A DESCRIPTIVE AND COMPARATIVE ANALYSIS OF PEER ADVISOR PSYCHOSOCIAL DEVELOPMENT

BY

NICOLE MARION LANDWEHR TURNER

DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in Education Policy, Organization, and Leadership
with a concentration in Higher Education
in the Graduate College of the
University of Illinois at Urbana-Champaign, 2019

Urbana, Illinois

Doctoral Committee:

Teaching Associate Professor Denice Ward Hood, Chair
Professor Bill Cope
Professor William Trent
Research Assistant Professor Natasha Jankowski

ABSTRACT

The purpose of this study was to examine advancement toward three tasks of psychosocial development for a national group of academic peer advisors. Previous research and program evaluations have shown the positive impact serving as a peer advisor has on undergraduate students, in addition to the institutional and advisee benefits generated. In this review of the literature, no national studies were found to demonstrate the broader impact of the peer advising experience on peer advisors. This study illustrated the psychosocial impact through the Student Developmental Task and Lifestyle Assessment (SDTLA), which utilized three developmental tasks of Establishing and Clarifying Purpose; Developing Autonomy; and Mature Interpersonal Relationships (Winston, Miller, & Cooper, 1999b). Four research questions were employed to portray peer advisor psychosocial development levels across three tasks. The first three research questions examined peer advisor results by gender, class standing, race/ethnicity, international student status, and number of terms served as a peer advisor. The fourth research question compared peer advisor levels of achievement to a normed, national sample of college students. Results indicated that males, sophomores, and international student peer advisors experienced the greatest gains from serving as a peer advisor and that there was an interaction between class standing and number of terms served. Additionally, peer advisor participants scored higher in all tasks, with the majority of groups scoring at least one standard deviation higher than the normed college student population. Peer advisors demonstrated the most progress in the Establishing and Clarifying Purpose and Mature Interpersonal Relationships tasks. Implications for peer advising program administrators were reviewed and recommendations for future research were discussed, specifying suggestions for other methodological approaches and the conceptualization of race/ethnicity and gender in psychosocial development research.

ACKNOWLEDGEMENTS

Thank you to my advisor, Dr. Denice Ward Hood, for championing my efforts to balance my doctoral studies, professional work, and new motherhood. You have helped me to see how I can prioritize my family, while still working toward my own personal and professional goals. I am very grateful for your constant support and encouragement to keep moving forward in this journey.

To Dr. Trent, Dr. Jankowski, and Dr. Cope who served on my dissertation committee, thank you for challenging me to consider new outlooks, research, and perspectives in my work. I appreciate the dedication and time you have spent helping me to achieve my ambitions.

For my son Collin, your presence motivated me to learn more and keep pushing toward each milestone. You taught me that I was capable of anything with a full six hours of sleep! I am so grateful to have you as my driving force to complete my doctorate. You make me smile and laugh every day; I love you.

I also have the utmost appreciation for my husband, Dan. I experienced firsthand the stress and difficulty of being a partner to a doctoral candidate with you in 2012 and now you have gone through this with me, but with our extra family member in tow too! You have juggled many additional responsibilities for our home and baby so that I could finish my doctorate and I am forever grateful. I love you and the life we have built together.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION……..…..1

CHAPTER 2: LITERATURE REVIEW……..……..…14

CHAPTER 3: METHODOLOGY…….76

CHAPTER 4: RESULTS……....127

CHAPTER 5: DISCUSSION……..….153

REFERENCES……186

APPENDIX A: IRB APPROVAL…….……..….202

APPENDIX B: RECRUITMENT COMMUNICATION…...…….204

APPENDIX C: CONSENT FORM…….206

APPENDIX D: INSTRUMENT…….....…208

APPENDIX E: INSTRUMENT SCORE KEY……...…222

APPENDIX F: SECONDARY DATA CHARTS…….…...…224

APPENDIX G: INSTITUTIONS OF PARTICIPANTS…….……226

CHAPTER 1: INTRODUCTION

Numerous studies have shown how attending college and becoming involved outside of the classroom have an impact on student success, satisfaction, and retention (Pascarella, Terenzini, & Feldman, 2005). In 2019, pressure on higher education institutions to be accountable for competing priorities creates challenges for aligning student success as a primary goal. As stated in *Change: The Magazine of Higher Learning*, "Higher education must do something at a scale never before realized: deliver a high-quality postsecondary education—and at less cost—to more than three-quarters of an increasingly diverse and often academically underprepared undergraduate population" (Kuh, Kinzie, Schuh, & Whitt, 2011, p. 13). With complexities in navigating the academic curriculum and major selection process, support services for students to identify the correct courses and major that align with their strengths and interests is an ongoing challenge. Colleges and universities previously left this role to faculty, but with more awareness regarding student needs and increased flexibility over major and college choice, new roles of academic advising emerged (Cook, 2001; Loss, 2012; Robertson, 1958). Professional advisors have become mainstream, but even with the addition of their direct support for students, the demand continues to increase. As priorities for holistic support of students and developmental professional advising emerged, a new opportunity arose for trained, peer students to support each other in mentorship and prescriptive advising needs (Jones, 1970; Upcraft, 1971). The creation of peer to peer academic advising programs in the 1970s continued to steadily increase, demonstrated through national advising surveys on peer advising, creation of peer advising commissions within global organizations, and increases in scholarly research on peer advising (National Academic Advising Association, 2013).

A 2012 national survey from the Peer Advising Commission of the Global Community for Academic Advising (NACADA) found four primary factors have led to the significant growth in peer advising programs (Koring & Zahorik, 2012; National Academic Advising Association, 2013). The four factors identified were: scarce resources; emphasis on student engagement to support student success, retention, and graduation; increased use of technology; and increasingly diverse student populations with corresponding needs (National Academic Advising Association, 2013). These four factors are reflected throughout the discussion on this study and support the usefulness this study brings to the field.

Peer advising programs have brought value to students and to institutions but also have a unique opportunity to impact the peer advisors themselves. Peer advising is a unique experience which differs from other student employment or mentoring positions in its focus on knowledge of academic resources for success and peer to peer support. By expanding on individual program studies examining single groups of peer advisors, the greater scope of how serving as a peer advisor impacts students' development can be established. After presenting the rationale for the research design of the present study in the current context of higher education, the potential impacts that this research may have on the field of higher education were reviewed.

Contextual Rationale

A major contextual issue that linked the value of peer advising programs and this study to the current climate in higher education represented the need for holistic support of students' growth and development while in college. An advantage of peer advising programs and the focus on peer advisor development was the evidence indicating that students serving their peers were gaining clear benefits themselves (Diambra, 2003; Habley, 1979; Koring & Zahorik, 2012). Aspects of development that peer advisors have gained as a result of their peer advising

experience were often categorized as psychosocial development. Interpersonal and relational skills such as listening, confidence, communication, and cultural sensitivity were common outcomes described from administrators of peer advising programs (Hamid, 2004; Muldoon, 2008; Zevallos & Washburn, 2014). Theoretically, this was sensible because the primary responsibility of a peer advisor was to talk to and help another student resolve an issue they had come for assistance with. Research in the area of psychosocial development was often qualitative in nature, summarizing peer advisor experiences from individual programs. However, psychosocial development is a larger aspect of growth for any undergraduate student. Chickering and Reisser (1993) developed seven vectors to summarize and provide a framework for the psychosocial development of college students. The three vectors that were examined closer in the current study were moving through autonomy toward interdependence, developing mature interpersonal relationships, and developing purpose. Each of these areas represented the skillsets all students progress toward during their undergraduate college experience.

In addition, past literature has demonstrated that serving as a peer advisor provided an unique opportunity for development, which also supported an end goal of gaining employer sought after skillsets (National Academic Advising Association, 2013). The National Association of Colleges and Employers shared results from a 2017 survey that indicated ability to work in a team, verbal communication skills, and leadership were three among the top six attributes recruiters were seeking from college graduates (Gray & Koncz, 2017). These are attributes which the review of literature demonstrated also served as outcomes for students serving as peer advisors (Hamid, 2004; Muldoon, 2008; Zevallos & Washburn, 2014). Being a peer advisor in college can facilitate students' development and provide students with work skills suitable and attractive to post-graduate employers. By engaging in research which demonstrated the impact of

serving as a peer advisor, institutions may be more informed on benefits to providing peer advising programs that holistically meet institutional objectives and provide developmental support of students.

Statement of the Problem

The field of higher education is fortunate to have a multitude of resources, publications, and organizations dedicated to advancing the field for practitioners, scholars, and scholar-practitioners. Evidence from the peer advising literature and current context of higher education indicate the importance of peer advising programs and support for peer advisor development. Initial research supported findings that peer leader involvement was an impactful experience (Kiyama & Luca, 2014; Muldoon, 2008; Wawrzynski, LoConte, & Straker, 2011; Zevallos & Washburn, 2014), in addition to research focused specifically on academic peer advisors which also demonstrated positive outcomes (Diambra, 2003; Fierke, 2012; Griffin, DiFulvio, & Gerber, 2014; Habley, 1979; Koring & Zahorik, 2012).

