of the college experience on any given educational outcome. While the model denotes outcomes of learning, development, change and persistence, they are general categories that have the ability to encompass many possible outcomes. Examples of studies utilizing Terenzini
and Reason’s (2005) college experience model include, comparing the engagement and intellectual development of first and second-generation college students (Pike & Kuh, 2005), examining the factors shaping faculty-student interaction outside the classroom (Cox, McIntosh, Terenzini & Reason, 2010) and community college student engagement (Schuetz, 2008).

The framework focus is on the internal organizational structures, programs and cultures of the institution (Pascarella & Terenzini, 1991, 2005). Additionally, as indicated by the illustration of the model, the student experience is not a linear progression. Rather, factors from the four areas overlap, interact, and may come into play at various points that are unique to the individual. The interconnectedness reflected in the four constructs of the Terenzini and Reason model reveals the complexity of the undergraduate student experience. Further, by employing Terenzini and Reason’s (2005) model of college student experience as a conceptual framework, this research considers other institutional factors related to the student experience, thus, providing a holistic view of the student experience and direction for alternate ways that may achieve institutional objectives for civic values and global citizenship.
Figure 2. Terenzini and Reason (2005) College Impact Model for College Student Experience

**Student Precollege Characteristics and Experiences**

As depicted in Figure 2 the first set of constructs include the students’ pre-college characteristics and experiences, and is similar to other college impact models (Astin, 1993). Precollege characteristics include sociodemographic traits, academic preparation, personal and social experience and dispositions (Terenzini & Reason, 2005). Dispositions refer to students’ personal and academic goals, motivation to achieve those goals and readiness to adjust to the college environment – all of which prepare students for their interaction with the informal and formal aspects of the college environment (Terenzini & Reason, 2005). Demographic characteristics include but are not limited to race, ethnicity, age, gender, family status, disability status, sexual orientation, and income. These factors influence the decisions students make and experiences they opt to engage in during
college, as well as influence their interactions with the institutional and peer environments.

**Study Abroad**

The diversity of American students studying abroad has improved; however, improvement is still needed (IIE, 2016). In 2004/2005, African American or Black, Asian or Pacific Islander, Hispanic or Latino and those identifying as “Other” made up 17% of American students going abroad. Today, this number has increased to 27% (IIE, 2016). For multicultural students, “the most significant constraints, in rank order were finances, family disapproval, safety concerns, work responsibilities, family responsibilities, the program being too lengthy, no desired program, and academic scheduling difficulties” (Murray Brux & Fry, 2010, p. 512). Stark disparities exist in study abroad participation, which is often restricted to those of higher socioeconomic status due to the cost of these programs (Salisbury, Umbach, Paulsen & Pascarella, 2009; Simon & Ainsworth, 2012). The intention to study abroad is also negatively shaped by perceived participation barriers, which impact some students more than others.

Fear of discrimination is a common barrier for students of color considering study abroad (Comp, 2008; Day-Vines, Barker, Exum, 1998; Murray Brux & Fry, 2010). In an ethnographic study of students’ experiences during 5-week study abroad program in Spain, it was found that the program’s only woman of color “described feeling vulnerable, verbally harassed and singled out for intimidation by men on the basis of her race, gender and foreign status” (Talburt and Stewart, 1999, p. 83). Additionally, African American students in predominantly Caucasian or Asian countries have reported they may be the subject of prolonged stares and unwanted attention. Institutions of higher
education can mitigate these barriers by working with students on scheduling conflicts, disseminating information about study abroad more widely, addressing financial issues, discussing family concerns and offering encouragement to students who might otherwise refrain from study abroad participation (Murray Brux & Fry, 2010). The concerns expressed by students are indicated by variations in the numbers of participating members in study abroad.

The Institute for International Education (IIE) reports various statistics for study abroad participation annually. According to IIE Open Doors (2016) annual report, Science, Technology, Engineering and Math (STEM) represented the highest study abroad participation (24%). STEM majors also represent the fastest growth by major field (IIE, 2016). Following the STEM fields, those studying Business represented 20% of the participants and Social Sciences 17%, Foreign Language and International Studies 8%. The lowest participating majors are fine arts and applied arts at 7%. Likewise, students with disabilities remain underrepresented in study abroad (Matthews, Hameister & Hosley, 1998; U.S. Department of Education, 2016).

Among the undergraduate population in the U.S., students with reported disabilities represent 11% of the total population (U.S. Department of Education, 2016). While study abroad participations of this student group have increased, they have done so at a slower rate that other groups (Dessoff, 2006). Open Doors reported the number of students with disabilities who studied abroad in 2009/10 reached over 1,800, representing 4% of the total in 2009/10, compared to 3.6% in 2008/09. (IIE, 2011). According to the U.S Department of Education (2016), the participation of students with disabilities has stagnated over the past four years, staying around 5%.
Researchers have looked at the perceptions of students with disabilities to determine whether they contribute to low participation in study abroad. Matthews, Hameister, and Hosley (1998) conducted interviews to identify barriers to participation. It was determined that lack of knowledge, lack of services to assist with the disability, and financial barriers were the highest concern (Matthews, Hameister, & Hosley, 1998). Lack of family, faculty and staff support have also been identified as barriers (Johnson, 2000). Many colleges lack the knowledge about different locations ability to accommodate students with disabilities and then fail to recruit, advise and inform these students (Johnson, 2000).

Personality types may also serve as a predictor for study abroad participation (Miao & Harris, 2012; Bakalis & Joiner, 2004). Further, a student’s personality characteristics whether they decide to pursue study abroad (Miao & Harris, 2012). Research on personality characteristics as a predictor of a study abroad participation is limited, however, one study found that extraversion was a factor in determining how beneficial study abroad was as a learning experience (Miao & Harris, 2012). Another research effort reported that extroverted-task oriented and introverted-relational students preferred study abroad to introverted-task oriented and extroverted-relational students (Deviney, Vrba, Mills & Ball, 2014). Students with a high tolerance for ambiguity and a high degree of openness are more likely to participate in study abroad activities compared to those who do not study abroad (Bakalis & Joiner, 2004).

Despite the accumulation of research on various student groups and their associated participation in study abroad, limited research exists on variations in student experience based on gender and sexuality. However, there is strong reason to believe that
students not identifying as cisgender or cissexual, including but not limited to people who are lesbian, gay, bisexual, transgender, queer, intersex, and asexual (LGBTQIA)-would encounter hostile experiences abroad. Across the globe, many individual who are part of the LGBTQIA communities face discrimination and marginalization (Lipka, 2011). This is especially concerning, given the unique challenges that these students confront and would likely experience abroad. These students can sometimes feel like “second-class citizens in their own culture” (Dunlap, 2003, para.17).

**Service Learning**

Precollege factors contribute to whether a student decides to participate in service learning once enrolled in college. Community service participation in high school is the strongest predisposing factor for participation in college (Astin & Sax, 1998). College students under the age of twenty-four are also more likely than other age groups to participate in volunteer activities (Blackhurst & Foster, 2003). This is likely because they have more time than transfer or older students, who are working or have families and other obligations outside of school. Other predisposing factors include leadership ability, involvement in religious activities, tutoring other students during high school, being a guest in a teacher’s home, and being female (Astin & Sax, 1998). Service learning courses in college often involve “single, middle class, white, full time students between the ages of 18 and 24 years of age” (Butin, 2006, p. 10); yet, the student population has changed considerably, and is projected to continue to change (Carnevale & Fry, 2002).

Studies have also identified variations in service learning participation with regard to gender (Loewen, 1998; Berthiaume, 1999; Geringer, Canton, Stratemeyer & Rice, 2013), ethnicity and major area of study for those in college (Loewen, 1998; Berthiaume,
Studies have found that females are more likely to participate in service learning activities (Loewen, 1998). Among those who participated, females were more likely to display higher levels of empathy than the males who participated (Berthiaume, 1999). With regard to future participation, females were also more likely to participate in service related activities (Wymer, Self & Findley, 2008).

Limited research on service learning engagement and students with disabilities and LGBTQIA exist. In 2006, the American Association of Community Colleges (AACC) awarded grants to eight community colleges in an effort to help college students with disabilities participate in community service and service learning work. The grants were part of a three-year initiative funded by the Corporation for National and Community Service, whereby the colleges develop opportunities for students with disabilities to learn life skills and help with employment, careers and personal development. Additionally, a number of initiatives and programs were put in place to support LGBTQIA students and create a friendlier environment. Some of these include, Presidents in Higher Education, the Expanding the Circle conference on Creating an Inclusive Environment for LGBTQIA Students and Studies, and new programs and courses on gender and sexuality throughout college curricula (Campbell, 2012).

Researchers have examined the specific personality traits that are associated with motivation to pursue service or volunteer work (Matsuba, Hart, & Atkins, 2007). Agreeableness, extroversion, and openness to new experiences (Costa & McCrae, 1992) are qualities linked to those with a strong motivation to volunteer. Extroversion, in particular, has been identified as a personality trait most commonly found in a person with the desire to serve (Omoto, Snyder, & Hackett, 2010). Additionally, students
electing to participate in volunteer work tend to list internal or intrinsic factors associated with their motivation to conduct service (Beehr, LeGro, Porter, Bowling & Swader 2010).

**The College Experience: Organizational Context**

The organizational context describes the institutional environment and denotes the second set of constructs in the Terenzini and Reason (2005) model. This section of the model includes three categories: internal structures, policies, and practices; academic and co-curricular programs, policies, practices; and the faculty culture. It is suggested that these elements of the organizational environment are indicative of the values promoted by the institution (indirectly, if not directly) and shape the culture that influences the student experience (Terenzini & Reason, 2005).

**Internal Structures, Policies, and Practices**

The Terenzini and Reason (2005) model assumes effective institutions provide a comprehensive and coordinated approach through a variety of internal organizational structures and processes that influence student experiences and outcomes. This coordinated approach is effective when the institutions values are reflected in common goals, overall planning, coordination and delivery of academic and co-curricular programs that focus on students. The number of faculty allotted to an individual program or unit imply the institutions value of that specific unit functions.

The core values and beliefs of an institution are embedded in the organizational culture (Keeling. et al., 2007). This culture encompasses the characteristics, history and stories that form the distinctive features of the university (Morphew & Hartley, 2006), providing a collective understanding of values and normative behaviors that create
institutional identity, thus “unifying the institution and shaping its purpose” (Clark, 1972, p. 235). The organizational understanding and commitment to larger shared values has historical roots, which begin with the mission statement and are then embodied and fulfilled through organizational practices over time (Clark, 1972). Clark (1972/2000) calls this the “organizational saga” and suggests it consists of the past, beliefs about the future, and the connection between stakeholders that leads to progression towards achieving goals.

Limited research exists on differences in study abroad and service learning programs as they relate to institutional type. In their research synthesizing literature on the impact of college on students between the 90’s to the early 2000’s, Pascarella and Terenzini (2005) distinguish between two types of college impacts. According to Pascarella and Terenzini (2005), between-college effects and within-college effects are important distinctions. Between-college effects concern the “change associated with the characteristics of the institutions students attend,” whereas within college effects consider “the experiences students have while enrolled” in college (Pascarella & Terenzini, 2005, p. 18). It was found that while institutional quality influences post-college outcomes such as graduate enrollment and earnings (Zhang, 2005a, 2005b), the effects are generally small. Rather, what happens on campus is a stronger determinant of post-college outcomes than are the features of the campus itself (Pascarella & Terenzini, 2005; Ro, Terenzini, & Yin, 2013).

Researchers posit academic majors vary in the extent to which they cultivate dispositions and awareness relevant to prosocial value development (Colby, 2003; Astin, et al., 2000). For example, majors within the humanities disciplines teach an
understanding of the human condition and explore various ways of living (Kronman, 2008). Psychology prepares students to enter psychology fields such as counseling (Harton & Lyons, 2003). Students majoring in psychology may view themselves as more empathetic and believe this quality will be important in their career aspirations (Harton & Lyons, 2003). The social science majors develop an understanding of social problems and may be more aware of public issues and concerns (Harton & Lyons, 2003).

Within-college effects, which include things like participation in high-impact activities, intercollegiate athletics, and residential learning communities have a far-reaching impact on post-college outcomes (Walpole, 2003; Wayt, 2012; Chang, Denson, Sàenz, & Misa, 2006; Comeaux & Harrison, 2007; Hurtado, Eagan, Tran, Newman, Chang, & Velasco, 2011; Pascarella & Terenzini, 2005). Participation in high-impact educational practices that promote purposeful engagement has been shown to be particularly important in promoting positive outcomes (Kuh, 2011; Kuh. Kinzie, Schuh & Whitt, 2005). Moreover, research shows high impact practices to be particularly important for traditionally underrepresented populations, specifically first-generation, minority and low-income students (Hurtado et al., 2011; Kuh, 2011). These practices are particularly important because they are within the realm of faculty and administrators who have the ability to influence them through the allocation of resources and the organization of learning and creation of opportunities (Kuh, 2011).

**Study Abroad**

Institutions are also working to eliminate some of the barriers, such as cost and program constraints, in an effort to increase study abroad participation (Bollag, 2004). Initiatives centered on increasing scholarships, such as engaging alumni support,
pursuing grant funding and strategic partnerships are in focus. The Abraham Lincoln Study Abroad Fellowship program is an example of one such initiative, whereby seven thousand dollars a year would be awarded to five hundred thousand students so they could study abroad for a summer, semester or year, with priority given to students seeking opportunities in developing countries. Unfortunately, the program goals were beyond financial reach for many students (Commission on the Abraham Lincoln Study Abroad Fellowship Program, 2005). However, institutions are pursuing more flexible funding, such as loan programs and merit-based opportunities (Bennett, 2009). Additionally, institutions are finding ways to better integrate overseas curricula so that it counts towards graduation requirements as well as improves the academic rigor of curricula abroad (Gordon, 2014).

More than 90% of American universities offer study abroad opportunities through a centralized office for international programs (Heisel & Kissler, 2010). The Open Doors 2016 “Fast Facts” sheet reports that study abroad participation has more than tripled over the last twenty years (Institute of International Education, 2016). Traditionally, study abroad experiences of a yearlong and semester-long timeframe have been popular models, though, financial and time restrictions oftentimes prevent certain students from taking advantage of these programs (Sachau, Brasher, Fee, 2009). In an effort to address this challenge, many institutions have begun to provide cost-effective short-term education abroad models to accommodate a greater number of students. One example includes faculty led programs. Short-term programs are increasingly being defined as programs lasting less than an entire semester (Brown, 2002; Lewis & Niesenbaum, 2005). As a result, short-term education abroad programs have gained momentum among
colleges and universities, with student participation in these programs increasing over the years (Donnelly-Smith, 2009; Hulstrand, 2006; Spencer, Murray, & Tuma, 2005). Short-term study abroad programs provide students with meaningful experiences in global and cultural immersion (Chambers & Chambers, 2008; Lou & Bosley, 2008).

Traditionally, study abroad has been an important part of four-year institutions. However, global trends highlighting the need for students to be equipped with the skills and knowledge to function in an interconnected world have motivated many community colleges to offer study abroad courses or develop new education abroad programs to help students have an international experience (Obst, Bhandari, & Witherell, 2007). With many students not going abroad, it is important that international programs offices and faculty at the host country recognize obstacles, discuss expectations and provide access to necessary resources and support to ensure students gain the benefits associated with study abroad (Holmes, 2008). Although the first community colleges did not offer study abroad programs until 1967 (Raby & Sawadogo, 2005), community colleges have begun aggressively investing resources and federal money to encourage student travel overseas. Alongside these investments, student demand has increased (U.S News, 2016). Of the more than 4,000 students from community colleges taking advantage of study abroad programs, 64% of their students are traveling to Europe (Zhao & Kuh, 2004). Study abroad programs at community colleges reflect the institution’s goal to provide accessibility for students from various backgrounds, ages, and competency levels (Raby & Sawadogo, 2005). Additionally, many community colleges are recognizing the financial implications of students enrolled at community college and are offering less expensive, shorter length programs to accommodate students (IIE, 2012).
Instituting mandatory study abroad for an entire student body is uncommon; though a few universities have implemented such a requirement. Soka University of America (SUA) in California and Goucher College in Maryland are two examples of schools with mandatory study abroad (US News, 2016). Unlike SUA, which requires a full semester of study abroad during students’ junior year, Goucher’s students have a number of different ways in which they may satisfy the study abroad requirement. Students at Goucher can study abroad at any point during their undergraduate career and participate in a variety of programs, including three weeks to a semester or academic-year long. In 2014, one hundred percent of the graduates at both schools studied abroad, indicating the highest percentage among the 321 colleges and universities who submitted data to the U.S News annual survey. Among the twelve schools with the highest percentage of students going abroad, ten are National Liberal Arts Colleges, with at least half of their degrees in the liberal arts field (U.S News, 2016).

Service Learning

Service engagement is articulated in the mission statement of more than 64% of colleges and universities (ACE, 2012). As a result, American colleges and universities are focusing on domestic community issues (ACE, 2012). Yet, despite this focused effort, service learning has only been “shallowly institutionalized” on college campuses (Butin, 2012, p.1). Butin (2012) explains that it has reached an “engagement ceiling” (p.2) indicating that it is restricted and therefore unable to become common practice or fully integrated throughout majors and on college campuses. Butin’s comment highlights the dilemma between recognition of the great potential in service learning and the inability of campuses to communicate and encourage the university and its students to become fully
engaged. As a result, service learning may be less common and reflect a lack of consistency in program creation and quality, particularly when faculty are not experts in service learning pedagogy (Butin, 2004). Through formal specialization, the success of service learning programs can be greatly enhanced (Giles & Eyler, 1994).

Some institutions have a central organizational office with designated experts in service learning pedagogy to serve the entire campus (Langseth & Plater, 2004). Having a center for service learning provides assistance to faculty and instructors who wish to design community-engaged courses, build community partnerships, and integrate service into their curriculum. Having a designated center for service learning symbolizes a university’s commitment to supporting service learning on campus, as well as offers greater specialization and efficiency through the division of labor, providing faculty with support in the creation of service learning courses (Langseth & Plater, 2004). Having a center for service learning can increase the quality and depth of an institutions’ relationship with the community, be a resource for faculty engaged in service learning and a place to collect and record data on student service hours (Jone’s, 2004). Having a designated center with experts in service learning pedagogy also ensures consistency in quality of service learning programs, which will influence the program and ultimately, the student’s experience and learning outcomes (Eyler & Giles, 1994).

**Curricula and Co-curricular Programs, Policies, and Practices**

This facet of the Terenzini and Reason (2005) model refers to an institution’s formal academic and student affairs programs, policies and practices and constitute a second significant cluster of internal organizational influences on student experiences. The personnel policies and practices most likely to have the greatest indirect and direct
impact on student’s experiences and learning outcomes are the criteria and standards
adopted when recruiting new faculty and student affairs staff members (Terenzini &
Reason, 2005). The actions involved in this process clearly indicate an institution’s
values and goals. Policies relating to faculty personnel, workload, and professional
development opportunities may also be influential (Terenzini & Reason, 2005).

Programmatic policies such as learning communities, mentoring programs and
orientations are a major component to the organizational context and culture. Institutional
culture highlights the faculties’ philosophy of education and their availability to students
and is, therefore, considered a major contributing factor to the overall student experience
(Hossler, Braxton & Coopersmith, 1989). The institutional characteristics, such as faculty
culture, class sizes, first year seminars, mentorship programs, and the academic program
also contribute to the student experience (Hossler, Braxton & Coopersmith, 1989).