Research on peer advising tended to contribute primarily to practitioner groups, with articles and conferences highlighting best practices for creating training programs or selection processes. Research utilizing theoretically informed concepts of college student development often served both purposes, although limited quantitative work has been employed to measure levels of psychosocial development. Additionally, previous research on peer advising has primarily focused on single institution studies and utilized qualitative or practitioner-created quantitative surveys. Most research related to peer support programs and academic advising used student development theories to provide perspective and background, without opportunities to examine them with a group of students. No findings have been generated to show the national impact of peer advising programs as with other peer educator positions, such as orientation

leaders or mentors. The opportunity to study and grasp outcomes of a specifically defined role of peer advisor across national colleges and universities was distinctive. Additionally, the potential for better understanding the outcomes of serving as a peer advisor demonstrated the value not only for institutions and students but for the peer advisors themselves. Initial research has shown individual program impacts that relate to psychosocial development, but none have used a standardized instrument. This study built on evidence from previous literature regarding the impact of serving as a peer advisor and will be insightful for both practitioners and researchers by creating knowledge of peer advisor psychosocial outcomes and how they compared to a normed data set of college students. Overall, the contributions to scholarly research, practitioners, students, and institutional objectives are all met with continued research on peer advising programs and college student development.

Purpose of the Study

This study utilized a cross-sectional, quantitative approach that surveyed a national sample of peer advisors on progress toward three developmental tasks, as measured by the Student Developmental Task and Lifestyle Assessment (SDTLA). Higher scores on the SDTLA do not indicate achievement of the task, but rather demonstrate students' development and growth in each area. The three psychosocial developmental tasks of Establishing and Clarifying Purpose (PUR), Developing Autonomy (AUT), and Mature Interpersonal Relationships (MIR) in the SDTLA are based on Chickering and Reisser's theory of identity development which contains seven vectors to represent the growth college students experience during their undergraduate years (Chickering & Reisser, 1993).

Participants were recruited primarily through outreach to peer advising program administrators through national and state advising organization list-servs and the researcher's

professional contacts after years of networking with other professionals who have oversight of peer advising programs. Additionally, peer advisors across the United States were contacted directly. Undergraduate student participants were required to confirm that their role met a specific definition of peer advisor to ensure that a national sample of students all had experience in a similar peer advising position. For the purposes of this study peer advisors were considered, “undergraduate students who are trained in a variety of academic programs and who assist fellow students with class scheduling, time management, and program progression issues" (Diambra & Cole-Zakrzewski, 2002, p. 56). Participants provided consent and completed the SDTLA with a demographic questionnaire online to provide data for this study. Data provided exploratory value to create a greater understanding of peer advisor psychosocial development and then were also compared to a normed data set of college student responses from the SDTLA. The normed data were provided by the copyright owners of the SDTLA instrument, collected from 800 college students between 2007 and 2011. Comparisons were examined utilizing standard scores and effect size. Student data were examined in groups by class level and gender due to demonstrated differences in progress toward psychosocial development tasks in previous research (Jones & Watt, 2001; Winston, Miller, & Cooper, 1999a).

This study answered the following four research questions:

1. How do peer advisors score, by class level and gender identity, on the psychosocial developmental tasks of Establishing and Clarifying Purpose, Developing Autonomy, and Mature Interpersonal Relationships, as measured by the SDTLA?
2. What are the differences in scores for peer advisors of different racial and cultural backgrounds on the psychosocial developmental tasks of Establishing and Clarifying

Purpose, Developing Autonomy, and Mature Interpersonal Relationships, as measured by the SDTLA?

3. How does number of academic year terms served as a peer advisor impact progress on the psychosocial developmental tasks of Establishing and Clarifying Purpose, Developing Autonomy, and Mature Interpersonal Relationships, as measured by the SDTLA?
4. Do peer advisors demonstrate more advanced progress toward the psychosocial developmental tasks of Establishing and Clarifying Purpose, Developing Autonomy, and Mature Interpersonal Relationships, as measured by the SDTLA, compared to a normative sample of college students?

In designing this research study, identifying methods for addressing the research questions was fundamental. Rationale for studying peer advisors at multiple institutions utilizing a pre-existing instrument, and for a cross-sectional, survey research design demonstrated the value that this study has brought to the current field of literature, to practitioners, and to peer advisors.

First, previous research studying peer advisors across multiple institutions was minimal at the time of this study, so the goal of studying a national sample of peer advisors was distinctive. Most studies that included multiple institutions utilized secondary data collected from national surveys on advising and peer leadership (Koring & Zahorik, 2012; Wawrzynski et al., 2011). One study that aimed to complete a similar goal was a dissertation that examined academic peer leaders in first-year seminar courses at three institutions (Hamid, 2004). The reason multiple institutions were examined was intentional to highlight the experiences of peer leaders at three nationally recognized institutions for their first-year experience programs. Therefore, the outcomes of peer leaders recorded offered a summary of their experiences given the rigorous selection processes and model programs they were a part of (Hamid, 2004). In a similar effort to

study the impact of the peer advisor role, Kuba (2010) examined peer advisors across four separate programs at a single institution to understand the impact on student advisees. The author's dissertation study was focused on a program review of first-year experience at the University of Wisconsin Madison and utilized a qualitative approach to examine how peer advisors impacted student success (Kuba, 2010). Other research that looked at multiple institutions provided an assessment summary of what types of peer leaders or peer support programs were offered across institutions (Ender, 1984; Koring & Zahorik, 2012). No studies found in the review of the literature utilized multiple institutions to examine peer advisor psychosocial development. This is not surprising as the value and purpose for most practitioners is to better serve their own students and program. At the same time, previous literature has provided evidence of clear benefits for peer advisors, particularly in the areas of psychosocial development, such as intrapersonal and interpersonal communication.

This study contributed to a deficit in the current literature by exploring the developmental experience of peer advisors to increase the current understanding of this phenomenon. After identifying challenges from generalizing results of a single institution study, authors of a previous study utilizing the SDTLA suggested that a diversity of institutions be reviewed in future research on peer programs with the instrument (Holland & Huba, 1989). While studying peer advising at multiple institutions would be a valuable addition to the field, it would be challenging to look at statistical differences between institutional programs due to some programs having three or less peer advisors. Therefore, it was beneficial to investigate commonalities in peer advising across institutions, collectively, as the present study did.

Second, great value in previous research exists in which practitioners and scholars have created individual assessments to review their peer advising program outcomes. The current field

of research reflects the individual significance that each program provides in that educational context. However, for practitioners who wish to understand how their program, training, or student experiences compare to other programs they must rely on anecdotal descriptions or utilization numbers because each assessment technique is different. For scholars intending to create a broader understanding of the impact of peer advising programs, in-depth literature reviews are required to investigate the detailed descriptions of different programs and their individual summaries of impacts. By bringing awareness to an instrument that is designed to measure psychosocial development, practitioners will have a baseline source of data available. Additionally, they may become aware of the option to utilize the same measure for students in their own program to compare results. The Student Developmental Task and Lifestyle Assessment (SDTLA) is available free online with the answer key and coding instructions and more details on the accessibility of the instrument was discussed further in later chapters. The SDTLA survey developers specifically cited peer helper training programs as an opportunity for future use of the instrument (Winston et al., 1999a). They highlighted a suggestion of using the instrument as part of a training program for peer helpers, in which self-examination serves as a tool to learn about human development and student development processes (Winston et al., 1999a). In a sense, practitioners can facilitate peer advisor development by administering the SDTLA to their peer advisors. These recommendations from the SDTLA developers demonstrated the value of this study in representing the initial goals of the instrument. No research studies or online searches revealed any peer advising programs that have used the SDTLA. This research contributes to the field in new ways by familiarizing an easily accessible, valuable tool for both practitioners and the peer advisors in training.

The third rationale for this study was to conduct a cross-sectional, quantitative research design in a manner not previously done with peer advising and student development research. Cross-sectional studies, while mainstream in social science, are a reasonable alternative to measuring the same students across a longitudinal timeframe which would take a significantly longer period of time (Creswell, 2012). One study using the SDTLA followed a pre-test and post-test quasi-experimental design, but the six-week period was not long enough to gather statistical distinctions other than on one subscale (Holland & Huba, 1989). Additionally, the instrument was not intended to measure short-term differences due to the complexity and time needed to impact development (Winston et al., 1999a). The SDTLA technical manual indicated that it was not to be used for short-term pre-test and post-test, eliminating this as an option to compare students before and after their first term or academic year as a peer advisor. Some studies have utilized the SDTLA, or previous versions of the instrument, for first-year students and then for graduating seniors (Foubert, Nixon, Sisson, & Barnes, 2005; Foubert & Urbanski, 2006; Martin, 2000; Wachs & Cooper, 2002). Many more studies have utilized the SDTLA, or previous versions of the instrument, as part of a cross-sectional research design (Greeley & Tinsley, 1988; Hess & Winston, 1995; Jones & Watt, 2001; Macari, Maples, & D'Andrea, 2005; Sheehan & Pearson, 1995; Straub & Rodgers, 1986; Watt & Vodanovich, 1999). Thus, it is warranted that this study utilized a cross-sectional design in which participants were measured at a single point in time.

Engaging in any research design requires clear justification. When utilizing quantitative research, the majority of studies reviewed aimed to determine correlations between variables, such as differences between two groups. Most of the quantitative data utilized in peer advising were numerical utilization and satisfaction summaries of individual programs. As discussed

previously, the value of introducing a quantitative instrument, based on theory, brings the potential for future use and breadth in the field of peer advising. The quantitative approach being taken in this study does not aim to determine a solution. The researcher first worked to understand and explain the psychosocial development progress of peer advisors on three tasks in an effort for future leaders of peer advising programs to better interpret and understand their own peer advisors' development. Data from peer advisors were examined by racial and cultural background, as well as number of academic year terms served in the second and third research questions, respectively. In the fourth research question, the researcher compared peer advisor participants to normative data on college students' progress toward psychosocial development. As with any research study, this approach has both methodological strengths and limitations which will be discussed thoroughly. The intention of this research design was to provide a baseline of data across multiple institutions and peer advising programs to provide the greatest benefit for practitioners intending to utilize the measure as a comparison in the future, while contributing new data and understanding for future research in higher education.