Research suggests first year seminars, learning communities, high quality
mentoring, and common intellectual experiences are high impact activities introduced in
a student’s first year of college (Kuh, 2008). Study abroad and service learning are also
recognized as high impact activities during college (Kuh, 2008), though they are not
referenced as high impact first year programs because they are not necessarily part of the
first year experience. By definition, study abroad and service learning are a blend of
classroom experiences, out of classroom experiences and curricular experience (Kuh,
2007).

**Faculty Culture**

The faculty culture constitutes a third and critical dimension of the
Organizational Context. Faculty culture represents the dominant philosophies of
education among the faculty members, as well as what it means to be a faculty member at their institution. It refers to the “deeply embedded and enduring patterns of behavior, perceptions, assumptions, beliefs, attitudes, ideologies, and values about the nature of the organization and its functioning that are held and maintained by [faculty] members” (Berger, 2000, p. 274). The frequency of informal, out-of-class student–faculty interaction is another indicator, as is the value tied to teaching in merit salary, promotion and tenure decisions (Benninger & Ratcliff, 1996).

**Study abroad**

Faculty at a student’s home institution are not often involved in the study abroad experience, however, with growing emphasis on short term faculty led programs, short term programs are growing in popularity and demand, and involve faculty. According to a 2011 survey, 61% of institutions said they had added new short-term faculty led programs (Institute of International Education, 2016). Though short-term international experiences are sometimes found to have fewer benefits than semester or year-long programs (Dwyer & Peters, 2004), they still offer a global understanding to a group of students who are not going abroad due to financial limitations or fears of discrimination and who would not otherwise have the opportunity” (Lewis & Niesenbaum, 2005).

**Service Learning**

Faculty and administrators point to the ambiguous mission surrounding the role of service learning on campuses as the largest obstacle to its institutionalization (Holland, 1997). The multi-disciplinary nature of service learning has broad organizational impacts, requiring institutional leaders to think differently about how it should be institutionalized (Furco & Holland, 2004). Yet, despite the misalignment of goals between academic
discipline and service learning pedagogy, research reveals faculty do actually value
service learning, believe it is beneficial for students, agree that it helps meet institutional
outcomes, and have derived satisfaction from leading service learning courses (Driscoll,
Holland, Gelmon, & Kerrigan, 1998; Eyler & Giles, 1999; Hammond, 1994; Hesser,
1995; Payne, 2000; Zlotkowski, 1998). However, resistance surrounding service learning
relates to the practical difficulties of implementing programs, lack of support from the
institution and lack of recognition in relation to tenure, promotion and scholarship
(Driscoll et al., 1998; Hammond, 1994; Hesser, 1995). Simply put, faculty members do
not support service learning when there is a lack of funding, no reward structure, or
inadequate time for program development (Ward, 2000). Additionally, some faculty
members view service learning as being an administrative initiative (Ward, 2000).
Service learning pedagogy requires the use of specific components that may be new to
faculty and potentially threatening to the academic approach, goals and autonomy with
which faculty have earned and grown accustomed. As a result of this tension, service
learning could be met with resistance (Kuh & Whitt, 1988; Meyer, 1992).

However, once implemented, faculty members use service learning as a
pedagogical tool to help students realize how their academic studies are applicable to the
needs of the community and how they can individually have a positive impact. Service
learning requires the application of subject matter from an academic course to community
issues and is also referred to as “problem based learning” and “community based
learning” (Sax, 2004). Having direct faculty involvement in service learning ensures that
students are supported and developmental outcomes are linked to academic objectives
(Mills, Vrba, Deviney, 2012).
The organizational challenges tied to the institutionalization of service learning have resulted in minimal programs offered on college campuses, which are led primarily by non-tenure track faculty, females and people of color (Butin, 2006). Butin (2006) suggests faculty may view service learning as detrimental to tenure and promotion because it is not taken seriously. Research has also illustrated that universities undervalue all forms of faculty community engagement – including service learning (O’Meara, 2008).

**The College Experience: Peer Environment**

The peer environment is the third construct of the Terenzini and Reason conceptual model of college students’ experience. Embedded in the peer environment lies the individual student experience, which consist of three main categories including curricular, classroom, and out of class experiences.

Astin (1993) highlighted the student’s peer group as the single, most influential source of a student’s growth and development during the undergraduate college years. The peer environment refers to the students’ circle of friends but also includes the entire student body – the norms, values and beliefs of the larger student culture on campus (Terenzini & Reason, 2005). Research suggests the psychological and sociological aspects of student lives tend to mold to the dominant values and beliefs of the entire student body. Astin and Panos (1969) refer to this as “progressive conformity”, whereby students conform to those with whom they seek approval and alliance. The institutional climate encompasses the social atmosphere of a campus and a student’s perception of how well they fit at the institution (Chapman, 1986; Hanson & Litten, 1982).
Students’ obtain the greatest amount of study abroad information from their friends and classmates (Chieffo, 2000). Parents are also a contributor when making decisions about study abroad and faculty have the least influence on the decision. Many students learn about study abroad through First Year Seminars and academic or social clubs through their colleges (Kuh, 2008). Students elect to study abroad in order to develop language skills (Teichler & Steube, 1991) and build relationships with the host community (Opper, Teichler, & Carlson, 1990).

**The College Experience: Individual Student Experience**

The final set of factors having the greatest influence on the student experience and associated educational outcomes include academic and nonacademic experience on campus. Terenzini and Reason (2005) posit three clusters of educational importance that make up the individual student experience. They include the curricular experience, classroom experiences and out-of-class experiences.

Curricular experiences refer to a students’ course experience in their academic major, and other academic experiences during college. However, these experiences result from the student’s *individual* experiences, which are influenced by the curriculum in major, patterns of coursework and socialization within the academic program. This includes internships, cooperative educational and study abroad (Terenzini & Reason, 2005).

Classroom experiences include the student’s pedagogical experience resulting from the faculty and in class instruction. Classroom experiences refers to the workload and the nature of the work that the student is engaging as well as the frequency through which they communicate and receive feedback from the faculty. The relationships
between the students refer to the level of interaction including feedback, support and encouragement and have an influence on the classroom experience (Terenzini & Reason, 2005).

Out-of-class experiences can affect cognitive, psychosocial, attitudinal, and occupational learning outcomes in a variety of ways and capacities. These experiences may include living arrangements while on campus, number of working hours, and degree of involvement in other co-curricular activities, dedicated time studying, family commitments and support (Terenzini & Reason, 2005). Out-of-classroom experiences, along with classroom experiences and curricular experiences provide a more complete understanding of student’s individual experiences within the peer environment and the outcomes that result from such experiences.

**Study Abroad**

Salisbury, Umbach, Paulsen and Pascarella (2009) examined the role of financial, human, social and cultural capital in students’ motivations to participate in study abroad. Allen (2010) also looked at students’ motivations for studying abroad. Both studies found that acquired capital, such as increased career prospects resulting from international travel had a greater impact on student motivations to study abroad than intrinsic factors. Waters and Brooks (2010) compared the motivations of Western students traveling abroad with non-Western traveling abroad. The study revealed that Western students traveling abroad were motivated by a sense of adventure whereas non-Western students were motivated by economic gains and the career benefits.

Leask (2010) looked at how students’ conceptualize international education with an emphasis on motivations. It was found that students generally think of international
education as a tool that will foster cross-cultural understanding and communication and believe that participating in such experiences will help gain such skills. Students articulated their perception and motivation into the following three categories: “Understanding the world out there (p. 6);” “Openness and respect for cultural difference (p. 7);” and “Working effectively across cultures (p. 7).” Leask found these themes to be more interconnected rather than distinctly different categories.

**Service Learning**

Interacting with peers is the first step to becoming engaged on college campuses. Students’ peer interaction is critical in ensuring campus activities and student organizations are meaningful (Markus, Howard, & King, 1993). Berson and Younkin reported in their 1998 study (as cited in Pascarella & Terenzini, 2005): students who participated in service learning as an integral part of their coursework developed meaningful relationships with their peers. Additionally, they felt more integrated with their programs and academic communities (Pascarella & Terenzini, 2005). While limited research points to the underlying motivations influencing a student’s decision to participate in these opportunities, gender has been identified as a key factor in motivation. Female students tend to have significantly higher levels of both intrinsic and extrinsic motivation than males (Brouse, Basch, LeBlanc, McKnight & Lei, 2010). Faculty involvement is a key element of service learning, where it is not in study abroad (Mills, Vrba, Deviney, 2012).

**Outcomes**

The Terenzini and Reason (2005) model reflects the complexity of the student experience by illustrating the many factors influencing a student’s college experience.
The model illustrates persistence as the finite goal of the college student experience. However, history and literature indicates that higher education’s goal extends past achieving a degree (Altbach, Reisberg & Rumbley, 2009). Rather, it consists of instilling civic values and citizenship that will shape individuals and the choices they make in their life, after college. Taking into account the increased emphasis on intercultural competence, awareness and responsibility, the Terenzini and Reason (2005) model becomes even more applicable to realistic demands when extended to include global citizenship. Study abroad and service learning research indicates that a sense of global citizenship is positively influenced by participation in these programs (Fitch, 2004; Heinisch & Hartman, 2003; Monard-Weissman, 2003; Porter & Monard, 2001).

**Study Abroad**

The experience of studying abroad increases students’ critical thinking skills through exposure to different approaches to subject matter in and outside of the classroom (Kauffmann, Martin, Weaver, & Weaver, 1992). Study abroad experience forces students to confront their own perspectives and assumptions and become adaptable to different cultural norms (Gmelch, 1997). This involves making sense of attitudes and knowledge, and then interpreting perspectives that differ from one’s own perspective (Byram, 1997). This implies a certain kind of positioning in relation to the other that may foster self-authorship when students become more independent and better able to negotiate their own positions. Literature on study abroad observes that students become internationally aware of international events and cultural differences (Carlson & Widaman, 1988); however, no reference is made to content specific or connective
learning that occurs in the classroom, which is the primary means through which service learning attributes its cognitive benefits (Parker & Dautoff, 2007).

Study abroad literature indicates positive outcomes related to attitudes and dispositions. The most prominent educational benefit linked to study abroad is intercultural competence (DePaul & Hoffa, 2010; Engle & Engle, 2003; Salisbury, Umbach, Paulsen & Pascarella, 2009), which implies personality development (Sercu, 2002) and involves a range of attitudes, knowledge and interpretative skills (Byram, 1997). Study abroad is consistently recognized for influencing student’s cross cultural, global understanding and multicultural competency (Kelly & Gayles, 2010; Watson, Siska & Wolfel, 2013), which aid in developing mature interpersonal relationships. Additionally, various studies have reported increases in maturity and self-awareness after participation in study abroad (Lindsey, 2005; Van Hoof & Verbeeten, 2005), which may indicate growth in identity, integrity and purpose.

Research has also reported students having new perspectives regarding their own beliefs, values, and political concerns (Carlson & Widaman, 1988; Lindsey, 2005) following study abroad experience. This is an example of development of integrity, where students engage in the analysis of their own values, beliefs and behaviors. Students also report being more open to new ideas and perspectives after time spent abroad. Along with these reported measures, many articulate benefits that cannot be measured; describing themselves as changed by the experience (Ingraham & Peterson, 2005; Milstein, 2005; Van Hoof & Verbeeten, 2005). These benefits may coincide with development in affective skills. Despite the many benefits of study abroad, the majority of participants are middle class, white females.
While specific outcomes have been attributed to study abroad experience, it is important to recognize the numerous variations of study abroad programs (Reed, as cited in Wilkinson, 1998). It is therefore, rarely, if ever possible to generalize the quality or extent of social contact or linguistic interaction with the host culture (Reed, as cited in Wilkinson, 1998). Variation in destination will influence the student experience, resulting in the establishment of a generalizable understanding or conclusion challenging. In addition to mediating factors that will influence an individual’s experience during study abroad, there may not be a straight path from study abroad to prosociality. Conversely, service learning presumes a greater opportunity for direct and intimate contact with difference than traditional study abroad (Salter & Teager, 1975).

Service Learning

Service learning is an effective way to teach students how to apply their academic studies to real world challenges. Through self-reflection and personal development, students realize social, personal and cognitive benefits (Whitley & Walsh, 2014), which result in increased knowledge, connection to civic learning and civic engagement (Eyler, 2000; Pollack & Motoike, 2006; Rhoades, 1998; Sax, 2004; Sax & Astin, 1999; Whitley & Walsh, 2014). Finally, students who engaged in community service tend to be less apathetic with regard to politics and more inclined to engage with the political process (Blackhurst & Foster, 2003).

Service learning pedagogy is widely recognized as a tool that strengthens student attitudes towards social problems, community issues and civic engagement (Markus, Howard & King 1993; Mettetal & Bryant, 1996; Eyler, Giles & Gray, 2000; Vogelgesang & Astin, 2000, Al-Rawi & Lazonby, 2016). Research shows that students participating in
service learning activities show increased understanding of course material and improved academic performance (Eyler & Giles, 1999; Yates & Youniss, 1996). In addition, research shows development in civic and research skills during college that result from participation in service learning (Schensul & Berg, 2004). Service learning participation is also associated with improved critical thinking and problem solving (Markus, Howard & King 1993; Mettetal & Bryant, 1996) as well as increases in civic involvement and sense of social responsibility (Bringle & Hatcher, 1996, 1997, 1998).

Studies have also shown that service learning participants, in comparisons with other students, have reported greater understanding of community problems (Sax & Astin, 1998), greater knowledge and acceptance of diverse races and cultures (Astin & Sax, 1998; McKenna & Rizzo, 1999), and a greater ability to get along with people of different backgrounds (Astin & Sax, 1997). Students who participate in service-learning have also shown significant increases in the belief that they could make a difference, are committed to volunteer work in the future (Eyler & Giles, 1994; Markus, Howard, & King, 1993; McKenna & Rizzo, 1999), and plan to work in careers that help others (Markus et al., 1993). However, all of these values are self-reported after the service learning work is completed. Whether these values persist over time and translate to action after they leave college remains unclear.

Experiential learning is an important element to service experience. “Experiential learning enhances conceptual understanding, increases student ability to apply abstract concepts, and involves greater opportunities for general learning (e.g., communication, cooperation and teamwork, leadership skills) than traditional lectures, readings, and examinations” (Crabtree, 2008, p. 26). When students solve problems in real world
situations while being immersed in an unfamiliar setting, learning happens quickly. According to Bringle and Hatcher (1999), “educational outcomes are enriched, deepened, and expanded when student learning is more engaged, active, and relevant” (p. 83). Experiencing meaningful connections and deep understanding of a culture and its people are core characteristics of service learning programs (Eyler & Giles, 1999; Pusch, 2004). These experiences are also critical to the process of personal development and bridge connections between people who might otherwise remain separated because of socioeconomic class, culture, religious or ethnic background (Daloz, 2000).

The element of reflection in service learning receives a great deal of credit for the benefits associated with service learning (Eyler, Giles, & Braxton, 1997; Kiely, 2005). Research supports journaling and self-reflection with faculty guidance, which allows students to have personalized learning experiences. Reflection serves as the bridge between service and educational content, thus directing the student’s attention to new interpretations of events and aiding in deeper understanding (Bringle & Hatcher, 1999). Reflection is required to make the connections that constitute the construction of knowledge and understanding (Ray & Coulter, 2008). Through reflection, connections are made between theories presented in class and the experiences students have in the community. Intentional reflection aids in building self-authorship by providing students with guidance and support as they make sense of events, and their own interpretations and how they connect (Astin, 1993, Astin, et al., 2000; Zlotkowski, 1996).

In addition to reflection, reciprocity is another key contributor to service learning outcomes. Reciprocity refers to the mutually beneficial and well-defined relationship that "includes a commitment to and definition of mutual goals, mutual authority, and
accountability for success; a sharing not only of responsibilities but also of the rewards” (Mattessich & Monsey, 1992, as cited in Jacoby, 2003, p.7). Service learning is based on the principle that learning does not necessarily occur as the result of experience itself but rather because of the reflection, which is designed to achieve specific outcomes. The reciprocal nature of service learning that emphasizes mutual respect and responsibility fosters developmental skills necessary for mature interpersonal relationships (Eyler, 2002; Eyler, Giles, & Braxton, 1997).

Additionally, Astin (1993) argued that service learning produces affective learning outcomes, such as enhanced self-knowledge tied to personal growth (Eyler, 2002; Eyler, Giles, & Braxton, 1997; Roschelle, Turpin & Elias, 2000). Service learning highlights “connective” learning, which describes feelings of personal connection to people and groups beyond one’s peer group or nation (Eyler, Giles, & Braxton, 1997; Kiely, 2005). Research identifies feelings of personal connection with a broader community as a desirable learning outcome (Bringle & Hatcher, 1996; Eyler, Giles & Gray, 1999; Lamb, Swinth, Vinton, & Lee, 1998; Roschelle et al., 2000). These feelings of connection are key aspects of developing mature interpersonal relationships. Additionally, students demonstrated gains in self-esteem and interest in social problem solving, which indicates development in identity and purpose. The reflective component of service learning, which is facilitated by a faculty member, may aid in successfully developing skills in managing emotions. When service learning is brought to an international setting, these feelings of connection are described as transformational (Kiely, 2004), shifting students’ perspectives to a wider worldview.
Research indicates cognitive development as a primary outcome of service learning (Astin, 1993; Eyler & Giles, 1999; Bringle & Hatcher, 1996) and attributes this outcome to content specific engagement (Astin, 1993). Content specific strategies revolve around expanding curriculum to include experiences, so that students are more engaged in the learning process (Markus, Howard, & King, 1993). The connection between content specific coursework and structured reflection is tied to the service experience and translates to problem-solving and critical thinking skills (Astin, Vogelgesang, Ikeda, & Yee, 2000; Zlotkowski, 1996). Structured reflection is a key component of service learning pedagogy and effectively combines the affective and cognitive developmental outcomes by connecting service and learning in an intentional way (Astin, 1993, Astin, et al., 2000; Zlotkowski, 1996).

**Key Differences in Study Abroad and Service Learning**

Students are the primary beneficiaries in study abroad programs, with much of the research emphasizing how the international experience influences the students’ personal growth (Rose, Crabtree & Hersh, 1998). Service learning on the other hand highlights reciprocity and emphasizes learning and growth for faculty and community members, as well as for students (Bringle & Hatcher, 1998). Emphasis on partnerships that offer mutual benefits puts the students in a particular frame of mind that emphasizes the wellbeing of the other and an opportunity to reap the rewards of helping others.

The understandings of culture acquired through study abroad and service learning programs is another key difference between the two programs. Study abroad emphasizes learning about differences between one’s home and host cultures (Kiely, 2004), whereas service learning focuses on variations in experiences within a more familiar environment,
which may foster greater tolerance for diversity (Astin, 1993; Sleeter & Boyle-Baise, 2000; Eyler & Giles, 1999). However, both study abroad and service learning require a student to exit their comfort zone, which can lead to dissonance, doubt and confusion. According to Chickering and Reisser (1993), dissonance triggers development. However, without adequate “support for the individual, learning and growth may be stunted” (Stage & Dannells, 2000, p. 19). With faculty guidance and intentional reflection, students are supported in the “meaning-making process, rather than the meaning the person has made” (Kegan, 1994, p. 293).

**Summary of Relevant Literature**

This relevant literature assists in providing a foundation to conduct a study to investigate the impact of study abroad and service learning on civic engagement in young adulthood. The review covered extant literature on the key conceptual constructs of global citizenship, civic engagement and prosociality. In order for a student to seek civic engagement opportunities and continue to pursue these activities, they must embody prosociality. Civic engagement experiences reinforce prosociality and cultivate global citizenship. This literature review demonstrates the need to conduct research to determine the extent to which service learning and study abroad relate to civic engagement in young adult life.

Terenzini and Reason’s (2005) Conceptual Model for College Student Experience provides a framework to examine the connections made between students’ precollege characteristics, organizational features, study abroad and service learning experience, and how they relate to subsequent values and decisions. By exploring the characteristics of students prior to entering college, organizational content and peer environment, one can
better understand how desired outcomes are achieved. By exploring these features alongside literature on study abroad and service learning, the need for further research is demonstrated. The literature review on study abroad and service learning, alongside institutional objectives for civic engagement and global citizenship illustrates the need to explore the impact of study abroad and service learning after college. Terenzini and Reason (2005) model provide a lens through which to understand the features affecting the college student experience.

**Theoretical Framework: Kolb's Experiential Learning Theory**

Kolb’s Experiential Learning Theory (ELT) is the Theoretical framework used to interpret the findings in this study. Kolb’s focuses on the process of learning, rather than the outcomes of learning and demonstrates how knowledge is continuously created through experiences (Kolb, 1984; Passarelli & Kolb, 2012). Learning through the action of doing is central to experiential learning and achieved through practical application (Pagano & Roselle, 2009). In experiential learning, action is followed by reflection, which serves as a means through which to reconstruct ideas and experiences through an academic lens while fostering the development of critical thinking and problem-solving skills (Pagano & Roselle, 2009). Reflection is a key component of Kolb’s Experiential Learning Theory, making it an appropriate theoretical lens through which to understand study abroad and service learning experiences. Kolb’s Experiential Learning Theory has been used to guide and analyze various research studies on service learning and study abroad (Crabtree, 2008; Hovland, 2010; Pagano & Roselle, 2009; Passarelli & Kolb, 2012) and will help in analyzing the findings that address the questions guiding this study.
Kolb’s (1984) model for experiential learning consists of four stages. These included Concrete Experience (doing/having an experience), Reflective Observation (reviewing/reflecting on the experience), Abstract Conceptualization (concluding/learning from the experience) and Active Experimentation (planning/trying out what you have learned). In this model, Kolb argues that a student must progress through all four stages in order for successful learning to be achieved. Therefore, an experience without reflection, drawing conclusions from that reflection and then applying it to a new situation would not be considered a successful learning experience. Kolb’s theory draws upon 20th century scholars such as John Dewey, Jean Piaget, Carl Jung, Paulo Freire, and others who placed experience as a central role in human learning and development (Passarelli & Kolb, 2012). Kolb’s theory builds upon these scholars and proposes six characteristics, which are inherent in experiential learning. Through the employment of research that investigates student experiences using a theoretical framework of experiential learning (Petkus, 2000; Giles & Eyler, 1994; Kolb, Boyatzis, Mainemelis, 2001; Savicki, 2010; Tarrant, 2010), one can seek to understand what aspects of these high impact activities are most closely attributed to civic outcomes in one’s young adult life.

Kolb’s Experiential Learning Theory compliments this research study because of its focus on the student experience. There is alignment between this theory and study abroad and service learning. Therefore, Kolb’s Experiential Learning Theory serves as a natural frame through which to explore student experiences. Additionally, the theory’s emphasis on new experiences, reflection and real world application may revealed in the prosocial outcomes of this study. It is the hope for this research that the study’s findings
point to differences between study abroad and service learning outcomes, to inform alternative directions for experiential learning and that those findings be applicable to practitioners and those involved in improving experiential learning opportunities.

- **Learning is best conceived as a process, not in terms of outcomes**

  Kolb (1984) posited that concepts, ideas, and thoughts are discovered and modified through experience, and that knowledge occurs as a result of different experiences. Though learning may be marked by specific learning goals, it does not end at an outcome. Rather, it occurs through “connected experiences, where knowledge is modified and re-formed” (Passarelli & Kolb, 2012, p.2). As Dewey (1897) suggests, “…education must be conceived as a continuing reconstruction of experience: … the process and goal of education are one and the same thing” (p. 79).

- **All learning is re-learning**

  Passarelli and Kolb (2012) suggested that all learning is relearning. Relearning occurs as new ideas are formed through testing of ideas about a subject. Further, the process draws students’ preconceived notions about a topic so that they can be examined, understood, tested and reevaluated (Kolb & Kolb, 2009).

- **Learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world**

  Passarelli and Kolb (2012) claimed that learning is achieved by the process of reflection, action, feeling, and thinking as a result of conflicting ideas and disagreement between the learners’ personal experiences and expectations. It is “not just the result of cognition but involves the integrated functioning of the total person” (Kolb & Kolb, 2008, p. 4).
• **Learning is a holistic process of adaptation**

    Passarelli and Kolb (2012) suggested learning is the combination of cognition and the ability to function and adapt to situations by solving problems and making decisions. Kolb (1984) cited thoughts, feelings, perceptions, and behaviors as essential parts to this process.

• **Learning results from synergetic transactions between the person and the environment**

    Kolb (1984) cited the relationship between environmental stimuli, the individual characteristics of the learner and their responses as factors in the nature of the learning process. In Piaget’s terms, “learning occurs through equilibration of the dialectic processes of assimilating new experiences into existing concepts and accommodating existing concepts to new experience” (Passarelli & Kolb, 2012, p. 3). Learning is therefore influenced by the characteristics of the learner and the space in which the learning takes place (Passarelli & Kolb, 2012).

• **Learning is the process of creating knowledge**

    Learning requires a certain level of skepticism to navigate the social and personal forms of knowledge and contradictions to one’s personal views (Kolb, 1984; Passarelli & Kolb, 2012). Social knowledge describes objective experiences, while personal knowledge is the accumulation of subjective experiences. The creation of knowledge results from the analysis of these combined experiences (Kolb, 1984).

    Service learning programs move students through stages similar to Kolb’s Experiential Learning. Students identify a problem within their school or community and pursue an experience (concrete experience). In a service learning program, students are
constantly reflecting on the experience through journals, discussion groups or other reflective practices (reflective observation). The reflection process aids in producing new knowledge (abstract conceptualization) prior to the student moving on to a new experience, where they have the opportunity to apply what they have learned (active experimentation). Service learning programs incorporate experiential learning activities to achieve learning outcomes related to personal growth and academic success (Crabtree, 2008; Hovland, 2006; Pagano & Roselle, 2009; Passarelli & Kolb, 2012).

Passarelli and Kolb (2012) recognize study abroad as a transformative experience because of its ability to challenge students to make sense of an unfamiliar culture and navigate adjustment to culture shock, especially when they are going abroad for the first time or visiting less developed countries (Crabtree, 2008). Students experience emotional, ideological and psychological stress, all of which are essential to transformation and development (Crabtree, 2008). In Kolb’s model, study abroad has the ability to offer concrete learning in how it promotes ownership of the learning process and fosters student awareness of their own learning style and personal identity (Passarelli & Kolb, 2012). Study abroad programs promote responsibility for student learning and encourages one to understand the learning process, which facilitates the process of turning experiences into knowledge (Passarelli & Kolb, 2012).

Modification to Terenzini and Reason Conceptual Model

The Terenzini and Reason (2005) Conceptual Model for College Student Experience considers a number of factors contributing to the college student experience and influencing the outcomes of college. First, Terenzini and Reason consider the characteristics of the student pre-college, which includes the students’ sociodemographic...
traits, academic preparation and performance, and personal and social experiences. Upon entrance to college, an individual interacts with the organizational context, which includes a college or university’s internal structures, policies and practices, academic and co-curricular programs, and faculty culture. Additionally, students are influenced by the Peer Environment, which includes Individual Student Experiences such as classroom experiences, out-of-class experiences and co-curricular experiences. According to Terenzini and Reason (2005), these interrelated factors influencing the student experience lead to outcomes in learning, development, change and persistence.

While useful, the outcomes identified by Terenzini and Reason’s (2005) model are limited. The literature on study abroad and service learning suggests that Terenzini and Reason’s (2005) model should be modified when exploring concepts such as global citizenship, civic engagement, and prosociality—all of which transcend the postsecondary learning environment. However, global citizenship is complicated and requires an avenue through which to make meaning of the process and develop global citizenship. Kolb’s Experiential Learning Theory provides an explanation as well as lens through which to understand how programs are reaching objectives or where they may be lacking in attaining global citizenship.

As such, this study is framed by the modified version of Terenzini and Reason’s (2005) conceptual model presented in Figure 3. This revised model highlights that pre-college prosociality influences subsequent decisions to participate in programs such as study abroad and service learning as well as a student’s overall development trajectory. It also explicitly incorporates the idea of global citizenship as well as civic engagement and prosociality as its antecedents. It further suggests that these long-term outcomes arise
from experiential learning processes catalyzed in college by programs such as study abroad and service learning but continuing to develop over time based on ongoing reflection. Notably, by including experiential learning, this approach also incorporates the theoretical framework used to interpret the findings of this study.

Figure 3: Modified Terenzini and Reason (2005) Conceptual Model for College Student Experience
CHAPTER 3

METHODS

The purpose of this study was to investigate the relationship between precollege characteristics and study abroad, service learning, and both study abroad and service learning participation in college, to determine the extent to which these activities relate to prosociality four years after graduation. Previous research reveals benefits acquired through study abroad and service learning during college, however, limited research addresses how these experiences impact prosociality after college and into young adult life. This research aimed to close this gap by looking at the outcomes of prosociality as they related to these activities. The following questions guided this study:

1. Who participates in study abroad, service learning, and both study abroad and service learning?

   a. How do precollege factors relate to participation in study abroad, service learning, and in both study abroad and service learning in college?

   b. What factors are associated with pre-college measures of participation in community service work and values in helping others pre-college?

   c. How do within-college factors relate to study abroad, service learning, and both study abroad and service learning in college?

2. To what extent does study abroad, service learning, and participation in both study abroad and service learning in college relate to prosociality four years after graduation?
3. How do outcomes of prosociality in study abroad, service learning, and both study abroad and service learning differ from one another?

**Data Source**

In order to answer the research questions, data was extracted from the Educational Longitudinal Study 2002 (ELS: 2002) from the National Center for Educational Statistics. The Education Longitudinal Study (ELS: 2002) “provides trend data about critical transitions experienced by students as they move through high school into postsecondary education and their careers” (NCES, 2004, p. 7). ELS: 2002 first survey, also known as the base survey, was first administered in 2002, to students in their tenth grade year of high school. The 2002 sophomore cohort was surveyed at various points thereafter to collect information about their transitions through education, as well as outcomes pertaining to student learning, predictors relating to retention in high school and the effect on access to college and success in postsecondary education and the workforce (NCES, 2004).

The ELS: 2002 dataset contains information from students, parents, teachers, librarians, and high school administrators. The extent of information collected and its longitudinal nature provides researchers the opportunity to investigate the significance of a wide variety of factors influencing the student experience and life after college graduation. ELS: 2002 followed a national sample of young people as they progressed from tenth grade through high school, to postsecondary education (if attended), and then to the workforce. Additionally, the dataset collected student demographics, behavioral and attitudinal information, social and educational experiences, personal and academic goals, and outcomes after college (NCES, 2004).
To construct a nationally representative sample, ELS: 2002 developed a stratified random cohort drawn from 752 schools in the United States. Student participants included males and females from all racial/ethnic groups and socioeconomic statuses. Additionally, ELS: 2002 - 2012 oversampled students attending private schools and Catholic high schools as well as students identifying as “Asian, Hawaiian/Pacific Islander, and non-Hispanic” and used probability weights (NCES, 2010b). However, the ELS: 2002 dataset also provided probability weights to compensate for the over-sampling of various subgroups. In addition, ELS adjusts for the effects of nonresponses. The weights ensured that school-level samples (i.e. clustering of students by schools) would be representative of a national sample. Of the 19,218 students who were eligible and selected, 15,362 completed the ELS: 2002 base-year student survey, representing 87% response rate (NCES, 2004).

The base year survey included questions about participants’ educational experiences and practices as well as reading and math competency exams in order to obtain a baseline assessment of each participant. Data was also collected from parents, English and math teachers, school administrators, librarians and other school personnel in the base year of the survey administration. Given this dissertation’s research focus on student-level prosocial outcomes, student information will be used for this study.

The first follow-up collected information for eligible base-year participants. The base-year added 238 students during the update (NCES, 2006). Students eligible for the update included those new to the study, transfers and early graduates (NCES, 2004). The update ensured the group would be representative of students in twelfth grade during the spring term of the 2003-2004 school year.
The second follow-up was conducted in the spring of 2006, when the majority of the students in that cohort had graduated and transitioned from high school to postsecondary education, or moved on to the labor market or military. Data collection for the second follow-up was conducted by telephone interviews and self-administered web interviews, as well as computer-assisted personal interviews. The third follow-up was administered in 2012. Additional information about college academic and social experiences, labor market earnings and satisfaction was collected, along with education transcripts.

The target populations for the third follow-up consisted of individuals from the first and second follow-ups, specifically the students enrolled in the tenth grade in 2002 and those students enrolled in the twelfth grade in 2004. The number of eligible students represented 752 schools and totaled 17,791 students before adding 238 students from the first follow-up survey. Of the original 19,218 base-year sample members, 1,464 were found to be ineligible, leading to 17,791 eligible base-year sample members. Eligible sample members who had not responded in the second follow-up and in the first follow-up were not targeted for the third follow-up. The third follow-up sample consisted of 15,362 sample members from the second follow-up excluding 176 individuals who were not available for the third follow-up. Students not included were those who were deceased, incapable or otherwise incapacitated and therefore unable to complete the survey.

Using secondary data offered the benefits of relying on the strengths of an already vetted dataset. The frequency and repeated use of the ELS: 2002 data instrument elicits confidence in the reliability of the data generated (Alreck & Settle, 1995). NCES has
published a report with specific details pertaining to the validity and reliability of the ELS: 2002 survey (Ingels, Pratt, Jewell, Mattox, Dalton, Rosen, Lauff & Hill, 2012). In addition, the extent of student information provided through ELS: 2002, including pre-college experiences, demographics, background and outcome variables regarding values and behaviors post-college made the ELS: 2002 an adequate dataset for this study.

**Sample**

The sample for this research study included twelfth grade students in the United States who completed the ELS: 2002 third follow-up survey and graduated from college with at least a bachelor’s degree. The sample variable was recoded from the ELS: 2002 variable titled “F3ATTAINMENT”. F3ATTAINMENT represents the highest level of education earned for all students who completed the survey. To gather the sample for this study, participants who earned a bachelor’s degree or higher and completed the third follow-up survey four years after graduation were part of the analytic sample. As noted above, when properly weighted, ELS data is nationally representative of the overall target population of 12th grade cohort students enrolled in eligible schools (NCES, 2004). The population is representative of the 3,248,820 high school seniors within the United States in spring of 2004. The sample consisted of 5,100 and had 1,169 missing cases. Once missing data were removed, the analytic sample included 3,931 students.

**Missing Data**

ELS: 2002 differs from a simple random sample in key ways. Students within the sample were stratified by characteristics, clustered by school, and selected with unequal probabilities of selection. NCES used weights to account for varying response patterns in each round, as well as over time to ensure data would be representative of the national
population. In longitudinal studies, it is common for participants to be present for some but not all of the surveys (Schafer & Graham, 2002). NCES also addressed inconsistencies in ELS: 2002 by carrying forward known information from previously administered items/variables and addressing areas of inconsistencies in follow-up surveys (NCES, 2004).

Missing data has the ability to compromise the validity of the study and threaten its power. In this sample, there were 1,169 cases with missing data, nearly 23% of the whole analytic sample. Listwise deletion is a method for addressing missing data and requires the deletion of all cases that have missing data on any variable used in the analysis (Allison, 2002). However, missing data can affect the outcomes drawn from the data. For instance, it could influence tests of statistical significance if the change in significance was the result of decline in sample size.

One way to determine whether listwise deletion is an appropriate choice is to compare the variable frequencies of the selected sample with the missing cases. This is to ensure that the dropped cases are similar enough to believe they will not likely compromise the results of the statistical tests. For this study, I removed the missing cases from the analytic sample and compared the frequencies of the variables. In doing so, I was able to establish that the missing data in the analytic sample did not differ substantially from the data in the analytic sample and was close enough to justify using listwise deletion. Table 1 displays the descriptive statistics for those who are missing from the regression analyses.

The missing data shows there are a few cases (e.g., male, lowest socioeconomic quartile) where the missing and non-missing data is more dissimilar than might be
desirable. While this discrepancy may introduce error, it is unlikely to undermine the overall direction of observed conclusions since the missingness was disproportionately concentrated in participants whose variable values indicated they would otherwise be less likely to participate in study abroad and service learning. In other words, the largest discrepancy between the missing and the sample cases are males and those in the lowest socioeconomic status, whereas females and those in the highest socioeconomic status are the highest participating groups in study abroad and service learning. This could only understate the participation and prosocial outcomes; however, they would not be skewed more positively than they are in reality.

Table 1: Missing versus Sample

<table>
<thead>
<tr>
<th></th>
<th>Missing</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weighted %</td>
<td>Weighted %</td>
</tr>
<tr>
<td><strong>Demographics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>50.56%</td>
<td>42.84%</td>
</tr>
<tr>
<td>Female</td>
<td>49.44%</td>
<td>57.16%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian, Alaskan, Non-Hispanic</td>
<td>0.47%</td>
<td>0.48%</td>
</tr>
<tr>
<td>Asian, Hawaii, Pac. Islander, Non-Hispanic</td>
<td>7.47%</td>
<td>6.12%</td>
</tr>
<tr>
<td>Black or African American, Non-Hispanic</td>
<td>11.92%</td>
<td>7.71%</td>
</tr>
<tr>
<td>Hispanic, No race specified</td>
<td>3.78%</td>
<td>3.83%</td>
</tr>
<tr>
<td>Hispanic, Race specified</td>
<td>6.24%</td>
<td>4.98%</td>
</tr>
<tr>
<td>More than one race, Non-Hispanic</td>
<td>3.13%</td>
<td>3.47%</td>
</tr>
<tr>
<td>White, Non-Hispanic</td>
<td>66.99%</td>
<td>73.42%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Socioeconomic Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest quartile</td>
<td>13.29%</td>
<td>9.75%</td>
</tr>
<tr>
<td>Second quartile</td>
<td>17.10%</td>
<td>16.95%</td>
</tr>
<tr>
<td>Third quartile</td>
<td>26.70%</td>
<td>27.48%</td>
</tr>
<tr>
<td>Highest quartile</td>
<td>42.91%</td>
<td>45.81%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Prosociality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Important (1)</td>
<td>2.6%</td>
<td>4.65%</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Somewhat Important (1.5)</td>
<td>16.08%</td>
<td>14.89%</td>
</tr>
<tr>
<td>Neutral (2)</td>
<td>32.08%</td>
<td>32.72%</td>
</tr>
<tr>
<td>Important (2.5)</td>
<td>23.12%</td>
<td>25.85%</td>
</tr>
<tr>
<td>Very Important (3)</td>
<td>26.12%</td>
<td>21.89%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Analytic Sample**

The analytic sample consisted of 3,931 participants. Within the following section, I provide details of the analytic sample. The most common level of prosociality found in the analytic sample was two (32.08), representing neutral. Of the analytic sample, 11.09% studied abroad, 20.35% participated in service learning and 6.13% participated in both study abroad and service learning. Of the sample, the majority consisted of females (57.16%) while males made up 42.84%. Participants who identified as white made up 73.42% while 26.58% identified a race other than white. Of the analytic sample, the largest percentage fell into the highest quartile of socioeconomic status (45.81%), followed by the third quartile (27.48%), second quartile (16.95%) and lastly the lowest quartile (9.75%).