Researcher's Perspective

As an advising practitioner, administrator of a large peer advising program, and doctoral student, the researcher's identities impacted her ability to connect with other peer advising program administrators and colleagues that found value in cross-program research on peer advising and peer advisor development. She attended the NACADA Peer Advising & Mentoring Commission meeting in October 2017, discussing her research interests with the group and networking with leaders in other programs who hoped to partner in future outcomes assessment. She completed an eTutorial course on Creating Peer Advising Programs in which individuals across the United States collaborated on the foundations for establishing successful programs.

She has presented at regional, state, and national advising conferences in the past few years on topics related to peer advising. Her background in psychology, counseling, and higher education, and identities as a white female have informed this research design and perspectives on crafting a study that will be useful for practitioners and scholars alike. The four research questions investigated reflect her interest in capturing a greater understanding of the undergraduate, academic peer advisor experience across the United States. Additionally, her implicit hypotheses were that serving as a peer advisor facilitates high levels of psychosocial development due to a service-oriented mindset and passion for supporting one's peers, which she has seen in her local peer advising programs. Overall, the researcher's background and identities do impact this quantitative study in its design, origins, and purpose, although the results and data analysis were reviewed in a traditional approach to quantitative research.

Definition of Terms

The following definitions and acronyms were elaborated upon to explicitly describe the meaning behind language utilized in this study:

AUT: A developmental task measured by the SDTLA focused on measuring students' progress toward Developing Autonomy (Winston et al., 1999b).

Developmental task: "An interrelated set of behaviors and attitudes that the culture specifies should be exhibited at approximately the same chronological time of life by age cohorts in a designated context" (Winston et al., 1999b, p. 5).

MIR: A developmental task measured by the SDTLA focused on measuring students' progress toward Mature Interpersonal Relationships (Winston et al., 1999b).

Peer advisor: “Undergraduate students who are trained in a variety of academic programs and who assist fellow students with class scheduling, time management, and program progression issues" (Diambra & Cole-Zakrzewski, 2002, p. 56).

Psychosocial development: Changes in the self and identity formation, as well as relational development and the ability to connect with multiple relational systems (Mayhew, Bowman, Rockenbach, Seifert, Wolniak, Pascarella, & Terenzini, 2016).

PUR: A developmental task measured by the SDTLA focused on measuring students’ progress toward Establishing and Clarifying Purpose (Winston et al., 1999b).

SDTLA: An acronym for the Student Developmental Lifestyle Assessment, an instrument used to measure psychosocial development in college students, through three developmental tasks (Winston et al., 1999b).

Subtask: “A more specific component or part of a larger developmental task… Subtasks are independent constructs that also share commonality with other subtasks within a larger developmental task area” (Winston et al., 1999a, p. 11).

Vector: The term utilized by Chickering and Reisser (1993) to describe “Seven areas [that] represent the common core of the major foundations of nonintellective development during the college years variously termed growth trends, developmental tasks, stages of development, personal development, needs and problem areas, or student typologies” (p. 39). The three vectors utilized in the present study, for which the SDTLA was based off were: moving through autonomy toward interdependence; developing mature interpersonal relationships; and developing purpose.

CHAPTER 2: LITERATURE REVIEW

In this study on peer advisor psychosocial development, two key concepts were reviewed thoroughly in the context of the field of literature: college student development and peer advising. First, the review on college student development explained development through multiple definitions and perspectives on what constitutes development. Next, justification is established for the importance of institutional action to engage and facilitate the development of students during their college years. Additionally, psychosocial development theories and frameworks are discussed from conception to an overall background to aid in future reasoning for the theoretical framework and instrument used in the present study, the Student Developmental Task and Lifestyle Assessment. The second section covers multiple aspects of peer academic advising in higher education, beginning with its origins, leading into definitions, approaches to assessment and evaluation, and finishing with outcomes for institutions, student advisees, and peer advisors. This review of the literature sets the background for this research study assessing the psychosocial development of peer academic advisors utilizing a standardized instrument.

College Student Development

The concept of development is utilized frequently in communities to describe the growth and change that occurs during students' time in higher education. It has been considered a process, a philosophy, and a theory and is often used as a keyword for describing how attending college impacts students (Patton, Renn, Guido, & Quaye, 2016). In 1967, Nevitt Sanford defined development as "the organization of increasing complexity" (Sanford, 1967, p. 47). While a vague definition, Sanford (1967) aimed to distinguish development from growth or change to capture the positive process of integrating various influencers. He continued on saying, "A

person develops through being challenged: for change to occur there must be internal or external stimuli which upset his existing equilibrium" (Sanford, 1967, p. 51). Therefore, his concept of development connected a stimulus that upset a person's current state, resulting in more complex internal systems. While Sanford discussed this concept as applying mostly to children, he shared that adolescents and young people also experience development. A few years later, the first definition of college student development was established as "The application of human development concepts in postsecondary settings so that everyone involved can master increasingly complex developmental tasks, achieve self-direction, and become interdependent" (Miller & Prince, 1976, p. 3). This landmark book written in the mid-1970s shared visions for the future of student affairs, describing many concepts central to student services, developmental tasks, and ways for higher education professionals to impact the student experience. A few decades later, this definition was expanded in a book chapter for the American College Personnel Association. Rodgers (1990) described development as "The ways that a student grows, progresses, or increases his or her developmental capabilities as a result of enrollment in an institution of higher education" (p. 27). These definitions were fairly similar, both capturing the holistic growth students achieve as a result of their experiences in college. A more recent and specific description was offered by Jones and Abes (2011) in a book on student services in higher education. They also described the focus on a positive impact and provided examples of "cognitive complexity, self-awareness, racial identity, or engagement" (Jones & Abes, 2011, p. 165).

Considering these definitions, there were evidently a number of ways in which students have been shown to develop holistically across various domains. For educators, student development frames the purpose for working to create situations in which learning and growth

can occur, not only cognitively, but holistically for young adults in college. Knowledge of college student development enables administrators, practitioners, and faculty members to intentionally create opportunities that facilitate the holistic development of their students. Many scholars have argued that it not only frames the purpose but is an essential avenue to intentionally work to ensure they are supporting the development of all students, not simply providing systems or programming in hope that they will support majority groups (Harper & Quaye, 2009). The literature shows clearly that higher education requires actively engaged students to positively impact their development.

Student engagement. What makes student engagement important in college? Why is it even necessary? If institutions are to value access, diversity, and student development, they must also take the necessary steps to actively support their students (Kuh, Kinzie, Schuh, & Whitt, 2005). If institutions were only concerned about graduation, they could simply only admit the most high-achieving, talented students that would find success without needing much influence. As this does not align with most societal or institutional values, identifiable opportunities for supporting the holistic development of students is essential (Kuh et al., 2005).

Kahu (2013) organized the research on student engagement as fitting into four perspectives: behavioural, psychological, socio-cultural, and holistic. The holistic perspective considers both 'engaging students' and 'students engaging' demonstrating the connection between the institutional responsibility and the outcomes of students as they engage (Kahu, 2013). Harper and Quaye (2009) agreed with this description as they considered engagement a verb and connected "engagement inequities to institutional dysfunction" (p. 41). Similarly, Astin (1984) described a basic postulate of involvement stating that, "The effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to

increase student involvement" (p. 519). Practitioners in higher education have a powerful opportunity to enact institutional change through intentional student engagement and evaluation. Bensimon (2009) advocated for practitioners to develop agency through their current role. While scholarship and theoretical foundations of student engagement are valuable, practitioners have the ability to actively facilitate student engagement rather than waiting for students to engage on their own. Student engagement is a process in which students' feelings about their institutions or institution staff provide positive emotional connections while also facilitating their learning, growth, and development (Bensimon, 2009). Traditionally, practitioners viewed this process as student initiated and resulting in positive outcomes. Bensimon (2009) challenged practitioners to take ownership of what they do to engage students, with consideration for the institution type and needs of diverse students. In fact, programs that do not intentionally consider under-represented students were cited as creating inequities which practitioners are responsible for engaging in critical assessment to ensure all students' needs are met (Martínez-Alemán, Pusser, & Bensimon, 2015).

Rendon (1994) further explored this as she discussed new models for accommodating the changing student demographic of college students to include more women, students of color, first-generation students, and other under-represented minority groups. The researcher discussed how most institutions were developed for privileged student populations and must take actionable steps to create a new model that considers the complex issues these various minority groups must navigate to find college success (Rendon, 1994). Current opportunities for engagement must be examined and transformed to meet the needs of the continuously changing student demographic particular to institutional student composition.

Harper & Quaye (2009) expanded this charge to practitioners with a declaration that specific institutional conditions must be created for student success to occur. Ownership, from these viewpoints, is on the university staff, not on the students, to create the place and environment in which students can be successful. Taking responsibility and accountability for student engagement creates a culture of institutional quality, while negligence results in views that simply providing services is enough to provide a developmental student experience resulting in positive outcomes. Further expressed, "weak institutions are those that expect students to engage themselves" (Harper & Quaye, 2009, p. 6). Consideration of institutional histories, theoretical knowledge, and passion to engage a diverse group of students have the potential to transform current student engagement practices in higher education.