For high school experiences, the portion of the analytic sample having never completed community service was represented by 43.31%. Following was those who conducted community service less than one time per week (33.03%), two times per week (20.77%) and every day or almost every day (2.89%). Of the analytic sample, the highest percentage rated importance of helping others in the community as “sometimes important” (51.14%) while 44.22% said it was “very important” compared to 4.64% who said it was “not important”.

62
The in-college characteristics indicated the majority of the analytic sample had not completed a STEM course or a STEM major (84.1%) compared to 15% who had completed undergraduate coursework in STEM. Less than one percent completed graduate work in a STEM topic. Of the analytic sample, 17.3% had transferred during their undergraduate career.

The Participation in other high impact activities indicated the highest number of students had completed one other high impact activity during college 65.7%, while 34% had not completed any other high impact activities. In college, 31.8% had completed two other high impact activities. Of the analytic sample, 2.8% participated in other volunteer activities. The following table displays the descriptive statistics of the analytic sample.

Table 2: Descriptive Statistics for Analytic Sample

<table>
<thead>
<tr>
<th>Sample=3,931</th>
<th>Sample Frequency</th>
<th>Sample Unweighted %</th>
<th>Sample Weighted %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Impact Activities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Abroad</td>
<td>463</td>
<td>11.78%</td>
<td>11.09%</td>
</tr>
<tr>
<td>Service Learning</td>
<td>825</td>
<td>20.99%</td>
<td>20.35%</td>
</tr>
<tr>
<td>Study Abroad and Service Learning</td>
<td>255</td>
<td>6.49%</td>
<td>6.13%</td>
</tr>
<tr>
<td>Neither Study Abroad or Service Learning</td>
<td>2,388</td>
<td>60.75%</td>
<td>62.43%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,931</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td><strong>Precollege Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Frequency of Community Service</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>1,608</td>
<td>40.91%</td>
<td>43.31%</td>
</tr>
<tr>
<td>Less than once a week</td>
<td>1,343</td>
<td>34.16%</td>
<td>33.03%</td>
</tr>
<tr>
<td>Twice a week</td>
<td>866</td>
<td>22.03%</td>
<td>20.77%</td>
</tr>
<tr>
<td>Every day or almost every day</td>
<td>114</td>
<td>2.90%</td>
<td>2.89%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,931</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td><strong>Importance of helping others in community</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not important</td>
<td>179</td>
<td>4.55%</td>
<td>4.64%</td>
</tr>
<tr>
<td>Sometimes important</td>
<td>1,977</td>
<td>50.29%</td>
<td>51.14%</td>
</tr>
<tr>
<td>Very important</td>
<td>1,775</td>
<td>45.15%</td>
<td>44.22%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,931</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td><strong>In College Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEM coursework completed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variables</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This dissertation examined the extent to which study abroad, service learning, and both study abroad and service learning affected prosociality four years after college graduation. The conceptual framework guiding this study used the modified version of the Terenzini and Reason (2005) Conceptual Model for College Student Experience described in Chapter Two. The model describes college outcomes as a function of interrelated factors from students’ backgrounds, characteristics and experiences prior to coming to college, the organizational context, consisting of the faculty culture, institutional policies and the peer environment made up of in and out of classroom experiences and co-curricular experiences. The modified conceptual framework informed variable selection and the statistical models employed for this study. The conceptual
framework also helped to explain the purpose of each variable and its role in understanding the college student experience. Finally, the variables selected assisted in understanding the factors influencing prosociality and aided in interpreting the results of the study.

Variables for this study were extracted from the ELS: 2002 online dataset via the National Center for Education Statistics NCES. Data in the ELS data set were accessible through the Education Data Analyses Tool (EDAT) and imported to STATA Data Analysis and Statistical Software. EDAT is a web-based application that allows users to view all the variables in the dataset, tag variables and download selected variables (NCES-EDAT, 2014). Variables were selected from EDAT and a syntax file was downloaded and then imported to STATA for computation and analysis. The data was cleaned and recoded in STATA before running the analyses.

The variables identified for the study were organized into a workflow process, which included a detailed name and analyses plan. This plan documented the variables selected, their original code and how they were recoded for the study. Some variables were combined to create one numerical value for each student. In doing so, some of the variables were adjusted to match the scale of those within the same category. Additionally, some of the variables were renamed so they could be easily identified. All categorical variables were converted to dummies for the regression analyses. As well, the names plan documented the analyses that would be executed using each variable. Further explanation is provided in the variable description that follows.
Outcome Variables

Prosociality was identified as the outcome variable for this study. The outcome variable was drawn from the ELS: 2002 third follow up. The newly created variable consisted of a cluster of variables within the ELS: 2002 dataset, as outlined below. The cluster was transformed into a mean, resulting in the outcome variable being continuous.

Prosociality

Prosociality was the outcome variable used in the regression model and named “PRODIS”. PRODIS represented the combined variables “F3D53G indicating working to correct social and economic inequalities” and “F3D53D indicating helping other people in community”. The variable “F3D53G working to correct social and economic inequalities” is a variable in the ELS: 2002 third follow up survey and measured using a three-point scale. The variable “F3D53G Values: working to correct social and economic inequalities” was one of two variables used to measure prosociality with the value (1) for “not important”, (2) “somewhat important” and (3) “very important”. The second variable “F3D53D Values: helping other people in community” assigned (1) for “not important”, (2) “somewhat important” and (3) “very important”. To measure prosociality, a mean of variables F3D53G and F3D53D was assigned for each individual with 1 for not important, 1.5 for somewhat important, 2 for neutral, 2.5 for important and 3 for very important.

Test of Internal Consistency for Prosociality Variable

Cronbach’s alpha measured the internal consistency of the outcome variable. Cronbach’s alpha indicates how closely related the items are within a group and their reliability. It is important to know whether the set of items would elicit the same
responses if the same questions were recasted separately to the same respondents separately (Tavakol & Dennick, 2011). The alpha reliability testing for the outcome variable PRODIS represents two dispositional variables. The alpha for the PRODIS was .628.

**Independent Variables**

The independent variables of interest included study abroad and service learning and both study abroad and service learning. A number of covariates were also included to inform the outcomes of the study. The covariates included student demographics such as gender, race and socioeconomic status and precollege characteristics and experience, such as whether a student had completed volunteer work previously as well as the value placed on helping others in the community. The organizational context included the type of institution attended, whether the student had transferred during college, earned a credential in science, technology, engineering or math (STEM) curriculum and their individual student experiences. Individual student experiences referred to whether a student had participated in other high impact activities and whether the student volunteered in organizations in the community. These variables are further discussed below.

**Student Precollege Characteristics & Experiences**

**Race/Ethnicity**

Race/Ethnicity is a categorical variable in the ELS: 2002 variable list and coded as “F1RACE”. The categories were originally coded with a 1 for American Indian/Alaska Native, non-Hispanic, 2 for Asian, Hawaii/Pacific Islander, non-Hispanic, 3 for Black or African American, non-Hispanic, 4 for Hispanic with no race specified, 5 for Hispanic,
race specified, 6 for more than one race, non-Hispanic, 7 for white, non-Hispanic. Due to the very small number of participants in some of the race categories, a dummy variable was created “WHITE” with 1 through 6 equals 0 and 7 equals 1. The recoded variable White identified White and non-white for the regression analyses.

**Socioeconomic status**

Socioeconomic status is a variable in the ELS: 2002 variable list and coded as “F1SES1QU”. F1SES1QU was a standardized value constructed by NCES and provided for each student sampled. This variable was based on five equally weighted parts: father’s occupation, mother’s occupation, father’s education, mother’s education, and family income. For this study, the variable “F1SES1QU” was recoded as “SOCIOECON”. In response to concern that a composite SES variable may minimize deeper understanding of nuances among individual variables (Paulsen & John 2002), NCES (2012) published a report to document a thorough review of the measurement issues involved in capturing socioeconomic status. The report concluded that “the advantages of treating SES as a composite of several variables rather than as a single variable or multiple single variables outweigh the disadvantages” (p.26). The original coding for this variable assigned the number 1 for lowest quartile, 2 for second quartile, 3 for third quartile and 4 for the highest quartile. For the regression analyses, it was necessary to recode the variable to dummies to represent each quartile. Therefore, socioeconomic quartile was assigned a 1 and a 0 if the participant identified as one of the other three categories.

**Sex**

Sex was a categorical variable drawn from ELS: 2002 variable “F1SEX”. The original variables assigned the number 1 to represent male and 2 for female. The variable
was recoded into a dummy variable with the number 1 denoted to male and 0 to female for the regression analyses. The variable name “F1SEX” remained for this study.

**Frequency of community services**

Frequency in which someone participates in community services is a variable in the first follow-up survey of the ELS: 2002 dataset and coded as “F1S39C”. The original variables assigned the number 1 to represent rarely or never doing community service work, 2 for less than once a week, 3 for once or twice a week, 4 for every day or almost every day. For this study, the variable was renamed “COMMPRE” with dummy variables created for the regression analyses. This variable was included in the vector of the model titled PRECOLL.

**Importance of helping others in community**

The value one places on their role in helping others in the community is a variable in the first follow-up survey of ELS: 2002 dataset and coded as “F1S40F”. The original variable assigned the number 1 for not important, 2 for somewhat important and 3 for very important. For this study, the variable was renamed “COMMIMP” with dummy variables created for the regression analyses. This variable was included in the vector titled PRECOLL.

**Organizational Context**

**Institutional type**

Postsecondary Institution Type was taken from the ELS: 2002 variable “F3PS1SEC”. The variable collects the sector of the first postsecondary institution ever attended. The variable “F3PS1SEC” has categorical values of 1 (Public, 4-year and higher), 2 (Private not-for-profit, 4-year and above), 3 (Public 2-year or less), and 4
(Private 2-year or less). For the purpose of this study, the original variable was renamed “INSTTYPE” and recoded to four dummy variables. The four dummy variables included four year public institution named “PUB4YR”, “PRV4YR”, indicating attendance at private four-year, “PUB2YR” indicating attendance at public two-year institution and “other” for all other institution types. This variable was used in the regression analyses and included in the vector titled INCOLL.

Transfer

For this study, “TRANSFER” captured whether a student had transferred or switched postsecondary institutions during their undergraduate college career. “TRANSFER” is a renamed version of variable “F2SWITCH,” which captured whether a person transferred or switched postsecondary institutions during their undergraduate career. The variable is coded with a 0 if the student did not transfer and 1 if the student transferred or switched. This variable was included in the regression model within the vector titled INCOLL.

Major

The variable “STEMNONRECODE”, a new variable distinguished whether a student earned a credential in a STEM subjects. STEMNONRECODE was originally variable “F3TZSTEM1CRED Transcript: ever earned postsecondary credential in STEM”. This variable indicates whether the student earned a STEM degree or certificate. The original variable was coded so that 0 represented no STEM credential, 1 represented undergraduate credential and 2 represented graduate credential in STEM. The variable was recoded to two dummy variables for the regression analyses. Policymakers have placed added emphasis on increasing the number of college graduates in STEM majors
According to IIE Open Doors (2016) annual report, Science, Technology, Engineering and Math (STEM) represent the fastest growth by major field (IIE, 2016). This variable was included in the regression model within the vector INCOLL.

**Individual Student Experience**

**Study Abroad**

In ELS: 2002 study abroad was a variable coded as “F3A14C High-impact PS activities: Study abroad.” For this study, the variable was originally coded so that 1 represented yes to study abroad participation and 0 represented no. This variable maintained its original coding and was used in the regression model. The variable was renamed SA.

**Service Learning**

Service learning is a variable in the ELS: 2002 variable list and coded as “F3A14D High-impact PS activities: Community-based project.” For this study, the variable was originally coded so that 1 represented yes to study abroad participation and 0 represented no. This variable maintained its original coding and was used in the regression model. The variable was renamed SL.

**Study Abroad and Service Learning**

“SASL”, a newly created variable identifies students who participated in both study abroad and service learning from those who did not participate in both high impact activities. For this variable, 1 represents no to SL and SA, 2 represents SA only, 3 represents SL only and 4 represents both SA and SL. This variable was not used for the regression analyses. However, it was used to capture descriptive statistics.
SASLupdated

“SASLupdated”, a newly created variable using the variable SASL, which identified those who participated in study abroad, service learning, both study abroad and service learning and those who did neither activity. This variable was recoded from SASL where 1 represented no to SL and SA, 2 represented yes to study abroad only, 3 represented yes to service learning only and 4 represented yes to both study abroad and service learning. “SASLupdated” assigned four to equal 1 and 1(no to SL and SA), 2 (SA only) and 3 (SL only) to equal 0. This variable was used in the regression model.

High-impact Activities

ELS: 2002 collects data on whether students participated in other “HIGH-IMPACT ACTIVITIES” during college. High-impact activities include first-year college seminars, common intellectual experiences (e.g., general education requirements, common read programs), learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research that is not part of a course requirement, global learning (i.e., study abroad), service learning/community service, internships, capstone courses and projects (Kuh, 2008).

This newly created variable “OTHER IMPACT” excluded study abroad and service learning. High-impact activities include variables “F3A14A High-impact PS activities: Internship/co-op/field experience/student teaching/clinical assignment”, “F3A14B High-impact PS activities: Research project with faculty member outside course/program requirements”, “F3A14E High-impact PS activities: Culminating senior experience”, and “F3A14F High-impact PS activities: Mentoring”. For the purpose of this study, the newly created variable “OTHER IMPACT” represented a sum of F3A14A,
F3A14B, F3A14E, and F3A14F, to see the scale of participation. This variable was used in the regression model.

**Statistical Analysis**

This study applied a quantitative research design. Once the variables for the study were identified in ELS they were downloaded to the computer and imported to the Statistical Software Package for the Social Sciences (STATA). All data cleaning and coding was completed in STATA. To address research question one, descriptive frequencies using crosstabs were run on the independent variables to determine the relationship between various precollege demographics with experiences and precollege demographics and experiences with participation in college. When large differences were identified in the crosstabs, Chi square tests was used to test the significance. In addition, the mean differences in prosociality for study abroad, service learning, and both study abroad and service learning compared to those who did neither is computed.

Research question 2 aims to determine whether study abroad, service learning, and both study abroad and service learning relate to prosociality after college graduation and uses a regression model to answer the research question. Regression analyses is used to investigate question 2. Research question 3 examines the difference between the coefficients produced by the regression analysis. In doing so, a Wald Test is used to investigate whether the differences are significant.

This study used a regression model to investigate research question 2 to determine how study abroad, service learning and study abroad and service learning participation in college related to prosociality four years after college graduation. “Regression describes a relationship between an explanatory variable and a response variable” (Moore, Notz &
Regression analysis is based on the assumption that dependent variables can be measurably influenced by independent variables (Cress, Astin, Zimmerman-Oster & Burkhardt, 2001). Regression analyses was conducted on the data to conclude if statistically significant predictive relations could be identified between the independent and dependent variables. A probability level of \( p < .05 \) was the criteria used for determining whether the relationship was statistically significant. The regression model used for this study was the following:

\[
\text{PRODIS} = b_0 + b_1 \times \text{SA} + b_2 \times \text{SL} + b_3 \times \text{SASLupdated} + b_4 \times \text{HIIP} + b_5 \times \text{INCOLL} + b_6 \times \text{PRECOLL} + e
\]

Prosociality (PRODIS) was the dependent variable in the study. Beta \( (\beta_1) \) represents the slope for study abroad, \( \beta_2 \) is the slope for service learning, \( \beta_3 \) is the slope for individuals who participated in both study abroad and service learning and \( \beta_4 \) is the slope for involvement in other high impact activities taking place in college. The bolded parts of the equation represent vectors consisting of multiple variables. The variable in the equation titled INCOLL represents the variables within the organizational context, including institutional type, major and transfer status. The variable in the equation titled PRECOLL represent the variables with the students’ pre-college characteristics and experiences category, including race, ethnicity, socioeconomic status, sex and service participation pre-college. The error term, epsilon, denoted as \( e \) in the equation represents the error that is not explained by the variables in the equation.

The regression analyses addresses research question 2. Regression indicates whether study abroad, service learning, and both study abroad and service learning are significant predictors of prosociality after graduation. Study abroad, service learning, and both study abroad and service learning are each measured in comparison to those who have not participated in either activity. To take this a step further, research question 3
aims to identify the differences between the regression coefficients for study abroad, service learning, and both study abroad and service learning. In addressing this research question, a Wald Test is used to measure the difference between the coefficients of study abroad, service learning, and both study abroad and service learning. The Wald Test measures the relationship between these outcomes rather than their individual relationship to those who did not complete the activity.

Statistical tests rely on certain assumptions about the variables used in the study’s analyses (Osborne & Waters, 2002). As such, a series of assumptions required testing during the regression analyses. For linear regression, these include linearity, independence of errors, homoscedasticity, normality and multicollinearity. Below, I have detailed each test and the results of each assumption check.

**Assumptions of Regression**

Linearity describes the dependent variable as a linear function of the independent variable (Darlington, 1968). The independent and dependent variables are categorical and therefore cannot be tested using Pearson correlation, which requires continuous variables and can be used to test linearity. Therefore, when plotted on a graph, it is impossible to show a linear relationship. In order to explore the relationship between the variables, a number of crosstabs are used to provide a clear picture of the data in the analytic sample.

The assumption of the independence of errors is that each individual’s unobserved characteristics are independent of everyone else’s unobserved characteristics. The independence of observations assumes the unobserved characteristics of individuals are not correlated (Jarque & Bera, 1987). The sampling process for the ELS is such that schools (Primary Sampling Units) were selected and then individual students were
selected from those schools. Students are nested within the schools and because they are located in the same schools, they share the characteristics of that school. Therefore, the assumption of independence of errors is violated and the standard errors are incorrect. In order to correct for this and produce the correct standard errors, the model uses robust standard error to account for the clustering of observations within schools.

The assumption of homoscedasticity assumes some variance consistently in the linear regression model. This assumption can be checked by visual examination of a plot of the residuals by the regression predicted values of the dependent variables (Osborne & Waters, 2002; Keith, 2006). Data should reveal homoscedasticity, which is shown by a similar variances of the residuals for each predicted value. Figure 4 shows that the errors are homoscedastic because the variances of the residuals are consistent for each predicted value. In addition, the robust standard errors used in this analysis adjust for heteroscedasticity.
The assumption of normality says that the residual errors are normally distributed.

The residual error refers to the difference between what is predicted and the actual number of the outcome variable. This assumption was tested using Shapiro-Wilks and a histogram. The result was w=.99 with P<.001, which indicates the assumption was violated. However, due to the sample being over 30, this is expected and not a concern. In addition, the histogram plot shown in figure 5 illustrates, though not perfectly normal, it still resembles a normal distribution.
Multicollinearity refers to a situation where a number of independent variables in a multiple regression model are closely correlated to one another. For this study, Variable Inflation Factor (VIF) was employed to test for multicollinearity (O’brien, 2007). All variables had a VIF below 1.5. The mean VIF for all variables was 1.15.

**Limitations**

ELS: 2002 dataset has many features that make it well suited for this study, including longitudinal data, detailed information about the high school and college experience, and information about behaviors and dispositions after college. However, the ELS dataset poses some limitations to this study. One example involves the definition of variable SEX. The variable does not account for gender, which is an important
consideration. The patterns of transgender and genderqueer student participation in study abroad or community service may differ from their cisgender peers, but the data precludes addressing this important issue.

Likewise, the inability to address the amount of financial aid granted to participants of this study was a limitation. However, the amount of missing financial aid data within this study’s analytic sample compromised the ability to do the analyses and required that financial aid variables be eliminated from the study. Using a dataset that allows financial aid information to be used is a recommendation for future research given that the dramatic increase in tuition costs over the past ten years may influence study abroad and service learning participation (Ma, Baum, Pender & Bell, 2015).

Due to ELS being a large-scale dataset, this study was limited in its ability to study certain student populations and measure their prosocial outcomes. Using large-scale data aims to reveal inequities in institutional processes or outcomes, however, it is challenging when addressing marginalized and often overlooked groups (Wells & Stage, 2015). For example, this study was unable to look at certain race groups because they were too small to be statistically testable. Prior research indicates that high impact activities can be even more beneficial for underserved and underrepresented students (Finley & McNair, 2013). Therefore, it is even more critical for institutions to gather this information so they are better able to serve these students.

The alpha for the PRODIS was .628, which is slightly lower than some fields of research require. A low alpha can suppress significance. In order to investigate whether the alpha reliability score posed an underlying problem, I conducted a sensitivity test for each PRODIS variable independently to determine whether the outcomes differed from
when they were combined. The outcomes for each individual variable were the similar to when they were combined.

It is generally advisable to have more than two items to measure a variable. More items equates to a more robust construct and requires each item to be less reliant on the other items in the variable. However, ELS variables measuring values were not always capturing altruistic values. A study must be cognizant of what it is actually trying to measure. To have items in that construct that were not necessarily measuring altruistic values posed an underlying threat to the validity of the study.

**Summary**

This chapter provided a description of the dataset used in the study (the ELS: 2002 - 2012), the sample selected for the study and the criteria used in selecting the analytical sample. The variables selected were identified along with how they were coded for analysis. The statistical analyses used to answer the research questions was outlined. The chapters that follow will present the results obtained through the methodological analyses outlined in this chapter and discuss those results.
CHAPTER 4

RESULTS

This study investigated participation patterns for those who engaged in study abroad, service learning, and both study abroad and service learning in college as well as the outcomes of that participation post-college. It also examined how precollege and in-college factors related to the decision to participate and the extent to which study abroad, service learning, and both study abroad and service learning related to prosociality four years after college graduation. The sections of this chapter (chapter 4) are organized around the study’s research questions:

1. Who participates in study abroad, service learning, and both study abroad and service learning?
   
   a. How do precollege factors relate to participation in study abroad, service learning, and in both study abroad and service learning in college?
   
   b. What factors are associated with pre-college measures of participation in community service work and values in helping others pre-college?
   
   c. How do within-college factors relate to study abroad, service learning, and both study abroad and service learning in college?

2. To what extent does study abroad, service learning, and participation in both study abroad and service learning in college relate to prosociality four years after graduation?

3. How do the outcomes of prosociality in study abroad, service learning, and both study abroad and service learning differ from one another?
In addressing these questions, I present tables and figures alongside an explanation of the information presented.

Questions 1, 1a, 1b and 1c sought to identify those who participated in study abroad, service learning, and both study abroad and service learning. Crosstabs and frequencies were used to investigate the relationships between variables of interest. Where large gaps were identified, Chi Square tests were conducted to determine whether differences were statistically significant. A regression model addresses research question 2. In addressing research question 3, a Wald Test compares the coefficients from the regression model for each activity of interest, indicating whether the differences between study abroad, service learning, and both study abroad and service learning are significant.

**Research Question 1**

Table 3 presents participation in study abroad, service learning and study abroad and service learning by sex. A clear gap exists in participation across these activities with females comprising the majority of students participating in study abroad, service learning and those participating in both study abroad and service learning in college. Conversely, male student participation is limited across all activities. Of the students who studied abroad, males accounted for just 31.73% while females accounted for 68.27%. For those who participated in service learning, males accounted for 35.50% and females accounted for 64.50%. Of the students who elected to participate in both study abroad and service learning, 28.39% are male and 71.61% are female. Of those who did neither study abroad or service learning, 48.63% were male and 51.37% were females.
Table 3: Participation in Study Abroad, Service Learning, Both and Neither by Sex

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Abroad</td>
<td>31.73%</td>
<td>68.27%</td>
</tr>
<tr>
<td>Service Learning</td>
<td>35.50%</td>
<td>64.50%</td>
</tr>
<tr>
<td>Study Abroad and Service Learning</td>
<td>28.39%</td>
<td>71.61%</td>
</tr>
<tr>
<td>Neither Study Abroad or Service Learning</td>
<td>48.63%</td>
<td>51.37%</td>
</tr>
</tbody>
</table>

Figure 6 provides a visual representative of the gender gap in study abroad, service learning, and participation in both as well as neither activity.

Figure 6: Participation in Study Abroad, Service Learning, Both and Neither by Sex
**Research Question 1a.**

Tables 4, 5, and 6 present various demographics such as sex, race and socioeconomic status to indicate the percentages participating in study abroad, service learning, both activities and neither activity. While these tables do not prove whether white females of the highest socioeconomic quartile are more likely to study abroad, the numbers elude to this possibility, as well as reveal something powerful about the compositional diversity of these programs, which is limited. For instance, of the students in the analytic sample, only 8.21% of males studied abroad compared to 13.25% of females. Further, just 16.86% of males participated in service learning compared to 22.97% of females. For study and service learning participation, 4.06% of males participated in both compared to 7.68% of females who participated in both activities. Among the male population, 70.86% opted out of both activities while 56.10% of females did neither study abroad nor service learning.

**Table 4: Sex by Study Abroad, Service Learning, Both and Neither**

<table>
<thead>
<tr>
<th></th>
<th>Study Abroad</th>
<th>Service Learning</th>
<th>Study Abroad and Service Learning</th>
<th>Neither Study Abroad nor Service Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>8.21%</td>
<td>16.86%</td>
<td>4.06%</td>
<td>70.86%</td>
</tr>
<tr>
<td>Female</td>
<td>13.25%</td>
<td>22.97%</td>
<td>7.68%</td>
<td>56.10%</td>
</tr>
</tbody>
</table>
In the categories of race and ethnicity, the table highlights which groups have higher rates of participation in each activity. Among the racial groups presented, American Indian, Alaskan, Non-Hispanic represent the highest participating group in service learning (23.62%), followed by Black or African American, Non-Hispanic (23.49%). White, Non-Hispanic represent the highest percentage for study abroad participation (12.65%) and for those participating in both study abroad and service learning (6.71%). The disproportionate number of white students studying abroad is problematic and points to a need to evaluate obstacles that may be hindering participation among other groups. Having White students comprise the majority of those going abroad also changes the cultural experience for students. Diversifying study abroad is an important concern when recruiting for these programs, as well as for considering how Whiteness influences the cultural milieu of those going abroad.

Of White students, 20.28% completed service learning, 6.71% participated in study abroad and service learning and 60.36% did not participate in either study abroad
or service learning. Of students who identified as more than one race, non-Hispanic, 8.61% participated in study abroad, 14.98% participated in service learning, 6.58% completed both study abroad and service learning, and 69.83% did neither study abroad or service learning. Among those who identified as Hispanic, 8.97% studied abroad, 18.57% completed service learning, 5.81% did both study abroad and service learning and 66.64% did neither study abroad or service learning. Of Black or African America, Non-Hispanic, 2.66% studied abroad, 23.49% completed service learning, 2.04% did study abroad and service learning and 71.81% did neither study abroad or service learning. Of those who identified as Asian, Hawaii, Pac. Islander, Non-Hispanic, 8.26% studied abroad, 22.64% completed service learning, 5.05% did both study abroad and service learning and 64.04% did neither study abroad or service learning. Of the American Indian, Alaskan, Non-Hispanic students, zero percent completed study abroad, 23.62% completed service learning, zero percent did both study abroad and service learning, and 76.38% did neither study abroad or service learning.

Table 5: Race/Ethnicity by Study Abroad, Service Learning, Both and Neither

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Study Abroad</th>
<th>Service Learning</th>
<th>Study Abroad and Service Learning</th>
<th>Neither Study Abroad or Service Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian, Alaskan, Non-Hispanic</td>
<td>0.0%</td>
<td>23.62%</td>
<td>0.0%</td>
<td>76.38%</td>
</tr>
<tr>
<td>Asian, Hawaii, Pac. Islander, Non-Hispanic</td>
<td>8.26%</td>
<td>22.64%</td>
<td>5.05%</td>
<td>64.04%</td>
</tr>
<tr>
<td>Black or African American, Non-Hispanic</td>
<td>2.66%</td>
<td>23.49%</td>
<td>2.04%</td>
<td>71.81%</td>
</tr>
<tr>
<td>Hispanic, Specified and Non-Specified</td>
<td>8.97%</td>
<td>18.57%</td>
<td>5.81%</td>
<td>66.64%</td>
</tr>
</tbody>
</table>
Table 6 shows socioeconomic quartile by study abroad, service learning, both study abroad and service learning and neither study abroad nor service learning. For socioeconomic status, 15.48% of those in the highest socioeconomic quartile studied abroad, 18.90% participated in service learning, 8.48% completed study abroad and service learning, and 57.13% did neither study abroad or service learning. Of those in the third socioeconomic quartile, 8.21% studied abroad, 20.46% completed service learning, 5.07% completed both study abroad and service learning, and 66.25% did not study abroad or participate in service learning. Of those in the second lowest quartile, 6.71% studied abroad, 22.56% completed service learning, 3.55% did both study abroad and
service learning, and 67.19% did neither study abroad or service learning. For those in the lowest quartile, 6.18% studied abroad, 23% completed service learning, 2.57% completed both study abroad and service learning, and 68.24% did neither study abroad or service learning. Students in the highest socioeconomic quartile made up the majority of those studying abroad and participating in both study abroad and service learning. Service learning participation only was highest among those in the second quartile from the lowest. Participation among those who completed neither study abroad nor service learning is more evenly distributed in the lowest, second and third socioeconomic quartile, with the highest percentage in the lowest quartile.

Table 6: Socioeconomic Quartile by Study Abroad, Service Learning, Both and Neither

<table>
<thead>
<tr>
<th>Quartile</th>
<th>Study Abroad</th>
<th>Service Learning</th>
<th>Study Abroad and Service Learning</th>
<th>Neither Study Abroad or Service Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Quartile</td>
<td>6.18%</td>
<td>23%</td>
<td>2.57%</td>
<td>68.24%</td>
</tr>
<tr>
<td>Second Quartile</td>
<td>6.71%</td>
<td>22.56%</td>
<td>3.55%</td>
<td>67.19%</td>
</tr>
<tr>
<td>Third Quartile</td>
<td>8.21%</td>
<td>20.46%</td>
<td>5.07%</td>
<td>66.25%</td>
</tr>
<tr>
<td>Highest Quartile</td>
<td>15.48%</td>
<td>18.90%</td>
<td>8.48%</td>
<td>57.13%</td>
</tr>
</tbody>
</table>
The gaps identified in participation in study abroad, service learning, and both study abroad and service learning among sex, race and socioeconomic status warranted further analyses. In doing so, I conducted Chi-Square tests to determine whether sex and race were statistically significant in their differences. The results of the Chi Square test for sex and study abroad service learning, both study abroad and service learning and neither indicate $x^2 = 93.78$ (P<.05). The results of the Chi Square test for White versus other races indicate $x^2 = 3.311$ (P<.05). In addition, the Chi Square test indicate statistically significant differences in the socioeconomic groups with $x^2 = 112.52$ (P<.01).

Table 7 presents study abroad, service learning, study abroad and service learning, and neither study abroad or service learning to show who, by race and ethnicity makes up those groups. Table 5 displays each race/ethnicity group and who within each group of students is participating in study abroad, service learning and neither study abroad or service learning. Across all activities, students who identify as White make up an overwhelming majority.
For those who studied abroad, 83.78% of participants are White, 2.69% are more than one race, 7.13% are Hispanic, 1.85% are Black or African American, 4.56% are Asian, Hawaii/Pacific Islander, and zero percent are American Indian, Alaskan, and Non-Hispanic. Of those who participated in service learning, 73.15% are White, 2.55% identify as more than one race, 8.04% identify as Hispanic, 8.89% identified Black or African American Non-Hispanic, and 6.81% identified Asian, Hawaii/Pacific Islander, non-Hispanic, and 0.55% American Indian, Alaskan, Non-Hispanic. Of the group participating in both study abroad and service learning, 80.33% are White (Non-Hispanic), 3.72% identified as more than one race, 8.35% identified as Hispanic, 2.56% identified as Black or African American (non-Hispanic), 5.04% Asian/Hawaii/Pacific Islander (non-Hispanic), and zero percent identify as American Indian, Alaskan (non-Hispanic). Of the group who did neither study abroad nor service learning, 70.99% are White, 3.88% identify as more than one race, 9.41% identify as Hispanic, 8.86% identify as Black or African American, 6.28% identify as Asian, and 0.58% identify as American Indian or Alaskan.

Table 7: Study Abroad, Service Learning, Both and Neither by Race/Ethnicity

<table>
<thead>
<tr>
<th></th>
<th>American Indian, Alaskan, Non-Hispanic</th>
<th>Asian, Hawaii/Pacific Islander, non-Hispanic</th>
<th>Black or African American Non-Hispanic</th>
<th>Hispanic, Specified and Non-Specified</th>
<th>More Than One Race Specified, Non-Hispanic</th>
<th>White, Non-Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Study Abroad</strong></td>
<td>0.0%</td>
<td>4.56%</td>
<td>1.85%</td>
<td>7.13%</td>
<td>2.69%</td>
<td>83.78%</td>
</tr>
<tr>
<td><strong>Service Learning</strong></td>
<td>0.55%</td>
<td>6.81%</td>
<td>8.89%</td>
<td>8.04%</td>
<td>2.55%</td>
<td>73.15%</td>
</tr>
<tr>
<td><strong>Study Abroad and Service Learning</strong></td>
<td>0.0%</td>
<td>5.04%</td>
<td>2.56%</td>
<td>8.35%</td>
<td>3.72%</td>
<td>80.33%</td>
</tr>
</tbody>
</table>
Figure 10 illustrates differences in race representation among those who participate in study abroad, service learning, both study abroad and service learning, and neither study abroad or service learning. The following information was extracted from the table 7. This figure provides a visual representation of the stark contrast of white student participation compared to other race/ethnicities. White student make up the majority of each category.

Figure 10: Study Abroad, Service Learning, Both and Neither by Race/Ethnicity

Table 8 presents the socioeconomic status most represented in study abroad, service learning, study abroad and service learning and neither study abroad or service learning. This table is especially revealing. For both study abroad and service learning activity, the highest socioeconomic quartile makes up the majority of those participating.
This is helpful in gauging a more nuanced understanding of disparities in study abroad and service learning, as well as considering the processes that may contribute to inequity in these programs.

Of those who studied abroad, 63.96% came from the highest socioeconomic quartile, 20.35% from the third quartile, 10.25% from the second quartile, and 5.44% from the lowest quartile. Of the group who completed service learning, 42.55% were from the highest quartile, 27.63% were from the third quartile, 18.79% were from the second quartile, and 11.02% were from the lowest quartile. Of the group who completed both study abroad and service learning, 63.36% were from the highest quartile, 22.73% were from the third quartile, 9.81% were from the second quartile, and 4.09% were from the lowest quartile. Among the group who did neither study abroad or service learning, 41.93% were of the highest quartile, 29.17% were of the third quartile, 18.25% were of the second quartile, and 10.66% were of the lowest quartile.

Table 8: Study Abroad, Service Learning, Both and Neither by Socioeconomic Quartile

<table>
<thead>
<tr>
<th></th>
<th>Lowest Quartile</th>
<th>Second Quartile</th>
<th>Third Quartile</th>
<th>Highest Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Abroad</td>
<td>5.44%</td>
<td>10.25%</td>
<td>20.35%</td>
<td>63.96%</td>
</tr>
<tr>
<td>Service Learning</td>
<td>11.02%</td>
<td>18.79%</td>
<td>27.63%</td>
<td>42.55%</td>
</tr>
<tr>
<td>Study Abroad and Service</td>
<td>4.09%</td>
<td>9.81%</td>
<td>22.73%</td>
<td>63.36%</td>
</tr>
<tr>
<td>Learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neither Study Abroad or</td>
<td>10.66%</td>
<td>18.25%</td>
<td>29.17%</td>
<td>41.93%</td>
</tr>
<tr>
<td>Service Learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 11 illustrates the data provided in table 8. Tables 7 and 8 highlight disparities in study abroad, service learning, both study abroad and service learning and
neither study abroad nor service learning. The figure offers a clear visual representation of the mechanisms that may perpetuate inequality among different racial groups and lower socioeconomic class students.

**Figure 11: Study Abroad, Service Learning, Both and Neither by Socioeconomic Quartile**

<table>
<thead>
<tr>
<th>Socioeconomic Quartile</th>
<th>Neither Study Abroad or Service Learning</th>
<th>Study Abroad and Service Learning</th>
<th>Service Learning</th>
<th>Study Abroad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Quartile</td>
<td>10.66% 18.25% 29.17% 41.93%</td>
<td>10.03% 9.81% 22.73% 63.36%</td>
<td>11.02% 18.79% 27.63% 42.55%</td>
<td>5.44% 10.25% 20.35% 63.96%</td>
</tr>
<tr>
<td>Second Quartile</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Third Quartile</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highest Quartile</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Research Question 1b**

In the following section, I address research question 1b. The data revealed that most male and female high school seniors did not participate in service learning in high school. By investigating service learning experience in high school, trends that persist into college can be identified and offer better understanding of service learning participation and what inspires involvement in this activity. For those who did participate, the majority did so less than one time per week with males accounting for 29.45% and females 35.71%. Service learning participation in high school consists primarily of females, like college, however, the gender gap in participation widens once a student has entered college. Table 9 is especially revealing because it highlights the activity within
each group by sex, race and socioeconomic status. For example, 52.69% of males rarely or never completed service learning, compared to 36.28% of females who said they rarely or never completed service learning.

Of those who completed community service pre-college, 2.09% of men responded that they completed service every day or almost every day, 15.77% said once or twice a week, 29.45% said less than once a week, and 52.69% said never or rarely. For females, 3.49% said every day or almost every day, 24.52% said once or twice a week, 35.71% said less than once a week, and 36.28% said never or rarely. Of those who identified as White, 2.76% said they participated in service every day or almost every day, 18.84% said once or twice a week, 35.54% said less than once a week, and 42.87% said never or rarely. Those identifying as more than one race, 3.30% said every day or almost every day, 21.30% said once or twice a week, 32.53% said less than once a week, and 42.87% said never or rarely. Of those who identified as Hispanic, 45.22% never completed service work in high school, 26.08% did so less than one time per week, 27.24% completed service work once or twice per week and 1.46% did so everyday or almost every day. Of those who identified as Black or African American, 6.31% said they participated in service learning every day or almost every day, 23.22% said once or twice a week, 21.76% said less than once a week, and 48.71% said never or rarely. For those who identified as Asian, Hawaii, Pac. Islander, 2.09% said they participated in service learning every day or almost every day, 32.3% said once or twice a week, 27.06% said less than once a week, and 38.55% said never or rarely. Of those who identified as American Indian, Alaskan, 2.42% participated in service learning every day or almost
every day, 7% participated once or twice a week, 33.69% participated less than once per week, and 52.89% participated said never or rarely.