Clear conditions of institutional action for student success were developed by Tinto and Pusser (2006) in a report for the National Postsecondary Education Cooperative. First, institutional commitment to prioritize and increase resources for student success was noted as essential, specifically to support low-income and under-represented students. Beyond programs and brochures, longstanding impact resulted from an investment in resources and incentives to enhance student success. Second, maintaining high expectations that all students are validated and free from negative differential treatment, such as microaggressions, is essential (Tinto & Pusser, 2006). Advising and peer advising are both opportunities in which cultural expectations of the institution can be communicated to achieve student success. Academic, social, and financial support make up the third condition and are most impactful when they are connected to the learning environment, not as separate entities (Tinto & Pusser, 2006). This further exemplifies Bensimon's (2009) concept of place-based change in which the environmental context matters for how we can engage students. Consistent feedback with ongoing opportunities

for learning is the fourth condition for how institutions can take responsibility for ensuring students are gaining the intended skillsets from their college experience. The last condition Tinto and Pesser (2006) cited as an institutional action for student success is involvement. Involvement is directly linked to persistence and graduation, so finding pathways to engage students in their learning, especially during their first-year of college, is essential to create student success. Involvement and integration into the campus community are highlighted throughout this discussion as an opportunity for practitioners to thoughtfully and intentionally create peer support programs that factor in their institutional context and actively enhance student success outcomes.

Alexander Astin's hallmark research on the impact college-going has on individuals provides a valuable framework for looking at engagement, involvement, and ultimately peer advising services. The input-environment-outcome (I-E-O) model reflects how growth during college can be understood by reviewing the inputs (student characteristics at time of college entry), environment (experiences to which a student is exposed to during college), and outcomes (students' characteristics after college experience) (Astin, 1993). Astin (1984) defined involvement as "The quantity and quality of the physical and psychological energy that students invest in the college experience" (p. 528). His theory of involvement focused on student time as the most important resource for achieving developmental goals (Astin, 1984). Effort also played an important role and Astin's theory stated that students only had so much time and energy that they could dedicate to ongoing and competing demands. Astin reviewed many different forms and types of involvement, from fraternities to honors programs to undergraduate research, and found that the type of involvement was far less important than whether a student was involved to predict if they would drop out from college (Astin, 1984). Following the important concept of

time, some types of involvement led to students becoming overly involved to the point that it negatively impacted them, such as participation in athletic sports.

A central finding reflected that a student's peer group during college "is the single most potent source of influence on growth and development during the undergraduate years" (Astin, 1993, p. 398). From political orientation to major choice to satisfaction and even retention, direct parallels have been made between one's peer group and individual outcomes. Astin (1993) defined peer group membership through both psychological and sociological standpoints, both of which are relevant to the consideration of peer advising services in college. Peer groups with which one strongly identifies, in frequency and intensity of affiliation, as well as the extent to which acceptance and approval are sought after, have the potential to impact the ultimate student outcomes (Astin, 1993). As discussed previously, student inputs also impact students' experiences of the college environment. One such example is that students of the same gender are more likely to affiliate with each other, a finding discussed later in a study on matching peer advisors by gender (Ellis & Gershenson, 2016). This framework explained not only how an educational experience impacts a student, but how this differs for students of different backgrounds based upon the initial 'input.'

In order to consider how these perspectives of student engagement provided the foundation for impacting the student development of peer advisors, it was essential to review the frameworks and theories of development that most related to their role: psychosocial development. As this research examined psychosocial development as one aspect within the greater framework of overall college student development, specific theories and frameworks were reviewed to provide definitions and descriptions of this specific context.

Psychosocial development. By reviewing the literature on how students change during college, the concept of how peer advisors grow and develop compared to a normative set of college peers was better understood. Mayhew and colleagues (2016) provided a comprehensive review of higher education research that cited how attending college does change young adults in ways that those who do not attend college do not experience. Additionally, institutions have the ability to support and create intentional systems that promote development along a series of eight outcomes, one of which is psychosocial development. In this context, psychosocial development was examined as changes in the self and identity formation, as well as relational development and the ability to connect with multiple relational systems (Mayhew et al., 2016). Fundamental ideas, theories, and concepts relating to psychosocial development were discussed to frame the understanding of peer advisor development utilized in this study, beginning with Robert Havighurst's 1953 book, Human Development and Education.

Havighurst's Idea of Developmental Tasks. In 1953, Robert Havighurst wrote a seminal book on human development, life, and learning in which the concept of development was defined as an innate aspect of living. He identified developmental tasks as "those things that constitute healthy and satisfactory growth in our society" (Havighurst, 1953, p. 2). Havighurst described three sources of developmental tasks; physical maturation, cultural pressures of society, and personal values and aspirations of the individual personality or self. As a prelude to more detailed concepts of psychosocial development, the concept of development of the self provided an early glimpse at the future of college student development. Additionally, the work emphasized the importance and value of education in supporting others advance toward these developmental tasks. Specifically noted are opportunities for teachable moments and the right

timing and conditions for individuals to progress toward the developmental tasks (Havighurst, 1953).

Astin's Theory of Involvement. Alexander Astin is credited with landmark research postulating that a student's background, identities, and experiences impact their college outcomes, along with the environmental conditions experienced in college (Astin, 1993). Although discussed earlier as a perspective on student engagement, Astin's work was also directly applicable to psychosocial development. His research helped explore patterns of persistence and retention among college students, providing indications of which students found college success and how they did so. One of the top findings in his persistence research was the concept of involvement, both the lack of and the dedication to various college activities. While Astin's article on involvement theory was written in 1984, he did lay out two areas of future research that pertain to this study. First, he advocated for future research that connects a specific type of involvement (such as peer advising) and developmental outcomes, postulated by theorists such as Chickering (based on psychosocial development). A second area of future research Astin (1984) suggested is the role of student peer groups and how involvement of one's peers can promote involvement in students who are initially less involved, which is also relevant to the current study.

Josselson's Theory of Identity Development in Women. Out of awareness and concern for the lack of female representation in psychology and developmental research, Josselson (1996) analyzed the lives of thirty women while they were in college and again while they were in their early forties. She aimed to build on Erikson's stages (discussed further later in this section) by enabling women to share their stories. Her work examined their lifespan development and considered their crisis and commitment to identity, ultimately creating four groups that

described similar outlooks and experiences. As guardians, pathmakers, searchers, or drifters, Josselson (1996) aimed to provide language and understanding for identity formation in women, given that much of the research on human development had been based solely on men. Similarly, in the book Women's Ways of Knowing, a call to recognize specific stages was utilized in which some people moved higher than others, creating a sense of knowing and imposing value (Josselson, 1996). This was based on research conducted solely on male participants, so the uniqueness and validation that would need to occur for women was missing, often leading to bias and an imposition of what was considered advanced or more highly developed (Belenky, Clinchy, Goldberger, & Tarule, 1986).

This perspective was considered new and transformative but also paved the way as other underrepresented groups in research have communicated similar concerns about the origins of the original psychology and developmental theories. For the purposes of this research study, it was important to highlight that men and women may experience development differently and gender differences in response to the Student Developmental Task and Lifestyle Assessment (SDTLA) instrument were highlighted and discussed to consciously consider how gender may moderate or impact standardized measures of psychosocial development. Additionally, differences across racial groups were examined and compared to the original data from the technical manual to avoid reporting that certain groups were scoring lower on the measure as an indication of lower development, rather than as a reflection on the instrument or theoretical background being studied and its basis in a heteronormative participant pool.

Racial and Ethnic Identity Models. A number of models examined identity development among People of Color, Bi-Racial People, White People, and few had integrated models of identity development (Cross, 1971; Ferdman & Gallegos, 2001; Helms, 1995; Horse, 2005; Kim,

2012; Rowe, Bennett, & Atkinson, 1994). The models exist to describe the sense of identity members of each group experience within that particular culture and how members experience growth in these areas through positive and negative factors such as cultural customs, racism and oppression, as well as acculturation (Winston et al., 1999a). While these models often focused on identity development surrounding race as a social construction and the experience of race as a result of that, they were indefinitely connected to psychosocial development in two ways. First, it was essential to acknowledge that mainstream instruments and research have often focused on majority groups (Council of National Psychological Associations for the Advancement of Ethnic Minority Interests, 2016). Therefore, it could not be assumed that lower psychosocial development levels accurately reflect the development of individuals in racial or ethnic minorities in that area. Second, exploring one's identities may also have a positive impact on college student's progress toward psychosocial tasks due to the focus on growth, self-understanding, appreciation for difference, and sense of inter-connectedness. Mitchell and Dell (1992), as cited in Patton et al. (2016) found in their study that Black students who scored in later stages of a scale on Black identity development were more likely to participate in cultural organizations. Similarly, another study found a connection between racial identity and self-esteem in that developing a stronger racial identity can predict overall psychological health (Pope-Davis, Liu, Ledesma-Jones, & Nevitt, 2000). Additional research which examined racial/ethnic identity found that individuals in earlier stages of their racial development were more likely to hold stereotypes and engage in racialized thinking (Cokley, 2002).

A study by Wood and Robert (2013) put these theoretical concepts to the test by understanding the role of non-academic goals in Black and Non-Black, male, community college undergraduate students. Almost 5,000 participants completed the Beginning Postsecondary

Students Longitudinal Study (BPS) with significant results found between the Black and Non-Black student populations, but no significant results were found between Black and Latino male participants. Their study found that Black males were more likely to focus on extrinsic goals, such as financial prosperity, rather than intrinsic goals, such as leisure. The authors noted that this indicates the potential for lower levels of personal development compared to peers, but also highlighted the longstanding societal impact on Black males that led them to craft their goals in this manner. Future suggestions were to help Black males internalize their external aspirations to support and promote their psychosocial development levels (Wood & Robert, 2013).

Research has also identified the unique experiences of Asian Americans and their racial and ethnic identity development (Iwamoto & Liu, 2010). Due to the varying histories and number of ethnic and cultural groups reflected among Asian Americans, experiences within this group may be more diverse than other racial or ethnic groups. Research has shown that discrimination and racism initially promote negative perspectives, but social identity affiliation can offer protective factors to race-related stress and coping well often promotes growth and development (Iwamoto & Liu, 2010). Recommendations to support Asian American college students by helping them identify their own racial and ethnic identities as separate identities has been shown to facilitate positive psychological well-being (Iwamoto & Liu, 2010).