Table 9: Demographics by Community Service Participation Pre-College

<table>
<thead>
<tr>
<th></th>
<th>Never/Rare</th>
<th>Less than once a week</th>
<th>Once or twice a week</th>
<th>Everyday or almost everyday</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>52.69%</td>
<td>29.45%</td>
<td>15.77%</td>
<td>2.09%</td>
</tr>
<tr>
<td>Female</td>
<td>36.28%</td>
<td>35.71%</td>
<td>24.52%</td>
<td>3.49%</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian, Alaskan, Non-Hispanic</td>
<td>52.89%</td>
<td>33.69%</td>
<td>7%</td>
<td>2.42%</td>
</tr>
<tr>
<td>Asian, Hawaii, Pac. Islander, Non-Hispanic</td>
<td>38.55%</td>
<td>27.06%</td>
<td>32.3%</td>
<td>2.09%</td>
</tr>
<tr>
<td>Black or African American, Non-Hispanic</td>
<td>48.71%</td>
<td>21.76%</td>
<td>23.22%</td>
<td>6.31%</td>
</tr>
<tr>
<td>Hispanic, Specified and Non–Specified</td>
<td>45.22%</td>
<td>26.08%</td>
<td>27.24%</td>
<td>1.46%</td>
</tr>
<tr>
<td>More than one race, Non-Hispanic</td>
<td>42.87%</td>
<td>32.53%</td>
<td>21.30%</td>
<td>3.30%</td>
</tr>
<tr>
<td>White, Non–Hispanic</td>
<td>42.87%</td>
<td>35.54%</td>
<td>18.84%</td>
<td>2.76%</td>
</tr>
<tr>
<td><strong>Socioeconomic Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest Quartile</td>
<td>47.81%</td>
<td>29.94%</td>
<td>19.46%</td>
<td>2.79%</td>
</tr>
<tr>
<td>Second Quartile</td>
<td>49.13%</td>
<td>27.12%</td>
<td>20.55%</td>
<td>3.20%</td>
</tr>
<tr>
<td>Third Quartile</td>
<td>43.93%</td>
<td>34.38%</td>
<td>18.96%</td>
<td>2.73%</td>
</tr>
<tr>
<td>Highest Quartile</td>
<td>39.82%</td>
<td>35.06%</td>
<td>22.22%</td>
<td>2.9%</td>
</tr>
</tbody>
</table>
Table 10 shows how precollege factors of sex, race, and socioeconomic status relate to how high school seniors rate the value placed on helping others in the community. Of males, 7.68% said that helping others in the community was not important, 55.81% said it was somewhat important, and 36.51% said it was very important. Of females, 2.36% said helping others was not important, 47.64% said it was somewhat important, and 50% said it was very important. Females are more likely to
display higher levels of empathy, which is evident in values of helping others and may translate to service learning participation.

Of the students who identified as White (non-Hispanic), 42.36% rated helping others in the community as very important, 52.56% said it was somewhat important and 5.08% said it was not important. Of those who identified as more than one race, 38.09% rated helping others in the community as very important, 57.67% said somewhat important and 4.24% said not important. Of the group who identified as Hispanic, 53.77% said very important, 44.19% said somewhat important, and 2.04% said not important. Of those who identified as Black of African American, 51.08% rated helping others in community as very important, 45.20% said somewhat important, and 3.72% said not important. Of those who identified as Asian, Hawaii, Pacific Islander, non–Hispanic, 46.65% rated helping others in community as very important, 48.46% said it was somewhat important, and 4.89% said not important. Of those who identified as American Indian, Alaskan, Non-Hispanic, 56.01% rated helping others in community as very important, 43.99% said it was somewhat important, and zero percent said not important.

Of the highest socioeconomic quartile, 43.51% said helping others in the community was very important, 51.26% said somewhat important and 5.23% said not important. Of the third quartile, 43.13% said helping others was very important, 52.45% said somewhat important and 4.43% said not important. Of the second quartile, 47.62% said helping others was very important, 47.79% said it was somewhat important and 2.56% said it was not important. Of the lowest quartile, 44.73% said helping others was
very important, 52.69% said it was somewhat important and 2.59% said it was not important. Table 10 and figure 13 illustrate these differences.

Table 10: Demographics by Helping Others in Community

<table>
<thead>
<tr>
<th></th>
<th>Not Important</th>
<th>Somewhat Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>7.68%</td>
<td>55.81%</td>
<td>36.51%</td>
</tr>
<tr>
<td>Female</td>
<td>2.36%</td>
<td>47.64%</td>
<td>50%</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian, Alaskan, Non-Hispanic</td>
<td>0.0%</td>
<td>43.99%</td>
<td>56.01%</td>
</tr>
<tr>
<td>Asian, Hawaii, Pac. Islander, Non-Hispanic</td>
<td>4.89%</td>
<td>48.46%</td>
<td>46.65%</td>
</tr>
<tr>
<td>Black or African American, Non-Hispanic</td>
<td>3.72%</td>
<td>45.20%</td>
<td>51.08%</td>
</tr>
<tr>
<td>Hispanic, Specified and Non-Specified</td>
<td>2.04%</td>
<td>44.19%</td>
<td>53.77%</td>
</tr>
<tr>
<td>More than one race, Non-Hispanic</td>
<td>4.24%</td>
<td>57.67%</td>
<td>38.09%</td>
</tr>
<tr>
<td>White, Non-Hispanic</td>
<td>5.08%</td>
<td>52.56%</td>
<td>42.36%</td>
</tr>
<tr>
<td><strong>Socioeconomic Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest Quartile</td>
<td>2.59%</td>
<td>52.69%</td>
<td>44.73%</td>
</tr>
<tr>
<td>Second Quartile</td>
<td>2.56%</td>
<td>47.79%</td>
<td>47.62%</td>
</tr>
<tr>
<td>Third Quartile</td>
<td>4.43%</td>
<td>52.45%</td>
<td>43.13%</td>
</tr>
<tr>
<td>Highest Quartile</td>
<td>5.23%</td>
<td>51.26%</td>
<td>43.51%</td>
</tr>
</tbody>
</table>
Table 11 shows how students in senior year of high school rate the value they place on helping others in the community. Table 11 shows each range of value and the percentage of male and female within each of these categories. Of those who state helping others in the community is not important, 70.90% are male versus 29.10% who are female. Of those that chose somewhat important, 46.76% were male and 53.24% were female. Respondents who thought helping others in the community was very important were comprised of 35.37% male and 64.63% female. The disparity among male and females on value placed in helping others in the community corresponds with
service learning participation in college. With females making up 64.63% of those rating helping others as very important, it is clear why service learning participation is highest among females. Values formed prior to entering college were most likely to influence decisions made in college, which translated to the compositional diversity reflected in study abroad, service learning and study abroad and service learning participation.

Table 11: Helping Others in Community by Sex

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Important</td>
<td>70.90%</td>
<td>29.10%</td>
</tr>
<tr>
<td>Somewhat Important</td>
<td>46.76%</td>
<td>53.24%</td>
</tr>
<tr>
<td>Very Important</td>
<td>35.37%</td>
<td>64.63%</td>
</tr>
</tbody>
</table>

Figure 14: Helping Others in Community by Sex

Table 12 shows the range of values in helping others in the community and the percentage of each race within each of these categories. In contrast, Table 10 displays each demographic and the percentage within that demographic falling within each category of value placed on helping others in the community. Table 12 indicates the
highest percentage of those rating helping others in community as not important, somewhat important or very important identified a White, Non-Hispanic. These high numbers are not surprising, given the majority of the analytic sample identifies as White. Of those who chose not important, 80.34% of participants are White. Of those rating helping others as not important, 3.17% identified as more than one race, 3.88% identified as Hispanic, 6.17% identified as Black or African American, 6.44% identified as Asian, Hawaii/Pacific Islander, and 0.0% identified as American Indian, Alaskan, and Non-Hispanic. Of those who rated helping others as somewhat important 75.46% identified as White, 3.91% identified as more than one race, 7.61% identified as Hispanic, 6.81% identified as Black or African American, 5.80% identified as Asian, Hawaii/Pacific Islander, and 0.41% identified as American Indian, Alaskan, Non-Hispanic. Of respondents rating helping others in the community as very important 70.34% identified as White, 2.99% identified as more than one race, 10.71% identified as Hispanic, 8.9% identified as Black or African American, 6.45% identified as Asian, Hawaii/Pacific Islander, and 0.61% identified as American Indian, Alaskan, Non-Hispanic.

Table 12: Helping Others in Community by Race/Ethnicity

<table>
<thead>
<tr>
<th></th>
<th>American Indian, Alaskan, Non-Hispanic</th>
<th>Asian, Hawaii/Pacific Islander, non-Hispanic</th>
<th>Black or African American Non-Hispanic</th>
<th>Hispanic, Specified and Non-Specified</th>
<th>More Than One Race Specified, Non-Hispanic</th>
<th>White, Non-Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Important</td>
<td>0.0%</td>
<td>6.44%</td>
<td>6.17%</td>
<td>3.88%</td>
<td>3.17%</td>
<td>80.34%</td>
</tr>
<tr>
<td>Somewhat Important</td>
<td>0.41%</td>
<td>5.80%</td>
<td>6.81%</td>
<td>7.61%</td>
<td>3.91%</td>
<td>75.46%</td>
</tr>
</tbody>
</table>
Table 13 shows the relationship between how high school seniors rate the value placed on helping others in the community and their socioeconomic status. Of those rating helping others in the community as not important, 51.58% came from the highest socioeconomic quartile, 26.22% from the third quartile, 16.76% from the second quartile, and 5.44% from the lowest quartile. Of those that chose somewhat important, 45.93% came from the highest socioeconomic quartile, 28.18% from the third quartile, 15.84% from the second quartile, and 10.05% from the lowest quartile. Of those that chose very important, 45.08% came from the highest socioeconomic quartile, 26.80% came from the third quartile, 18.26% came from the second quartile, and 9.87% came from the lowest quartile.
Table 13: Value of Helping Others in Community by Socioeconomic Quartile

<table>
<thead>
<tr>
<th></th>
<th>Lowest Quartile</th>
<th>Second Quartile</th>
<th>Third Quartile</th>
<th>Highest Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Important</td>
<td>5.44%</td>
<td>16.76%</td>
<td>26.22%</td>
<td>51.58%</td>
</tr>
<tr>
<td>Somewhat Important</td>
<td>10.05%</td>
<td>15.84%</td>
<td>28.18%</td>
<td>45.93%</td>
</tr>
<tr>
<td>Very Important</td>
<td>9.87%</td>
<td>18.26%</td>
<td>26.80%</td>
<td>45.08%</td>
</tr>
</tbody>
</table>

Figure 16: Value of Helping Others in Community by Socioeconomic Quartile

Table 14 shows the relationship between the frequency of community service performed and the high school student respondents’ sex. Of those who never or rarely volunteered, 52.12% are male and 47.88% are female. Those who volunteered less that once a week are 38.20% male and 61.80% female. Of those who volunteered once or
twice per week, 32.54% were male and 67.46% were female. Those who volunteered every day or almost every day are 30.98% male and 69.02% female.

Table 14: Service Learning Participation by Sex

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never/Rare</td>
<td>52.12%</td>
<td>47.88%</td>
</tr>
<tr>
<td>Less than once a week</td>
<td>38.20%</td>
<td>61.80%</td>
</tr>
<tr>
<td>Once or twice a week</td>
<td>32.54%</td>
<td>67.46%</td>
</tr>
<tr>
<td>Every day or almost every day</td>
<td>30.98%</td>
<td>69.02%</td>
</tr>
</tbody>
</table>

Figure 17: Service Learning Participation by Sex
Table 15 shows the relationship between the frequency of community service performed and the high school student respondents’ race. Of those who never or rarely volunteered, 72.67% are White, 3.43% are more than one race, 9.20% are Hispanic, 8.67% are Black or African American, 5.46% are Asian, Hawaii/Pacific Islander, and 0.58% are American Indian, Alaskan, and Non-Hispanic. Of those who that volunteered less than once a week, 78.99% identified as White, 3.41% identified as more than one race, 6.96% identified as Hispanic, 5.08% identified as Black or African American, 5.01% identified as Asian, Hawaii/Pacific Islander, and 0.55% identified as American Indian, Alaskan, Non-Hispanic. Of those that volunteered once or twice a week, 66.60% identified as White, 3.56% identified as more than one race, 11.56% identified as Hispanic, 8.61% identified as Black or African American, 9.51% identified as Asian, Hawaii/Pacific Islander, and 0.16% identified as American Indian, Alaskan, Non-Hispanic. Of those who volunteered everyday or almost everyday are 69.99% identified as White, 3.96% identified as more than one race, 4.45% identified as Hispanic, Specified and Non-Specified, 16.8% identified as Black or African American, 4.41% identified as Asian, Hawaii/Pacific Islander, and 0.40% identified as American Indian, Alaskan, Non-Hispanic.

Table 15: Service Learning Participation by Race/Ethnicity

<table>
<thead>
<tr>
<th></th>
<th>American Indian, Alaskan, Non-Hispanic</th>
<th>Asian, Hawaii/Pacific Islander, non-Hispanic</th>
<th>Black or African American Non-Hispanic</th>
<th>Hispanic, Specified and Non-Specified</th>
<th>More Than One Race Specified, Non-Hispanic</th>
<th>White, Non-Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Never/Rare</strong></td>
<td>0.58%</td>
<td>5.46%</td>
<td>8.67%</td>
<td>9.20%</td>
<td>3.43%</td>
<td>72.67%</td>
</tr>
</tbody>
</table>
Table 16 shows the relationship between the frequency of community service performed and the high school student respondents’ socioeconomic status. Of those that rarely or never perform volunteer, 42.13% are from the highest quartile, 27.87% from the third quartile, 19.23% are from the second quartile, and 10.77% are from the lowest quartile. Of those who volunteered less than once a week 48.63% are from the highest quartile, 38.60% are from the third quartile, 13.92% are from the second quartile, and
8.84% are from the lowest quartile. Of those that volunteered once or twice a week, 49% are from the highest quartile, 25.09% are from the third quartile, 16.77% are from the second quartile, 9.14% are from the lowest quartile. Of those who volunteered everyday or almost everyday 45.89% are from the highest quartile, 25.95% are rom the third quartile, 18.76% are from the second quartile, and 9.40% are from the lowest quartile.

Table 16: Service Learning Participation by Socioeconomic Quartile

<table>
<thead>
<tr>
<th></th>
<th>Lowest Quartile</th>
<th>Second Quartile</th>
<th>Third Quartile</th>
<th>Highest Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never/Rare</td>
<td>10.77%</td>
<td>19.23%</td>
<td>27.87%</td>
<td>42.13%</td>
</tr>
<tr>
<td>Less than once a week</td>
<td>8.84%</td>
<td>13.92%</td>
<td>28.60%</td>
<td>48.63%</td>
</tr>
<tr>
<td>Once or twice a week</td>
<td>9.14%</td>
<td>16.77%</td>
<td>25.09%</td>
<td>49%</td>
</tr>
<tr>
<td>Everyday or almost every day</td>
<td>9.40%</td>
<td>18.76%</td>
<td>25.95%</td>
<td>45.89%</td>
</tr>
</tbody>
</table>
Research Question 1c

In this section, I present the results for research question 1c. Table 17 shows how factors such as having earned a STEM credential and transfer status relate to study abroad, service learning, study abroad and service learning, and neither study abroad or service learning participation in college. With growing emphasis on promoting STEM majors in higher education and an increasing number of students with transfer status, it is important to see participation rates among these majors in study abroad, service learning, both and neither. With study abroad and service learning intended to help achieve institutional objectives, it is imperative that institutions know who is participating in these programs. With this information, targeted recruitment outreach and promotional strategies can be executed to address the changing demographics in higher education to reach all students.
Of those who had earned an undergraduate STEM credential, 9.75% studied abroad, 15.45% completed service learning, 5.39% completed both study abroad and service learning, and 69.42% did neither study abroad or service learning. For those who were in majors outside of STEM, 11.35% studied abroad, 21.60% completed service learning, 6.3% did both study abroad and service learning and 60.74% did neither study abroad or service learning. For those who earned undergraduate and graduate credentials in STEM, 12.05% studied abroad, 13.14% completed service learning, 5.80% participated in study abroad and service learning and 69.01% did not participate in either study abroad or service learning.

Among the students who had transferred during their undergraduate years, 6.29% studied abroad, 23.20% completed service learning, 4.96% did both study abroad and service learning, and 65.55% did not do study abroad or service learning.

Table 17: STEM and Transfer Status by Study Abroad, Service Learning, Both and Neither

<table>
<thead>
<tr>
<th></th>
<th>Study Abroad</th>
<th>Service Learning</th>
<th>Study Abroad and Service Learning</th>
<th>Neither Study Abroad or Service Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>No STEM</td>
<td>11.35%</td>
<td>21.60%</td>
<td>6.3%</td>
<td>60.74%</td>
</tr>
<tr>
<td>UG STEM</td>
<td>9.75%</td>
<td>15.45%</td>
<td>5.39%</td>
<td>69.42%</td>
</tr>
<tr>
<td>UG &amp; GRAD STEM</td>
<td>12.05%</td>
<td>13.14%</td>
<td>5.80%</td>
<td>69.01%</td>
</tr>
<tr>
<td>Transfer – Yes</td>
<td>6.29%</td>
<td>23.20%</td>
<td>4.96%</td>
<td>65.55%</td>
</tr>
</tbody>
</table>
Table 18 presents student involvement in other high impact activities to review how that involvement relates to participation in study abroad, service learning, study abroad and service learning, and those who did not participate in either study abroad or service learning. High impact activities include first-year college seminars, common intellectual experiences (e.g., general education requirements, common read programs), learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research that is not part of a course requirement, global learning (i.e., study abroad), service learning/community service, internships, capstone courses and projects (Kuh, 2008).

Of those who did not participate in any high impact activities, 9.44% studied abroad, 8.11% participated in service learning, 1.09% did both study abroad and service
learning, and 81.35% did not do either study abroad or service learning. For those who completed one high impact activity, 11.90% studied abroad, 13.4% completed service learning, 4.12% participated in both study abroad and service learning, and 70.58% did neither study abroad or service learning. For those who completed two high impact activities, 11.23% studied abroad, 25.94% completed service learning, 7.42% did both study abroad and service learning and 55.41% did neither study abroad or service learning. For those who completed three high impact activities, 11.78% studied abroad, 40.03% participated in service learning, 9.52% did both study abroad and service learning, and 38.67% did neither study abroad or service learning. For those who completed four high impact activities, 10.19% studied abroad, 34.68% participated in service learning, 25.46% did both study abroad and service learning, and 29.67% did neither study abroad or service learning.

Table 18: High Impact Activities by Study Abroad, Service Learning, Both and Neither

<table>
<thead>
<tr>
<th></th>
<th>Study Abroad</th>
<th>Service Learning</th>
<th>Study Abroad and Service Learning</th>
<th>Neither Study Abroad or Service Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>No High Impact Activities</td>
<td>9.44%</td>
<td>8.11%</td>
<td>1.09%</td>
<td>81.35%</td>
</tr>
<tr>
<td>One High Impact Activity</td>
<td>11.90%</td>
<td>13.4%</td>
<td>4.12%</td>
<td>70.58%</td>
</tr>
<tr>
<td>Two High Impact Activities</td>
<td>11.23%</td>
<td>25.94%</td>
<td>7.42%</td>
<td>55.41%</td>
</tr>
<tr>
<td>Three High Impact Activities</td>
<td>11.78%</td>
<td>40.03%</td>
<td>9.52%</td>
<td>38.67%</td>
</tr>
<tr>
<td>Four High Impact Activities</td>
<td>10.19%</td>
<td>34.68%</td>
<td>25.46%</td>
<td>29.67%</td>
</tr>
</tbody>
</table>
Figure 21: High Impact Activities by Study Abroad, Service Learning, Both and Neither

Prior to addressing research question 2, which examines the extent to which study abroad, service learning, and both study abroad and service learning related to prosociality four years after graduation, I review the frequency of various levels of prosociality by study abroad, service learning, study abroad and service learning and neither study abroad or service learning activity in college. The range of prosociality levels include not important (1), somewhat important (1.5), neutral (2), important (2.5) and very important (3). Table 19 and Figure 22 show that of the group who studied abroad, 22.05% rated values of prosociality as very important, 25.23% rated values of prosociality as important, 28.59% rated values of prosociality as neutrally important, 18.92% rated values of prosociality as somewhat important, and 5.21% rated values of prosociality as not important. Of the group who completed service learning, 27.19% rated values of prosociality as very important, 31.02% rated values of prosociality as important, 28.73% rated values of prosociality as neutrally important, 11.35% rated
values of prosociality as somewhat important, and 1.71% rated values of prosociality as not important. Of those who participated in study abroad and service learning, 35.83% rated values of prosociality as very important, 25.53% rated values of prosociality as important, 30.76% rated values of prosociality as neutrally important, 5.09% rated values of prosociality as somewhat important, and 2.79% rated values of prosociality as not important. For the group that did neither study abroad and service learning, 18.77% rated the values of prosociality as very important, 24.31% rated the values of prosociality as important, 34.95% rated the values of prosociality as neutrally important, 16.29% rated the values of prosociality as somewhat important, and 5.69% rated the values of prosociality as not important.

Table 19: Study Abroad, Service Learning, Both and Neither by Prosociality

<table>
<thead>
<tr>
<th></th>
<th>Not Important</th>
<th>Somewhat Important</th>
<th>Neutral Important</th>
<th>Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Abroad</td>
<td>5.21%</td>
<td>18.92%</td>
<td>28.59%</td>
<td>25.23%</td>
<td>22.05%</td>
</tr>
<tr>
<td>Service Learning</td>
<td>1.71%</td>
<td>11.35%</td>
<td>28.73%</td>
<td>31.02%</td>
<td>27.19%</td>
</tr>
<tr>
<td>Study Abroad and Service Learning</td>
<td>2.79%</td>
<td>5.09%</td>
<td>30.76%</td>
<td>25.53%</td>
<td>35.83%</td>
</tr>
<tr>
<td>Neither Study Abroad or Service Learning</td>
<td>5.69%</td>
<td>16.29%</td>
<td>34.95%</td>
<td>24.31%</td>
<td>18.77%</td>
</tr>
</tbody>
</table>

Figure 22 illustrates the differences noted in Table 19.
Figure 22: Study Abroad, Service Learning, Both and Neither by Prosociality

Figure 23 illustrates the average prosociality by study abroad, service learning, study abroad and service learning activity compared to those who did not complete study abroad or service learning in college. Those who completed neither study abroad nor service learning ranked lowest on prosociality with a mean of 2.17. Those who studied abroad were the second lowest in prosociality (2.20). Service learning was second from the highest in prosociality (2.36). Those who completed both study abroad and service learning displayed the highest average in prosociality (2.43).
Research Question 2

The descriptive statistics reviewed above suggest that many factors contribute to who participates in study abroad, service learning, both or neither activity. Additionally, precollege values and experiences may relate to participation in college. These variables are organized by Terenzini and Reason (2005) constructs of precollege characteristics and experiences, organizational context and peer and individual environment. In the following section, I present the regression results for research question 2. Regression was used to determine how precollege and in college factors relate to prosociality once a student has graduated from college. Table 20 presents these results.

Precollege characteristics and experiences. The regression analyses indicates white students have significantly lower prosociality than non-white students.

For precollege experience and values, survey participants were asked to rate the level of importance placed on helping others in the community. They were also asked to
rate the level of value placed on working to correct social and economic inequalities. In addition, the frequency of community service performed in high school was tested. Students who rated helping others in the community as not important were found to have significantly lower prosociality than those who rated it as sometimes important. However, those who rated helping others as very important were found to have significantly higher rates of prosociality those who rated helping others as sometimes important. Involvement in service learning in high school was not a significant predictor of prosociality after college graduation.

**Organizational Context.** Students who earned an undergraduate or graduate credential in a STEM field had significantly lower prosociality than students who had earned a credential in another major. Transfer status was not a significant predictor of prosociality after college graduation. However, students who had attended types of institutions other than public and private four-year institutions and public two year institutions had significantly higher rates of prosociality after college graduation.

**Peer Environment and Individual Student Experiences.** Participation in other high impact activities was identified as a predictor of prosociality four years after college graduation. Participating in volunteer activities was found to be a predictor of prosociality. Study abroad was not a predictor of prosociality, however, service learning participation in college was identified as a predictor of prosociality four years after college graduation. Additionally, both study abroad and service learning participation was identified as a predictor of prosociality.
Table 20: Regression Results

<table>
<thead>
<tr>
<th>High Impact Activities</th>
<th>Coeff</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Abroad</td>
<td>0.002</td>
<td>0.040</td>
</tr>
<tr>
<td>Service Learning</td>
<td>0.110***</td>
<td>0.029</td>
</tr>
<tr>
<td>Study Abroad and Service Learning</td>
<td>0.195***</td>
<td>0.044</td>
</tr>
<tr>
<td>No Study Abroad or Service Learning</td>
<td>Reference</td>
<td>Reference</td>
</tr>
</tbody>
</table>

Demographics

<table>
<thead>
<tr>
<th>Gender</th>
<th>Coeff</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>-0.043+</td>
<td>0.023</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Race</th>
<th>Coeff</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>-0.069**</td>
<td>0.026</td>
</tr>
</tbody>
</table>

Socioeconomic Status

<table>
<thead>
<tr>
<th>Quartile</th>
<th>Coeff</th>
<th>SE</th>
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</thead>
<tbody>
<tr>
<td>Lowest quartile</td>
<td>0.012</td>
<td>0.040</td>
</tr>
<tr>
<td>Second quartile</td>
<td>0.039</td>
<td>0.030</td>
</tr>
<tr>
<td>Third quartile</td>
<td>-0.037</td>
<td>0.025</td>
</tr>
<tr>
<td>Highest quartile (reference)</td>
<td>Reference</td>
<td>Reference</td>
</tr>
</tbody>
</table>

Precollege Characteristics

<table>
<thead>
<tr>
<th>Frequency of community service performed</th>
<th>Coeff</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never (reference)</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Less than once a week</td>
<td>0.028</td>
<td>0.025</td>
</tr>
<tr>
<td>Twice a week</td>
<td>0.019</td>
<td>0.029</td>
</tr>
<tr>
<td>Every day or almost every day</td>
<td>0.015</td>
<td></td>
</tr>
</tbody>
</table>

Importance of helping others in community

<table>
<thead>
<tr>
<th>Importance</th>
<th>Coeff</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not important</td>
<td>-0.227***</td>
<td>0.623</td>
</tr>
<tr>
<td>Sometimes important (reference)</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Very important</td>
<td>0.308***</td>
<td>0.026</td>
</tr>
</tbody>
</table>

In College Characteristics

<table>
<thead>
<tr>
<th>STEM coursework completed</th>
<th>Coeff</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEM (undergrad courses completed)</td>
<td>-0.130***</td>
<td>0.030</td>
</tr>
<tr>
<td>STEM (graduate courses completed)</td>
<td>-0.316***</td>
<td>0.085</td>
</tr>
<tr>
<td>No STEM (reference)</td>
<td>Reference</td>
<td>Reference</td>
</tr>
</tbody>
</table>

Transfer

<table>
<thead>
<tr>
<th>Transfer</th>
<th>Coeff</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>-0.028</td>
<td>0.030</td>
</tr>
</tbody>
</table>

Institution Type

<table>
<thead>
<tr>
<th>Institution Type</th>
<th>Coeff</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public, 2-year</td>
<td>0.094</td>
<td>0.032</td>
</tr>
<tr>
<td>Public, 4-year or above (reference)</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Private not-for-profit, 4-year or above</td>
<td>-0.016</td>
<td>(0.024)</td>
</tr>
<tr>
<td>Other</td>
<td>0.041**</td>
<td>0.093</td>
</tr>
</tbody>
</table>

Participation in other high impact activities

<table>
<thead>
<tr>
<th>Participation in other high impact activities</th>
<th>Coeff</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>0.034**</td>
<td>0.010</td>
</tr>
</tbody>
</table>

*p<.05, **p<.01, ***p<.001, + p<.1
Research Question 3

An adjusted Wald test was used to answer research question 3. In order to identify whether the difference between study abroad and both study abroad and service learning were significantly different from one another, as well as if service learning participation and study abroad and service learning were significantly different, a Wald Test (Agresti & Coull, 1998) was used for testing. The Wald Test uses the coefficients from the regression model to control for other variables in order to show whether the difference between study abroad and service learning are significantly different from study abroad and service learning separately. The difference between study abroad and study abroad and service learning was significant F(1, 343)=4.21 (P<.05). However, the difference between service learning and study abroad and service learning was not statistically significant F(1, 343) = 0.09 (P>.05) as related to prosociality.

Summary

The research questions looked at how study abroad, service learning, and both study abroad and service learning related to prosociality four years after graduation. This chapter (Chapter 4) presented the results of the research questions. It was found that service learning and both study abroad and service learning were related to prosociality four years after college. However, study abroad alone was not related to prosociality four years after graduation. The average prosociality among each activity was highest among those who participated in both study abroad and service learning. The second highest average for prosociality was found in those who completed service learning, followed by study abroad and then those who did neither study abroad or service learning. When testing the significance of the mean prosociality in service learning and study abroad and
service learning, service learning and both service learning and study abroad were not found to be significantly different, whereas average prosociality in study abroad was found significantly different from the average prosociality in study abroad and service learning participants.
CHAPTER 5
DISCUSSION

This chapter (Chapter 5) provides a discussion of the study and conclusions reached through the quantitative measures used to answer the research questions. A modified version of the Terenzini and Reason’s (2005) College Impact Model served as the conceptual framework for this dissertation study. The research questions, which relate to the constructs of the College Impact Model, guide this chapter’s discussion. Using Kolb’s Experiential Learning Theory (ELT) (Kolb, 1984) as a lens through which to interpret the results, this chapter offers examination of the results, implications for practice, and recommendations for future research.

Terenzini and Reason’s (2005) model presents four constructs which influence student outcomes, including precollege characteristics and experiences, the organizational context, the student peer environment and the individual experience (Terenzini & Reason, 2005). As Terenzini and Reason (2005) suggest, development is not linear but rather the result of various interrelated factors that occur at different times throughout a student’s academic career. This study investigated these interrelated factors prior to college, in college and after graduation.

The analytic sample and regression results warrant explanation between what appears statistically significant and practically significant. For example, students attending an institution that is not categorized as public 2-year or public or private 4-year, appears a statistically significant contributor to prosociality after college graduation. However, with the number in that population so small, it is not practically significant and therefore minimizes the real world importance of the result.
**Terenzini and Reason (2005): Student Precollege Characteristics and Experiences**

My model added dispositional characteristics to the precollege construct in order to determine whether participation and values related to pre-college and within college activity, and prosociality after college graduation. By identifying students who were more or less likely to participate in study abroad, service learning, or study abroad and service learning, longitudinal patterns could be revealed and help direct more targeted approaches to increased participation. To that end, I sought to address the following research questions as I operationalized the precollege characteristics and experiences layer of the proposed conceptual model.

- **Research Question 1:** Who participates in study abroad, service learning, and both study abroad and service learning, and what factors contribute to those decisions?
  
  a. How do precollege factors relate to participation in study abroad, service learning, and in both study abroad and service learning in college?

  In this section, I address research question 1 and 1a. Prior literature indicates that white, affluent female students are more likely to study abroad, participate in service learning and both study abroad and service learning than males (IIE, 2016, Butin, 2006). The results of this study mirror previous findings, indicating that affluent white females comprise the majority of those participating in study abroad (IIE, 2016) and service learning (Butin, 2006). While this participation gap may be partially explained by the overall demographics of higher education (Aud, Wilkinson-Flicker, Kristapovich, Rathbun, Wang, Zhang, 2013), campuses should think carefully about potential disparities in existing study abroad and service learning participation and seek to ensure
equity in participation as they develop more study abroad, service learning, and international service learning programs.

In 2013, females represented 56% of the total population of undergraduates at postsecondary institutions (Aud, Wilkinson-Flicker, Kristapovich, Rathbun, Wang, Zhang, 2013). Therefore, if study abroad rates were consistent with enrollment in college and gender representation was equal, we would expect to see a 56% female representation compared to 44% male representation. Though the actual split is larger, it may not be as dramatic as it initially appears, given that college enrollment is not divided evenly between females and males. Still, female participation exceeds males in study abroad, service learning, and both study abroad and service learning. Females participated in service learning at higher rates (22.97%), compared to males (16.86%) and study abroad (13.25%) compared to males (8.21%). For participation in study abroad and service learning, females made up 7.68% compared to males who made up 4.06%. Of those who did neither study abroad nor service learning, 56.10% were female compared to 70.86% who were males.

The results of this study indicated that White students made up the majority of those studying abroad, participating in service learning or having done both study abroad and service learning. However, when looking at the number breakdown by race category, rather than activity, there are larger percentages within race categories participating. For instance, students identifying as Black or African American had the highest percentage of service learning participation within any race category. White students made up the highest percentage for those participating in study abroad and students identifying as more than one race had the highest percentage of participation in both study abroad and
service learning. Results of this research both confirm prior literature stating the majority of service learning courses are comprised of White students (Farrugia, 2016) but also shed light from a different angle. For example, if one views participation in study abroad and service learning by race, rather than by activity, it is evident that races other than white have higher percentages of participation. These results show what can be misleading based on disproportionate student groups represented in higher education.

Study abroad, service learning, and both study abroad and service learning participation consisted mostly of those in the highest socioeconomic quartile. However, the majority of the analytic sample is in the highest socioeconomic quartile. Therefore, it is more meaningful to review participation by quartile. In line with prior literature, these findings support the idea that study abroad may be out of financial reach for many students and viewed as a luxury for those without the means to go abroad (Murray, Brux & Fry, 2010). Additionally, service learning courses may not be part of a students required course load and would then potentially require additional investments of time and money for participating students. Those students whose family circumstances mean that they do not need to work while in school and that they have the disposable income for any additional costs would be more able to participate. Further, service learning is not always easy to find on college campuses and may require students to seek out these opportunities.

- **Research Question 1b.** What factors are associated with pre-college measures of participation in community service work and values in helping others pre-college?

  Students in the highest socioeconomic status (35.06%) made up the majority of students who stated they completed service learning at least one time per week prior to
college. Of the group participating in service at least one time per week, the highest percentage were those identifying as White, non-Hispanic (35.54%). Of the group conducting service work once or twice a week, the largest race category was Asian, Hawaii, Pacific Islander/Non-White (32.3%), while those conducting service every single day were represented highest by students identifying as Black or African American (6.31%).

Female participation in service learning prior to entering college was consistent with study abroad and service learning participation in college.

The student group who rated helping others in the community as very important precollege was made up predominately of females (64.63%) compared to males (35.37%). Those who rated helping others as not important consisted primarily of males (70.90%) compared to females (29.10%). Of those rating helping others as somewhat important, males made up 46.76% and females comprised 53.24%.

In considering race/ethnic group, of those who identified as American Indian, Alaskan, Non-Hispanic, 56.01% rated helping others in community as very important, followed by 43.99% who rated this value as somewhat important and zero percent rated this value as not important. Hispanic (53.77%) was the second highest race rating helping others as very important, followed by 44.19% who said it was somewhat important. Other than American Indian, Alaskan, Non-Hispanic and Hispanic students represented the smallest percentage indicating helping others in the community as not important (2.04%). Among all race categories, those rating highest in somewhat important are those with more than one race, non-Hispanic (57.67%). Students in race categories found to rate the value of helping others as not important were White (5.08%) and Asian, Hawaii (4.89%).
These results suggest that while students in certain race categories placed high value on helping others, values did not necessarily translate to participation in college. Female students, however, consistently align with rating high value on helping others, participating in community service precollege and then continuing to complete service learning in college.

**Terenzini and Reason (2005) The College Experience: Organizational Context**

The organizational context reflects the values and decisions of the institution (Terenzini and Reason, 2005). It is believed that the within-college effects, such as academics, participation in high impact activities, [first-year seminars, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research that is not part of a course requirement, global learning (i.e., study abroad), service learning/community service, internships, capstone courses and projects (Kuh, 2008)] faculty, staff and athletic experiences on campus are considered to have the greatest influence on post-college outcomes (Wayt, 2012).

- **Research Question 1c.** How do within-college factors relate to study abroad, service learning, and both study abroad and service learning in college?

  In this section, I present the results of research question 1c. In addressing the organizational context, this study looked at how in college factors such as STEM major and transfer student status related to study abroad, service learning, and both study abroad and service learning in college. In comparing STEM majors to non-stem majors, those in STEM majors participated in study abroad, service learning, and both study abroad and service learning less frequently than non-STEM majors. Of undergraduate
STEM majors, 9.75% studied abroad, compared to 11.35% of non-STEM majors who studied abroad. Of undergraduate STEM majors, 15.45% participate in service learning while 21.60% of non-STEM majors participate in service learning. Similarly, 5.39% of STEM majors participate in both study abroad and service learning compared to 6.30% of those in non-STEM majors. Of STEM majors, 69% participate in neither study abroad nor service learning, compared to 60% of non-STEM majors who do not participate in neither.

Traditionally, STEM fields have been male-dominated, though males do not currently outnumber females in STEM majors (Falk, Staus, Dierking, Penuel, Wyld & Bailey, 2016). Prior literature posits certain majors are linked to prosocial dispositions (Harton & Lyons, 2003). Humanities and psychology are two such majors that explore the human condition and could spark interest in cultivating dispositions relevant to value development (Colby, 2003). This may very well explain the difference between STEM/non-STEM majors. Additionally, STEM represents a diverse set of majors, some of which may foster prosocial values more than other STEM majors. For example, nursing might cultivate prosocial values more than physics. It is important that STEM majors be considered in study abroad and service learning recruitment initiatives. As the group representing the fastest growing major field (Farrugia, 2016), there is an important need to look at STEM majors and consider ways they may take advantage of study abroad and service learning.

Transfer students are also less likely to study abroad, participate in service learning or both study abroad and service learning. Among those who transferred during their undergraduate career, 65.55% did neither study abroad nor participate in service
learning. This is likely due to the decreased time they have on campus, whether it is fulfilling academic credits in time to graduate or trying to have a full college experience in the already short span of time they expect to be on campus. In addition, as upperclassmen, transfer students receive less aid and have higher out-of-pocket costs (New York Times, 2016). For that reason, study abroad, in particular becomes more than just a structural impediment and with a growing number of transfer students on college campuses, it is critical that institutions find ways to increase opportunity and access to study abroad and service learning.