In addition to models of racial identity development, ethnic models of acculturation also exist. Ethnic identity pertains to the cultural traits and groups that individuals are members of and numerous research studies have shown the importance of positive self-identification to support “healthy psychological functioning and enhanced self-esteem” (Patton et al., 2016, p. 131). Recommendations for future research on how students from different ethnic backgrounds experience college is called for to create a stronger understanding of them. Sometimes, ethnicity

can also be seen as part of one's national identity which is a common attribute of international students attending higher education institutions in the United States. Acculturation models reflect both increased stressors and also opportunities to employ coping strategies to ease the transition (Smith & Khawaja, 2011). The psychological adaptation process may include the ability to cope with stress, identify social support, manage expectations, build new friendships, and encounter potential discrimination. How international students identify and appraise these impacts their experience in acculturation (Smith & Khawaja, 2011). International students in the United States represent a very diverse group, with various inputting factors which may make them more susceptible to an easier or more difficult transition. Coming from a country with a similar cultural worldview as the United States, speaking English comfortably, and higher educational backgrounds (particularly language of previous institution) may serve as protective factors as international students adapt and adjust to their new environment.

Erikson's Identity Development Theory. Erikson's stage theory of development, originally created in 1959, is a well-known description of the external and internal factors that influence humans throughout the lifespan. Drawing from psychology and expanding on childhood developmental theories, Erikson developed eight stages identified by a crisis in which a person must develop in order to progress to the next stage. By the time a person goes to college at the traditional age of 18, they will have progressed through stage one: trust versus mistrust as an infant with a caregiver; stage two: autonomy versus shame and double as a self-determined toddler; stage three: initiative versus guilt as conscious preschoolers; stage four: industry versus inferiority as competent and appreciated in their skillsets; and stage five: identity versus identity confusion as a "call to define oneself" (Evans, Forney, Guido, Patton, & Renn, 2009, p. 50). Stage five marks late adolescence and the beginning of Josselson's theory and highlighted the

identification of personal values, goals, purpose, and ego identity (Evans et al., 2009). During young adulthood, stage six: intimacy versus isolation should play a larger role. Often thought of as solely romantic relationships, stage six also included commitment to a group and serving as a useful member of a community (Evans et al., 2009). In order to decrease emotional distress or the crisis of isolation, college students need to identify ways of connecting with others and developing meaningful relationships. In the later discussion on peer advisor outcomes, the opportunity to serve as a role model, build communication skills, and create meaningful connections with peers will be reminiscent of conquering successful intimacy. This opportunity ties directly into stage six of Erikson's identity development theory but also assumes that college students have successfully mastered the crises from the first five stages. The last two stages of Erikson's theory occur in midlife (stage seven: generativity versus stagnation) and late adulthood (stage eight: integrity versus despair) and thus have less relevance to the vast majority of college student psychosocial development.

Chickering's Theory of Identity Development. A developmental framework valuable for considering student engagement and peer support services is Arthur Chickering's developmental theory for college students. Chickering's concepts of development have similar origins as Erikson but are portrayed in a different context. Chickering's seven vectors are building blocks of college student development and have intentionally considered the diverse student population of college-going students that previous theories had left out (Chickering & Reisser, 1993). Chickering utilized seven vectors to describe development, which represent the complexities of true intersecting areas, all of which build to help a person construct their identity. Each vector "brings more awareness, skill, confidence, complexity, stability, and integration," which demonstrated that students do not necessarily graduate from one vector to the next, but rather

experience them more fluidly (Chickering & Reisser, 1993, p. 34). Vectors were not associated with a certain age or order, and people could move back and forth between the vectors, growing in one vector while still facing challenges in another vector. Utilizing a humanistic and positive view on development, Chickering's vectors employ the viewpoint that with a balance of nurture, support, and challenge in an environment, people will grow.

The seven vectors will be reviewed here briefly, with additional discussion of the vectors surveyed through the Student Developmental Task and Lifestyle Assessment (SDTLA) in an in-depth discussion of the instrument. The vector of developing competence refers to intellectual, physical, and interpersonal competence; the vector of managing emotions indicates that students are able to manage, control, and express their feelings in appropriate ways; the vector of moving through autonomy toward interdependence reflects the developmental task in which students are recognizing and navigating their independence and renegotiating their interdependence on others; the vector of developing mature interpersonal relationships includes appreciation of differences and capacity for intimacy with others; the vector of establishing identity depends more on strengths from the previous vectors and represents the awareness of and comfortability with one's personal identities; the vector of developing purpose represents vocational plans, as well as personal values and commitments; and lastly, the vector of developing integrity represents our deepest core beliefs and values and establishing congruence between those and our behaviors (Chickering & Reisser, 1993).

Chickering's initial research from 1969 was recrafted based on findings that the vectors did not adequately represent the experiences of women, since the vectors had been based on male experiences in higher education. Since then, Chickering and Reisser (1993) have updated the theory to be inclusive of the differing experiences for men and women without harming one

gender by indicating that they (overall as a gendered group) were less likely to develop in a single vector. The updated seven vectors utilized self-assessments and reflections from college students to establish the revised model and were considered to be the primary psychosocial developmental theory for college students.

How students learn, grow, and develop was well represented through Chickering's seven vectors, which were discussed further when considering psychosocial outcomes of peer support services for college students. An understanding of how students change and grow during college frames the value of peer support services as an opportunity to facilitate student development. This study investigated three specific vectors, which were further discussed in chapter three.

Ultimately, the reviewed authors and theories is neither exhaustive nor conclusive in relevance to the current study. Fundamental texts in higher education literature also noted Marcia's model of ego identity status, W. Cross's model of black identity formation, Heath's maturity model, Kegan's self-authorship theory, Baxter Magdola's concept of meaning-making, Blumer's symbolic interactionism, identity theories on multiracial, gender identity, sexual identity, spirituality and faith, multiple identities, leadership identities, and lifespan theories of adult development all as fitting into the category of psychosocial development theories (Evans et al., 2009; Mayhew et al., 2016). While each of these would certainly contribute in some way to this study, they will not be reviewed further in this discussion to focus on the most relevant theories to peer advising, the research methodology, and instrumentation history.

Student Developmental Task Lifestyle Assessment. Research studies on psychosocial development utilized a variety of methodological approaches. Many articles were developed as program evaluations; many utilized qualitative approaches with case studies, focus groups, interviews, and reflective papers; others used mixed-methods approaches; and other articles

utilized solely quantitative approaches. As there were a diverse range of methodological approaches, this discussion will focus on instruments evaluated for the current study.

When utilizing a standardized instrument, the purpose of the research study must be considered, and multiple instruments should be considered (Creswell, 2012). The Iowa Student Development Inventories had six measures intended to measure psychosocial development based on Chickering's vectors. In researching this option, a strength of the Iowa Student Development Inventories was that they assessed six of seven vectors from Chickering. Fewer research studies utilized them and no research was found after 1997 utilizing the Iowa Student Development Inventories. However, they were mentioned as evidence of one approach to assessing Chickering's vectors (Evans et al., 2009; Mines, 1982). In a comprehensive review of student development theories, Evans and colleagues (2009) challenged the Iowa Student Development Inventories finding "limited support for Chickering's original theory" and uncertainty regarding if the measures were assessing student development at all or simply needed to be revised (p. 73). An alternative instrument has been utilized more heavily and demonstrated sound psychometric principles: the Student Developmental Task and Lifestyle Assessment (SDTLA).

Crafted based on the theory of vectors by Chickering (Chickering & Reisser, 1993), the SDTLA measured three aspects of psychosocial development by surveying the self-reported behaviors and attitudes which represented successful advancement toward these developmental tasks (adapted instrument available in Appendix D). A developmental task was defined as "An interrelated set of behaviors and attitudes that the culture specifies should be exhibited at approximately the same chronological time of life by age cohorts in a designated context" (Winston et al., 1999b, p. 5). For the SDTLA, the cultural context was higher education in the United States. The subtasks make up each task and can be considered "independent constructs

that also share commonality with other subtasks within a larger developmental task area" (Winston et al., 1999b, p. 11).

The survey developers noted that Chickering's seven developmental vectors provided the basis for understanding the value and purpose of the SDTLA, although only three of the seven vectors are assessed in the SDTLA. The concept of developmental tasks discussed earlier by Havighurst (1953) was central to understanding the three tasks that make up the instrument and students' higher scores demonstrated closer progress to accomplishing a task. Additionally, the survey developers noted that survey results should be used to share information about progress toward developmental tasks to "be used as stimuli for work with students rather than as absolute definitions of developmental tasks" (Winston et al., 1999a, p. 11). The three developmental tasks were: Establishing and Clarifying Purpose; Developing Autonomy; and Mature Interpersonal Relationships. The two additional scales were Salubrious Lifestyle and Response Bias. Each task and scale was reviewed thoroughly to provide context for the composition of the SDTLA instrument and utilization in the present study.

The Establishing and Clarifying Purpose (PUR) task related to Chickering's sixth vector of clarifying purpose, which Chickering referred to as an ability to establish goals and identify vocational plans, personal interests, and interpersonal commitments (Chickering & Reisser, 1993). Similarly, high scores on the PUR task represented students who have considered their educational goals and ways to meet those ambitions, have considered the world of work and career plans, have a personal direction in life representing their values and objectives, and have interest and participation in cultural events (Winston et al., 1999b). The PUR task consisted of 51 total questions and involved four subtasks of: Educational Involvement, Career Planning, Lifestyle Planning, and Cultural Participation. The subtask of Educational Involvement

(EI) had 14 items and included students' recognition of academic goals, plans, resources, and active learning as well as whether students have an established academic life beyond solely fulfilling academic requirements. The Career Planning subtask (CP) had 14 items and was similar but applied to the world of work. It evaluated the extent to which students were taking the necessary steps toward post-college plans and being aware of their own abilities to pursue intentional and rational paths for work or graduate school. The subtask of Lifestyle Planning (LP) had 13 items and focused holistically on the type of future a student wished to have for themselves, which could include value systems, religion, family, and vocational or educational objectives. The fourth subtask of the establishing and clarifying purpose task was Cultural Participation (CUP), which had 10 items and recognized an appreciation for individual differences by engaging in cultural events or having varied forms of cultural interests. These four subtasks made up the Establishing and Clarifying Purpose task.

The Developing Autonomy (AUT) task was based on Chickering's third vector of movement through autonomy toward independence. Chickering discussed this vector as developing emotional and instrumental independence and creating autonomy, which enabled acceptable and healthy levels of interdependence with others (Chickering & Reisser, 1993). The AUT task represented an ability to meet one's own needs without reassurance from others, a capacity to structure lives without support, meet academic expectations without direction, and recognize the reciprocal nature of relationships in a community (Winston et al., 1999b). The AUT consisted of 51 questions and had four subtasks of Emotional Autonomy, Interdependence, Academic Autonomy, and Instrumental Autonomy. The subtask of Emotional Autonomy (EA) had 17 items, and a student who has achieved this did not require reliance on or approval from others, particularly their parents and other authority figures, to trust their own

opinions and decision-making. The Interdependence subtask (IND) had 14 items and acknowledged a concern for citizenship and the larger community. The subtask of Academic Autonomy (AA) had 11 items and recognized an ability to learn independently and be self-disciplined to have personal and academic success and ask for support when needed. The fourth subtask of the Developing Autonomy task was Instrumental Autonomy (IA), which had nine items and refered to a general ability to meet one's own needs and responsibilities independently. These four subtasks made up the task of Developing Autonomy.

The Mature Interpersonal Relationships (MIR) was connected to Chickering's fourth vector of developing mature interpersonal relationships. It was described as a tolerance and appreciation for differences as well as a capacity for intimacy (Chickering & Reisser, 1993). The MIR task evaluated how students balance relationships between independence and dependence and demonstrate respect for and appreciation of those with different cultural backgrounds (Winston et al., 1999b). The MIR task consisted of 24 items and included two subtasks of Peer Relationships and Tolerance. The Peer Relationships subtask (PR) had 10 items and refered to an awareness of different types of relationships and ability to navigate differences and challenges with others. The Tolerance subtask (TOL) had 14 items and accomplishment required an openness to differences of others' identities and belief systems.

Two scales were are also included in the SDTLA, one which measures Salubrious Lifestyle, with 17 questions, and a Response Bias scale, to check if a student was answering questions solely to appear favorable. The Salubrious Lifestyle (SL) scale measured healthy behaviors, such as wellness practices, sleep, exercise, and stress reduction. The SL scale was not considered to be part of the three developmental tasks. On the Response Bias scale, if a student scored more than three out of six questions, it portrayed a student's inaccurate self-reporting of

their experiences. Instrument developers suggested their responses be removed from the data pool to exercise caution that participant responses were reflecting their actual development and not goals for development. More information regarding these two scales was elaborated upon in the data analysis section.

Some researchers have elected to write their own questions for use in interviews or questionnaires. Small details such as order or wording of questions can impact the quality and accuracy of results, in comparison to standardized questioning tested across groups in an instrument (Groves, Fowler, Couper, Lepkowski, Singer, & Tourangeau, 2009). Additionally, the SDTLA does not require expert scoring, is free, easy to use and code on both the participant and the group level (Evans et al., 2009). The survey developers highlighted the opportunity for practitioners to utilize the SDTLA as an evaluation tool, which could be highly valuable for peer advising programs (Winston et al., 1999a). Overall, conducting further research with an instrument that has strong psychometric properties and is easy to access and use serves dual purposes for scholars and administrators (Mines, 1982).

Summary. College student development portrays the positive impact that attending higher education has on an individual. Students' development was facilitated through their active engagement in all aspects of campus life, which is the responsibility of both the institution and the student themselves. Theoretical and conceptual frameworks of college student development provide a glimpse into the content and processes of development. Examples of psychosocial development theories highlighted the importance of the present study. For example, Alexander Astin (1984) suggested future research on different types of involvement and student outcomes over thirty years ago, particularly looking at differing student characteristics. This study aligned perfectly with one type of involvement (peer advising) and understanding a student outcome

(psychosocial development), with special consideration for additional student demographics (gender and class standing). Astin (1984) voiced the role of peer groups' impact on student involvement and student learning in the college setting and stated that more research should be done in this area. In addition to these general recommendations for research, Havighurst's developmental tasks served as a precursor to Erikson's stage theory of identity development, which led to the concept of Chickering's vectors, for which the SDTLA instrument in the current study is based. Three of Chickering's vectors align with the three task scales in the SDTLA and were intended to measure those three vectors of psychosocial development. Furthermore, Josselson's theory of identity development in women explained the benefit of gender to be reviewed distinctly in the data analysis to accurately interpret the results. Instead of judgements around one gender performing higher or lower than the other, groups are sorted by gender and the data was analyzed separately. Each of these frameworks were linked together to form a conceptual basis for the importance of this research study. Next, the peer advising literature was reviewed to supplement the discussion on college student development.

Peer Advising

What makes peer advising a viable educational practice? The continued generation of peer advising programs signals that they must have a positive impact on the student experience and institutional priorities. Koring and Zahorik (2012) found this to be true in their national survey on peer advising administered through the Global Community for Academic Advising (NACADA). Results indicated that the most common benefits practitioners cited were retention and student success efforts, a method of increasing advising services with minimal costs, and promoting leadership and skill development among peer advisors (Koring & Zahorik, 2012). Less than 2% of practitioners said there was no benefit to peer advising programs. In 2005, few

assessments had documented benefits of peer advising (Koring & Campbell), but over the past decade this has begun to change with institutions and practitioners continuing to see increased benefits and value from peer advising programs (National Academic Advising Association, 2013). This may have been from a growing focus on assessment and evaluation of peer advising programs, which demonstrated the impact on students and institutions. In order to authenticate the value of research on peer advisor outcomes, the historical origins of peer advising was discussed, followed by definitions of peer advising, approaches to assessment and evaluation, and concluding with outcomes on advisees, institutions, and peer advisors.

Origins. Historical and scholarly information regarding origins of peer to peer support services and peer advising in higher education are rather limited. Understanding the formation of student personnel work, academic advising, and the cultivation of peer support services provided the opportunity to better understand research on peer advising today. Existing research on the foundations of student personnel work was reviewed as a prelude to the historical research on undergraduate peer support services, ultimately focusing on peer academic advising. Many forces fueled the transition from faculty advising, expanding both academic and student affairs services for students. Cultivating a stronger understanding of student services after World War I and, even more significantly, after World War II signified the beginnings of utilizing undergraduate students to assist other students with course selection, registration, academic policies, major planning, and other academic support.

The 19th century was notable for building the concept of accessible, mass higher education in the United States. Increased numbers of high school graduates, large-scale philanthropy, and support for extracurricular activities, such as football and literary societies, began to change higher education into the institution many are familiar with today (Thelin,

2011). Two initiatives that served as foundations for the later emergence of peer support services were the introduction of an elective curriculum and the emergence of faculty advisors.

The beginning of higher education in America had a prescribed curriculum with little focus on degree completion, often placing a higher value on the religious and social experience. Students dealt with required coursework as part of an opportunity to engage in the social statuses of campus life (Thelin, 2011). The 19th century initiated many pivotal moments as educational reformers sought to implement significant changes to higher education, one of which was the academic curriculum. One issue that led to the expanding of the curriculum was an effort to create student loyalty, both to their university and to their faculty (Veysey, 1965). As conversations regarding the academic curriculum continued, opportunities for specialized universities, multiple academic focuses, and decreasing priorities of the Classical languages contributed to an expanded elective system across most higher education institutions (Thelin, 2011). With new opportunities for students to select course options and plans of academic study, faculty found that this was difficult for even advanced students to conquer (Veysey, 1965). Students would switch from course to course, compare instructors, and struggle to make decisions (Veysey, 1965). The expanded elective system was a new concept for students and institutions began to perceive a need for college staff to help students make thoughtful choices regarding their courses (Eliot, 1950).

Towards the end of the 19th century, faculty and students had vastly different viewpoints on their experience in higher education. While initial attempts at faculty mentorship reflected a student need, it was dependent on the culture and student needs of the institution (Veysey, 1965). Introducing an advisor system was a way to create mentorship and relationships among faculty and staff, although often still unsuccessful (Veysey, 1965). John Hopkins University was

credited with developing the first faculty advisor system in 1876 (Cowley, 1949). In 1889-1890, Harvard developed a Board of Freshman Advisors to provide oversight of advising for all first-year students on campus (Cook, 2001). The expanded elective system and increasing roles of faculty as mentors and advisors in the 19th century indicated the beginnings of a focus on student psychology and, eventually, student personnel work in higher education.