The within-college effects, such as student experiences on campus are found to have far-reaching influences on student outcomes, after leaving college (Wayt, 2012; Walpole, 2003). This view is consistent with that which believes more involvement leads to better outcomes. The results of this study support this idea and reveal a clear pattern between the number of high impact activities and participation level in study abroad, service learning, and both study abroad and service learning. Further, in comparing the number of impact activities with participation levels, students opting out of study abroad and service learning were among those also choosing not to participate in other high impact activities. Additionally, those who volunteered completed service learning courses (18%) study abroad (7%), both study abroad and service learning (5%), and neither (70%).
Terenzini and Reason: Outcomes

Research Question 2: To what extent does study abroad, service learning, and participation in both study abroad and service learning in college relate to prosociality four years after graduation?

The regression results of this study revealed that study abroad was not a significant predictor of prosociality four years after graduation. It did show that service learning participation in college was a predictor of prosociality. Additionally, having participated in both study abroad and service learning was a predictor for prosociality after college. This finding supports literature stating that community service participation in high school is the highest predisposing factor for service learning participation in college (Astin & Sax, 1998). Previous research has indicated that younger college students (under 24) are more likely to participate in service learning, highlighting the desire for high school graduates to continue doing work they enjoy once they enter college (Blackhurst & Foster, 2003). Prior literature suggests females are more likely to display higher levels of empathy than men who participated in service learning (Berthiaume, 1999). Additionally, some theorize that the “life changing” rhetoric surrounding study abroad might resonate more closely with females and result in a stronger emotional connection and anticipated reward tied to service work (Redden, 2008). Instilling values precollege that highlight the importance of community and encouraging service participation will influence action in college.

These results may lead one to postulate there are specific components, such as reciprocal relationships and reflection embedded in service learning that contribute to the development of prosociality. Reflection is a key factor in modifying ways of thinking.
The result of this study lead to questions surrounding the role of study abroad in cultivating prosociality, particularly if study abroad alone is not indicative of prosociality after college graduation.

Study abroad literature indicates positive outcomes related to attitudes and dispositions, and notes the most prominent educational benefit linked to study abroad to be intercultural competence (DePaul & Hoffa, 2010; Salisbury, Umbach, Paulsen & Pascarella, 2009). Where prior research looks at immediate outcomes, this study suggests outcomes tied to study abroad may not persist over time. However, recognizing that study abroad programs can vary dramatically from one another—differing in location, length of time, and purpose—study abroad may not offer a simple path to prosociality. The experience and the ways in which the student reflected on that experience will likely influence their prosociality. Work that explores variations in study abroad programs and the different outcomes that arise from them would be helpful. On the other hand, despite variation in programs, service learning is consistent in elements of reflection and reciprocity, which appear to contribute widely to the development of prosociality. As well, prosociality was statistically significant when both study abroad and service learning had occurred in college.

Kolb’s (1984) ELT is helpful in understanding where service learning offers a direct path to prosociality and sheds light on what could be missing from the study abroad experience, as well as what would enhance study abroad and lead to a richer learning experience. Kolb’s focuses on the four stages in the experiential learning process: concrete experiences, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984). Kolb’s ELT (Kolb, 1984) offers a holistic approach
to human development through the transformation of experience into knowledge, focusing on how students learn and highlighting the process of action and reflection, along with experience and abstraction. ELT defines learning as a “process whereby knowledge is created through transformation of experience. Knowledge results from the combination of grasping and transforming the experience” (Kolb, 1984, p. 41). Kolb’s ELT closely resembles service learning.

Service learning pedagogy aligns with Kolb’s ELT in that it places strong emphasis on learning and development through active engagement, reflection, application and refinement after service is completed and before engaging again from a new perspective. The act of learning through re-learning, as Kolb’s theory suggests, is one factor attributed to success in service learning. It is through engagement and interaction across difference, followed by reflection that service learning is effective and may persist into adulthood. While social justice is an important learning goal of both study abroad and service learning, the reflection and engagement that is required through service learning may force students to bring awareness to their thinking patterns and question them in such a way to result in transformation. While study abroad programs are rich with opportunity to offer meaningful and transformative experience through studying and living in an unfamiliar culture and learning to navigate the ambiguity that students are confronted with, if programs do not develop a thorough and holistic approach to learning, students may only interact on a superficial level and remain distant from the environment.

**Research Question 3:** How do outcomes of prosociality in study abroad, service learning, and both study abroad and service learning differ from one another?
A Wald Test was used to compare the regression results for study abroad, service learning, and both study abroad and service learning to determine whether they were statistically significantly different from one another. Both study abroad and service learning activity in college was statistically significantly different from study abroad but not statistically significantly different from service learning alone. This result supports the belief that elements of service learning could be necessary in supporting and possibly reinforcing prosociality after graduation. Like Kolb’s ELT, service learning requires students to become fully engaged in the learning process and responsible for their experience. Service learning requires students to apply the theoretical aspects of the classroom with the practical needs of the community and then reflect and integrate the experience before returning to the service work with refined view of what the work entails. The presence of both activities in college or the combination of study abroad and service learning (e.g international service learning) may offer long-term benefits for students.

To further investigate the differences in prosociality for those participating in study abroad, service learning, and both study abroad and service learning, I compared the means for each activity. Average prosociality was highest for those who completed study abroad and service learning, followed by service learning, study abroad and neither study abroad nor service learning. This finding showed that prosociality was strongest when a student completed both study abroad and service learning. The second highest prosociality mean was found in those who completed service learning only in college. Students who participated in study abroad only had the lowest prosociality among
activity type, however, the mean prosociality was still higher than when someone had done neither study abroad nor service learning.

In the setting of higher education, study abroad and service learning programs are increasingly being merged to create international service learning (ISL). ISL may satisfy the objectives of both study abroad and service learning while contributing additional benefits. Though study abroad offers opportunity to experience another culture, it is possible that engagement is not immersive enough to trigger dissonance, which leads to lasting change. International service learning that brings critical elements of service learning to the international setting has great potential to lead to increased prosociality in adulthood. It is possible that levels of prosociality changed between high school and college and prosociality may have resulted from predisposition of those who participated in study abroad, service learning, and both study abroad and service learning. I addressed this potential issue initially by controlling for community service participation pre-college and looking at how one valued the importance of helping others in the community precollege. However, it is possible that this is not completely addressed, if a change occurred between high school and college.

**Implications for Future Survey Research Design**

The ELS: 2002 dataset has many features that make it attractive for research, including longitudinal data and detailed information about high school, college and years following college graduation. However, information about service learning and study abroad in ELS is limited and could be improved when constructing future national datasets. The National Center for Education Statistics should consider the growing body of research on study abroad, service learning and international service learning to
improve survey questions so that a richer, more in-depth exploration of these topics can be investigated in future research. Examples would include improving survey questions relating to sex, study abroad and service learning, as well as adding questions related to ISL.

Researchers at the National Education Center for Statistics (NCES) should consider elaborating on existing questions in the ELS survey that relate to study abroad and service learning. The third follow up survey poses a simple yes/no question that asks whether a student studied abroad and whether they participated in a community-based project (for example, service learning) as part of a regular course. The impact of a study abroad experience will vary largely on destination and length of time. If a Caucasian student studies abroad in a third world country in Africa, they will likely have a different cultural experience than if they had studied abroad in England. NCES should consider having ELS questions that identify differences in study abroad. Additionally, with short-term faculty led programs growing in popularity (Gardinier & Colquitt-Anderson, 2010), the ELS survey would increase its value by identifying when students participated in a faculty led program, the location and length of the program. This study was unable to identify the student’s study abroad location, which could have a strong influence on prosociality after graduation.

Future survey research should allow researchers to explore the nuances of gender as they relate to student experience in college. The ELS variable sex does not account for transgender identities, which encompasses a wide range of identities that cross gender lines (Beemyn, 2005). According to the Human Rights Campaign (HRC), the nation’s largest lesbian, gay, bisexual and transgender civil rights organization, 22% of voters
surveyed reportedly know or work with someone who is transgender. This number is up from 17% in the previous year’s poll (Mertus, 2007). Further, research surrounding students’ involvement and experience in high impact activities such as study abroad and service learning is necessary for education research. It is likely that identity influences decisions to participate in study abroad or service learning and it is impossible to capture gender information through ELS survey data. As such, moving away from a variable measuring biological sex and toward one that operationalizes gender as inclusively as possible would allow researchers to explore the nuances between student differences and how their participation and experiences will vary based on these differences.

Future survey research should be explicit in defining service learning. Prior literature on service learning has pointed to the lack of consistency in definitions and what elements constitute service learning courses (Bielefeldt, Paterson, Swan, 2010). Due to the multidisciplinary nature of service learning courses, topics will vary and so will the nature of the service project. Service learning, as a high impact activity has received increased attention and resulted in a growing body of research. NCES has the ability to contribute to service learning research by capturing information that allows researchers to identify nuances of service learning. Additional questions should include project topic, location it took place, the number of times the service was completed, what the service entailed and how reflection activities were incorporated into the course.

Reflection and reciprocity are components of service learning courses that have received tremendous credit for making their courses effective (Bringle & Hatcher, 1999; Eyler, 2012; Porter & Monard, 2001). Identifying whether these components were part of the course are important to consider, particularly when such variation exists in the field of
service learning. NCES would add value to ELS by posing detailed questions about the reflection activities so that researchers may delve further into the aspect of service learning that is credited for its effectiveness. Future research would then be able to use ELS to gather more detailed information about service learning courses and activities. Further, with the hundreds of definitions for service learning, ELS would benefit from providing their own definition.

International Service Learning (ISL) borrows elements from both study abroad and service learning. Research in ISL is limited, though it is receiving more attention and recognition for its ability to offer benefits tied to study abroad and service learning in one combined experience. With ISL research new and expanding, research opportunity is abundant. Capturing this information would add tremendous value for researchers considering the ELS dataset. Further, existing research on ISL consists mostly of qualitative research, leaving great opportunity for the NCES to offer quantitative data on the topic. Questions on ISL should incorporate all of the questions suggested for study abroad and service learning, and identify whether the service learning experience occurred in an international location.

It is important to note that prosociality is not limited to the variables selected for this study. While this study focused on dispositions, prosociality includes both dispositions and behaviors. Behaviors are an important indicator of engagement and should be investigated. The ELS dataset did not offer a reliable option for measuring behaviors. The fact that prosociality was restricted to dispositions in this study was a limitation. Future research should explore prosocial behaviors.
In addition to reexamining prosocial behavioral measures, ELS did not offer additional dispositional variables appropriate for the study. This could entail adjusting existing questions to address altruistic values. An existing ELS question asks about the value of giving children better opportunities; however, it is unclear whether the survey responder is thinking of their own children or all children all over the world. An adjusted question that asks about children other than one’s own will provide a clearer indicator of altruism. A second example asks about the value of having a good education. Asking how one values helping those less fortunate receive a quality education would capture altruistic values more accurately.

With additional variables to measure prosocial dispositions, the construct would have been more robust and less reliant on each individual variable. The alpha (.628) for PRODIS was slightly lower than some fields of research require and while the sensitivity test revealed it did not pose an underlying threat to the results, having more variables added to the construct would strengthen the results and be more informative. However, variables measuring values in ELS were not always capturing altruistic values and would have compromised the validity of the study.

For this study, the value of helping others prior to college was used as a control variable, though it is less than ideal. One might expect those who view themselves as caring about community would rate themselves the same way after college graduation. ELS should use prosociality as a growth measure over time. If prosociality was an instrument that was embedded in the ELS waves at various points, researchers would have a more effective way to investigate change over time.
Implications for Practice

Several implications resulted from this study. For one, this dissertation research reveals that prosociality was highest when both study abroad and service learning occurred in college. This finding implies that there are critical elements embedded in each activity and when both have been experienced, higher prosociality results. This finding indicates that combining these two activities may yield higher benefit for individuals who have done both. Further, combining study abroad and service learning to create international service learning may offer additional benefits not found in each individually. It is possible that the elements of these two experiences provides the connective learning experience, which allows students to open their minds globally. Further, with reflection embedded in ISL programs, benefits may be far greater.

International service learning (ISL) may prove to be more impactful for students when it integrates systematic approaches to study abroad with service learning. Having a reflection-based curriculum in an international setting may offer greater insight and guidance into one’s own experience. A course focused on culture that combines service and allows students to go beyond their level of cultural awareness is one example. This would require students to engage with the local culture, discuss and reflect on stereotypes and foster learning. This would also provide increased feelings of connectedness with the local environment.

As institutions encourage participation in high impact activities such as study abroad or service learning, it is important to notice how ISL could become an avenue to reach students who would not otherwise study abroad or participate in service learning. This dissertation research confirmed that participation in study abroad and service
learning is largely comprised of white females; yet, the student body in the United States is projected to change dramatically in the coming years and will result in profound implications for higher education (Hussar & Bailey, 2013).

The NCES reported growth in traditionally underserved, minority populations (Hussar & Bailey, 2014). Additionally, the number of students enrolled part-time is expected to increase by 15% before year 2025 (Kena, Hussar, McFarland, de Brey, Musu-Gillette, Wang & Barmer, 2016). Many part time students over the age of 25 have families and are juggling work with academics in order to pay for school. This could make “service-learning a luxury that many students cannot afford, whether in terms of time, finances, or job future” (Butin, 2006, p. 482). It is important that institutions meet students where they are, to see that students cultivate global citizenship values that persist graduation. Short-term international service programs are one way to achieve this goal.

Service learning, as a pedagogical tool can start to create change on college campuses. As leadership at all levels recognize the importance of assessing outcomes in higher education, it is necessary that service learning receive more attention across institutions. Some institutions have a central organizational office with designated experts in service learning pedagogy to serve the entire campus (Langseth & Plater, 2004). Having a center for service learning provides assistance to faculty and instructors who wish to design community-engaged courses, build community partnerships, and integrate service into their curriculum. Having a designated center for service learning symbolizes a university’s commitment to supporting service learning on campus as well as offers greater specialization and efficiency through the division of labor, providing faculty with support in the creation of service learning courses (Langseth, Plater & Dillon, 2004).
Further, it can be a resource for faculty engaged in service learning and a place to collect and record data on student service hours (Jones & Abes, 2004). Having a designated center with experts in service learning pedagogy not only ensures consistency in the quality of service learning programs that will influence the program and ultimately, the student’s experience and learning outcomes (Giles & Eyler, 1994), but can also serve the international programs office in adding service learning opportunities to study abroad experiences.

Although benefits exist for student participation in study abroad, the group participating represent mostly females and students of the upper socioeconomic quartiles (Institute of International Education, 2016). The additional education cost incurred for study abroad programs is a primary obstacle to participation (Jackson, 2009). Loan availability may complicate participation even further for first-generation and low-income students who are reliant on financial aid for college (Brown, 2002; Chen & Carrol, 2005). Institutions should consider adding scholarships and other funding opportunities targeted to special student groups so they may take advantage of study abroad. In addition to increased ways of funding study abroad for targeted groups who might not otherwise have the opportunity, institutions should also consider ways to market widely and recruit students to participate.

**Recommendations for Future Research**

The methods used and the data gathered from the ELS dataset have implications for study abroad and service learning that is vital for ongoing evaluation and assessment to improve study abroad and service learning pedagogy in higher education. This study relied on quantitative data to determine that service learning was related to prosociality
and that study abroad and service learning produced higher prosociality than service learning alone. However, the addition of open-ended interviews with a small random sample of graduates may reveal what graduates found to be most impactful of these experiences. This may differ from what faculty and administrators originally intended or envisioned as objectives and outcomes of learning. Understanding student experiences, articulated in their own words, may provide useful information for curriculum as well as inform where study abroad and/or service learning could be altered to more effectively meet institutional objectives.

High impact activities such as service learning and both study abroad and service learning promote purposeful engagement on campus and are especially effective in promoting positive outcomes for students. This is especially important because it is within the realm of faculty and administrators ability to support. For example, scholarships, stipends and gifts for students who might not otherwise seek opportunities because they do not have the financial mean or family who have had these experiences and would encourage such experiences. With lack of family and faculty support that were identified as barriers in prior research, leaders who are involved in study abroad and serve as mentors to students in higher education should identify specific students who would be eligible for these opportunities. Furthermore, leaders should research how these incentives lead to change in study abroad and service learning.

The topic of gender is one that requires further research. Many theorize why females make up the majority of those participating in study abroad, service learning, and both study abroad and service learning, however, more research is necessary to adequately address the question and gender gap. Research should investigate the reasons
females select these activities, as well as use findings to strategize recruitment efforts to address the situation. Large sample research that provides clear answers regarding the reasons why someone made the choice they did will be helpful in identifying trends in female participation. Qualitative research would also be helpful in providing details about human behavior.

Future research should compare outcomes tied to study abroad, service learning and study abroad and service learning. This dissertation revealed that service learning and study abroad service learning were indicators for prosociality after graduation and that the mean prosociality was highest among those who completed both activities. Differences among these activities should be explored to determine differences in student experiences and outcomes between those participating in traditional study abroad programs and in international service learning programs. It would be especially revealing to research study abroad and international service learning programs taking place within the same cultural settings. This would contribute important knowledge to discourse surrounding the value of international service learning and the role of cultural learning.

Additionally, Kolb’s theory of experiential learning will be useful for future studies. Kolb’s theory emphasizes that experience has a primary role in the learning process. Service learning as an indicator of prosociality demonstrates Kolb’s idea that experiential learning allows participants to apply new knowledge to a different setting. The unique elements of service learning pedagogy, such as reflection and reciprocity should be further explored in the context of service learning research to identify the relationship to prosociality. Additionally, we previously have not had a model that incorporated global citizenship with a clear pathway to achieving this objective. Using
my model, future research should explore within college activity tied to outcomes post college graduation and their relationship to global citizenship. Additionally, utilizing my model will help operationalize Kolb’s theory in research and practice.

Further analysis of the student experience in study abroad, service learning and international service learning programs will provide important insight regarding the potential of service in international education abroad programs. These results will be useful to higher education administrators, international educators and study abroad practitioners who desire to create programmatic initiatives that are highly immersive, responsive to individual student characteristics and effective for both students and institutions of higher education.

**Conclusion**

The need for more active, engaged and globally competent citizens has become critically important in our rapidly evolving and increasingly diverse world. Higher Education aims to meet this demand using a number of programs such as study abroad and service learning to produce citizens prepared to face the challenges of today’s environment. Scholarship on study abroad and service learning supports that these educational practices can influence students’ lives and foster engagement. This study’s findings were largely consistent with that literature, and provided an in-depth exploration of how study abroad and service learning relates to prosociality outcomes in young adulthood.

In this dissertation, I investigated those who study abroad and participate in service learning as well as the precollege and within college factors that contribute to participation in these activities during college. In addition, I explored how these activities
relate to prosociality four years after college graduation. Finally, my study compared the
differences in prosociality for study abroad, service learning, both study abroad and
service learning and those who participated in neither activity.

As this study revealed, study abroad alone does not relate to prosociality four
years after graduation; however, service learning and both study abroad and service
learning do relate to prosociality. As such, study abroad alone may not result in a
culturally immersive enough experience to translate to institutional objectives for these
programs (Lutterman-Aguilar & Gingerich, 2002). Service learning can play a critical
role in study abroad, allowing for an in-depth view of local culture and enable students to
reflect on their own place in our global society. Therefore, combining these programs to
create international service learning has the potential to contribute positively and offer
profound advantages to traditional study abroad experiences. Present trends indicate that
the prevalence and demand for international service learning programs is growing, and if
this study is any indication, the service learning movement will prepare our students to
enter society as more culturally minded, ethical, articulate, and compassionate global
citizens.
## APPENDIX

### MISSING AND SAMPLE UNWEIGHTED PERCENTAGES

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<tr>
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<th>Missing Unweighted%</th>
<th>Sample Unweighted%</th>
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<td>Third quartile</td>
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<td><strong>Total</strong></td>
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