After the conclusion of World War I, the influx of student veterans and new student difficulties brought increased attention to the psychological, educational, and vocational needs of students. Faculty did not often have the time or resources to accommodate student needs and significant increases in student enrollment complicated matters further. Concurrently, the fluctuating gender roles during these decades created more roles for women, which tended to focus on student support. With many men away at war, women became more important to attend to the needs of college students. The first Dean of Women position was created in 1919 at the University of Pittsburgh and held by Thyrsa Wealtheow Amos (Herdlein, 2004). This transition to creating administrative positions that focused on student support provided recognition of further student needs (University of Pittsburg, 2003). Herdlein (2004) developed a list of enduring student personnel principals credited to Dean Amos, initiated by a lifetime of pioneering student personnel work in a time where women faced challenges as minorities in higher education. One of these guiding ideals was how "work with peer groups is essential because students play a significant role in developing their own environment" (Herdlein, 2004, p. 353). Dean Amos initiated student mentor programs as part of a comprehensive plan to support each student's individualized development (Herdlein, 2004). These programs were referred to as "peer mentoring" and "Senior Mentors," both indicating the early reflections of peer support services (Herdlein, 2004, pp. 344-345). Dean Amos' contributions to the future professions of

advising and student affairs in higher education were groundbreaking in the first part of the 20th century and the commitment to wellbeing and development of the holistic student foreshadowed the future of services offered to college students.

With the conclusion of World War I a few years behind, the number of veteran students seeking out college increased steadily due to the difficulty of securing a job in the workforce. Counselors became necessary on college campuses to help veteran students adjust to civilian life. The 1920s brought on the Progressive Education Movement which aimed to reform education with a focus on the student learner (Gillispie, 2003). More specifically, in higher education, the previous trends in student personnel work led to an increased focus on facilitating student development through the use of educators and mentors. Students were increasingly able to self-direct their college experience through elective courses and extracurricular involvements, leading to amplified cognizance of how mentors could help facilitate students' growth and learning as they made challenging decisions (Gillispie, 2003). By 1924, student personnel work had spread to most college campuses due to the creation of the National Association of Appointment Secretaries (NAAS), the predecessor to the American College Personnel Association (Loss, 2012). While their initial goals were to help students find work after graduation, NAAS advocated for comprehensive personnel services for students in higher education to support them with their academic, vocational, and personal needs (Loss, 2012). During this time period, the number of non-faculty professionals increased heavily in most institutions to address these concerns and facilitate the administration of higher education institutions.

One account written by Thomas Arkle Clark at the University of Illinois shared how he saw the value of an advising system in which an office would be open frequently, provide sympathy for students, have young and youthful advisors available, contain a system in which

faculty could refer students, and have administrative oversight such as a Dean of Men (Clark, 1923). Clark had the foresight to understand student needs and outlined the opportunities advising would need to address to be successful. Clark closed his arguments with, "There is much more to be done along the line of advising students than we have yet dreamed of" (Clark, 1923, p. 90). Whether Clark expected innovations in the coming years, decades, or century, in other parts of the country progressive advising movements were already coming to fruition in the mid-1920s.

Indications that peer support services were steadily approaching came from Smith College in 1924, which developed an advising system of upper-level students who provided advising for peer students in their initial years of college (Cook, 2001). Accounts of these programs were limited, but demonstrated the value that current students could provide to their peers. A few years later in 1928, Ohio State University initiated a Junior Dean system in which upper-level students served as the chief advisor for their peers in each College (Gordon, 2004). This program was established by "the Central Committee on the Freshmen Problem," and found that the character of the student body was not being properly supported with the current conditions (Gordon, 2004, p. 18). The Junior Deans were tasked with, "close supervision of the work of Freshman and Sophomores, to help them adjust themselves to their new conditions, and to act as their chief advisor in all university matters" (Gordon, 2004, p. 18). While the committee and the issues of adjustment and student character appear vague, it is recognizable that the peer advising program was developed to meet a specific need identified at Ohio State University in 1928.

Patterns from the 1920s continued with an emerging trend from the American Council on Education which first published the Student Personnel Point of View in 1937 (Nuss, 2003). This

perspective acknowledged the holistic student, recognized the unique attributes that impact students during college, and highlighted the necessary coordination between instruction and management. The report aimed to facilitate the creation of new student service centers that supported student growth, while providing a philosophy that could guide the student personnel profession (Nuss, 2003). Much of the initial progress of the 1930s was quickly pushed aside as World War II transpired and it was not until after the war that advances within these areas continued.

When World War II concluded in 1945, higher education had already experienced significant impact from the necessities of war. The late 1940s was considered the time where trained professionals (academic advisors) were necessary for academic affairs to best support students. There were a few key reasons for this change in mindset. First, concerns of returning veterans' psychological adjustment to civilian life led to increases in services for vocational and personal counseling by specially trained professionals (Cook, 2001; Loss, 2012). With student services expanding in higher education to support student adjustment, increased staff availability and programming became available. Second, further increases in curricular opportunities meant that veterans needed individualized assistance in choosing their courses (Cook, 2001). This led to an additional focus on the need for support in navigating the complex academic options, in addition to the psychological and vocational support.

Institutions exemplifying these changes began with Alfred University in New York, which acknowledged additional needs of students in 1947 when a committee recommended the creation of a personnel office (Frost, 2000). The president of Alfred University recognized that adjustment to college life could be supported by a functional office dedicated to supplementing faculty advising with academic advising out of academic affairs (Frost, 2000). Similar progress

was being made at the Ohio State University, described in a historical account of academic advising on campus. By 1950, the Ohio State University's enrollment numbers had increased significantly and the curriculum became more expansive and complex (Gordon, 2004). Faculty were still the primary source of advising on campus, but it became clear that junior deans were assisting with the coordination of advising for each college. There was not a clear job title for staff who advised, although junior deans and student counselors were both noted (Gordon, 2004). The historical accounts at Alfred University and the Ohio State University represented the changing shift from faculty advising to student-centered advising offices that continued to emerge as the 1950s arrived.

In 1958, James H. Robertson conducted a survey of advising at twenty institutions of higher education, both public and private. His goals were to examine how advising programs were established and to understand similarities and differences across the field. Robertson's (1958) article focused primarily on the transition from faculty advising to professional advising, citing challenges of the faculty advising context in the late 1950s. However, forecasts for the future of peer advising were also noted in Robertson's article. He described the use of senior tutors at Harvard and Yale who "have broad powers over a student's academic program and academic status" (Robertson, 1958, p. 232). Clear roles for peer advisors to support faculty and professional advising initiatives began to emerge in the 1960s and 1970s as they became a popular addition to faculty and professional advisors for the reasons Robertson described.

An initiative that exemplified two avenues of peer support services was the Special Educational Opportunities Program (SEOP), more often known as Project 500, at the University of Illinois Urbana-Champaign. SEOP brought avenues of academic success for African-American students that failed to have their needs met in higher education during the 1960s.

Active recruitment of African-American students increasingly became a priority, but due to the campus climate and having few peers with similar racial backgrounds, more was needed beyond efforts to bring them to campus. Williamson (2003) highlighted the realization that occurred among university administrators in 1968 that recognized support services were valuable to facilitate adjustment and support African American students' academic success. SEOP hired graduate assistants in the 1968-1969 academic year to provide individual attention to students in Project 500 (Williamson, 2003). The graduate assistants were tasked with oversight of students' overall academic plan. Furthermore, a specialized advising system was developed called BSA Partners which connected upper-level students with freshmen in Project 500 to track students individually, provide academic assistance, and further facilitate their adjustment (Williamson, 2003). Between the graduate assistants and BSA Partners, students in Project 500 were provided with peer support, a student service the university administration must have recognized would help the larger goals of academic success. Furthermore, Williamson (2003) shared that in a comparative evaluation, students who were receiving these services and programs recognized the value of peer support, feedback, and advice regarding academic planning, support, and overall success. The graduate assistants and BSA Partners undoubtedly had a positive impact on African-American students in the late 1960s, a time when their very presence on campus was still a matter of protest, debate, and outright discrimination. Having a role model who comes from a similar background as students in the Project 500 (often African-American and from Chicago), provided a role model of the possibility for success at college. With increased support and mentorship, peer programs may have made the difference in college completion for many students in the 1950s and 1960s, as they still do today. In the 1970s, an even greater impact was seen with an increase in programs and greater attention to quality of services.

In spring of 1970, Milton Jones, Dean of Student Personnel at St. Petersburg Junior College, gave a speech at the American College Personnel Association (ACPA) conference discussing their campus use of paraprofessionals (Jones, 1970). St. Petersburg Junior College referred to their student support services as a counseling center, although the focus of the center was on academic support and transfer information. Paraprofessionals were utilized for academic course registration, to provide information regarding programs, as well as to discuss the coursework required for students to transfer to a four-year institution. Jones (1970) provided basic statistics regarding the utilization of their program, as well as a summary description of how the program operated. Jones argued that the paraprofessionals had the capacity to engage in advising with students more effectively than faculty advisors could (Jones, 1970). This is similar to the previous trends in peer advising, as faculty often have competing priorities that limit their time spent on directly advising students, as well as keeping up on administrative tasks such as program updates. While referred to as paraprofessionals in a counseling center setting, St. Petersburg Junior College saw the benefits of peer to peer academic support services in terms of administrative responsibilities, prescriptive advising, and as contributing to an office with professional academic advising staff. Furthermore, Jones (1970) discussed the value of choosing paraprofessionals who had some college experience and providing consistent supervision to better support their efforts. The early and mid-1970s literature captured the introduction of peer advising programs at individual institutions, chronicling the features, successes, and challenges of each. St. Petersburg Junior College offers an introduction to this approach, while Michigan State University and Idaho State University were the next institutions to do so before comprehensive research on peer to peer academic advising became mainstream.

Michigan State University conducted a program evaluation of a freshman advising program in which faculty, academic assistants, and the students being advised each provided feedback surveys (Upcraft, 1971). The academic advising these academic assistants provided was similar to the role of the faculty advisors at an experimental, residential, liberal college located at Michigan State University. Their role was defined as maintaining academic files, engaging students in advising and informal personal counseling, providing referrals, and other responsibilities identical to those of a faculty advisor (Upcraft, 1971). This article emphasized challenges in academic advising and reflected an innovative approach to reducing the increasing advising loads on faculty advisors, highlighting significant successes and benefits to the college. Upcraft (1971) recognized that student academic assistants could offer one solution to lessen the load on faculty advisors. However, the article only discussed the experience with one program at one university and no other research or sources were cited. While this provided an early snapshot of peer advising, it did not offer an indication of theoretical background or best practices found at other institutions or in published research, similar to the speech by Milton Jones on the program at St. Petersburg Junior College.

One year later, a report was developed with support from the U.S. Department of Health, Education, and Welfare, National Center for Educational Research and Development, and Idaho State University by Coke R. Brown to examine the outcome data of students who were advised by fellow students (National Center for Educational Research and Development, 1972). This report highlighted the significant transformation of peer advising in higher education as the shift from faculty advising to academic professionals began. Brown provided a detailed and thorough evaluation utilizing eight references and capitalizing on the student experiences. Brown reviewed the system from the advisee perspective, advisor perspective, and administrative perspective to

showcase the needs and concerns of each constituent (National Center for Educational Research and Development, 1972). Unlike most of the research prior to the 1990s, Brown did not review peer advisor job duties or training mechanisms, but instead focused on a variety of outcomes to compare faculty advising to student advising. In summary, the report provided a comprehensive examination of academic advising and the value that peer advisors can bring to institutions of higher education. This marked the point where peer advising became a field of study considered worthwhile for scholarly research, in addition to best practices and program development for practitioners.

Scholarly work on advising and peer advising continued with Chickering's theoretical analysis forecasting the major impacts on these fields in the coming years. Arthur Chickering, now a well-known scholar on college student development in higher education, was the president at Empire State College and an award-winning researcher when he wrote an article in 1973 on *College Advising for the 1970s* (Chickering, 1973). Chickering (1973) argued that college advising must consider three critical changes that would impact the profession throughout the decade: more diverse students, more diverse course options, and self-development as a goal of education. Each of these revolutions in higher education contributed to the further rise of peer advising. A more diverse student population led to benefits of specialized support that attend to individual needs, as noted in the Special Educational Opportunities Program from the late 1960s (Williamson, 2003). A growth in course options, two-year colleges, and rapidly changing institutions reflect a more complex institution of higher education, again showcasing a need for students to learn how to navigate the systems from more experienced peers. Chickering (1973) directly discussed this when he indicated that peers were often the "most helpful staff members…who know the ropes and who can give concrete information from direct experience"

(p. 75). Chickering's third fundamental change was on a new goal of education that supported the holistic development of the individual self. As research on college student development gained its own traction, shifts from prescriptive to developmental advising took hold and further signified the need for peer advisors to take on some of the prescriptive advising. Additionally, the opportunity for students to be trained as peer advisors empowered them to develop and support other students' development as role models and peer leaders (Chickering, 1973). It is clear how each of Chickering's three fundamental changes for college advising in the 1970s have direct relationships with the future of peer advising.

The 1970s also brought more information regarding approaches to academic advising in higher education across the country. A reported conducted by the American College Testing Program (1979) conducted a survey of 820 colleges and universities examining the various advising approaches across the nation. The researchers, Carstensen and Silberhorn, found that most institutions still relied on faculty advisors and tended to view advising as a prescriptive role to serve students' needs. The large majority of campuses, 84%, had established advising centers that had a primary goal of advising students for general education and undecided students. Most important to this historical analysis was that peer advisors accounted for 1% of advising occurring in the late 1970s. First, this demonstrated that peer advising was noteworthy enough to be included on a national survey during this time period. Second, zero two-year institutions and eight four-year public and private institutions listed peer advising as the primary delivery system for providing advising systems. Third, peer advising was far more utilized in addition to faculty or professional advisors, simply not as the primary advising delivery. Instead, 25% of two-year institutions, 41% of public four-year institutions, and 31% of private four-year institutions responded on the survey as utilizing peer advisors to support primary modes of advising. Overall,

30% of institutions in this survey indicated that they utilized peer advisors (American College Testing Program, 1979). A national survey that examined the occurrence of peer advising contributed to the previous understanding of how peer advising developed on college campuses and set the stage for further research in developing effective peer advising programs.

A theme emerged more significantly among the late 1970s literature on peer advising in that many articles and studies aimed to provide best practices and recommendations for professionals aiming to initiate new peer advising programs. One example of this was an article that highlighted ten advantages and seven disadvantages of incorporating undergraduate paraprofessionals into academic advising (Habley, 1979). The goal was to support comprehensive decision-making that took into account factors from previous examples of implementing undergraduate students into formal advising settings. Habley utilized nine references, three of which were unpublished doctoral dissertations, which was not surprising given the limited amount of research conducted at the time Habley wrote this article.

The same year Habley (1979) published the article on advantages and disadvantages of incorporating peers as advisors, one other program was focused on supporting women in higher education. In the late 1970's, adult women faced challenges in obtaining their undergraduate degrees due to societal pressures and needs of their family. An early iteration of peer support services was utilized in a journal article, *Peer Power,* which recognized the value that students could get from relying on trained peers for support (Dillhunt, 1979). In this article, Dillhunt (1979) referred to these peers as counselors who provided peer group meetings and it appeared clear that the peers were expected to listen and provide general support to the women who needed it. This article was written in a magazine titled *Change: The Magazine of Higher Learning*, had no references or data, and noted that it was too early in the program for evaluation.

This again reflects the recognition that peer support programs were needed, but the role of peer advisors still was not defined and offered a case study snapshot at one program at Northern Kentucky State University.

A few years later, the University of Wisconsin-Superior recognized a different need their new students were bringing into college. In an effort to support the college transition, four academic departments selected peer advisors that helped incoming freshman by offering office hours, advising appointments, and the opportunity to connect with another student (Barman & Benson, 1981). This article was considered a working model of peer advising and was published in the National Academic Advising Association (NACADA) Journal, traditionally catering to advising practitioners. Most significantly, evaluative data was collected which greatly added to the quality of the paper and provided understanding as to why many other future articles cited Barman and Benson. Student advisees were given advising evaluations each quarter, providing both quantitative and qualitative feedback, on advisor functions, advisor characteristics, and their personal demographic information. Additionally, personal observations and recommendations were offered by the authors. Faculty were also probed regarding the usefulness and worthiness of continuing the peer advising programs. The most significant finding that came out of this article was a recommendation for other institutions to develop peer advising programs that fit their own student needs and an approach was offered to do so (Barman & Benson, 1981). While providing a working model was useful, the authors recognized that an individualized approach based on institutional and student needs would provide the most benefit.

Another important shift was the comprehensive review of academic advising which considered the various organizational models and advising delivery systems, including peer advising. One example was from Pennsylvania State University in the mid-1980s to highlight

their “active and successful peer advising program in a college setting” (Elliott, 1985). Elliott (1985) published this article in the National Academic Advising Association (NACADA) Journal, clearly focused on practitioners with limited references and a short outline of general recommendations for peer advising. Elliott (1985) described the organization, supervision, and job duties of the peer advising program. At the time, this was novel and appeared to provide a useful checklist of tasks for another institution to have to implement a program of their own.

One example of an individualized approach was to expand on the definition of how peer leaders and support services could be used in different settings within higher education. In the mid-1980s, most university career centers were utilizing peer paraprofessionals to support the quickly expanding trend of providing career support during the undergraduate years (Hansen & Johnston, 1986). Published in the Journal of Career Development, which reached academic scholars and practitioners, Hansen and Johnston (1986) provided an example of peer advising program development, as well as evaluation, heavily grounded in previous literature. It featured a more extensive reference list and discussed its foundation as intentionally fulfilling the recommendations that past literature had suggested, both less likely to be seen in previous decades. A significant aspect and shift in the peer advising literature, during this time period, was the involvement of these peers in not simply day-to-day job duties, but also in the meaningful development of the office. The paraprofessionals at the University of Missouri-Columbia engaged in the typical job responsibilities of a career services professional, including counseling students and engaging in programming, advertising, and employer engagement (Hansen & Johnston, 1986). By empowering their peer paraprofessionals to make decisions and engage in high-level office responsibilities, they found that the peers were more excited and engaged in their work. At the same time, expecting too much of their professionals was considered to be

unfair and daunting, so finding an appropriate balance to support and motivate their peers was key (Hansen & Johnston, 1986). This article highlighted the developmental experience of a peer advisor and recognized that helping them to find meaning and value in their work led to more positive advising outcomes. As more research on effective training was released, these ideas of having peer advisors go beyond a prescriptive advising model and job duty format enhanced peer advising as it exists today.

As the early 1990s approached, peer advising increased greatly among institutions of higher education. Understanding the defined role of peer advisors compared to faculty advisors, advising professionals, and counselors helped delineate their responsibilities further and in a larger context. Peer advisors were found to take on similar responsibilities as other advisors, but faced challenges in distinguishing their role as a student versus as an advisor (King, 1993). King (1993) was President of NACADA and Assistant Dean for Student Development and provided context to the bridge between practitioner-based articles and scholarly research contributing to the wider field that relied on past literature that occurred in the 1990s. The article indicated that peer advisors were more likely to engage in prescriptive advising, which allowed professional advisors to focus on more developmental advising in their sessions together, highlighting another perspective significant during this time (King, 1993). Later on, the article stressed that peer advisors should be utilized as part of a comprehensive advising model in which a student's first year utilizes these services until they declare a major and move into more specialized advising, indicating that peer advisors would no longer be as valuable in that setting (King, 1993). This reflected the standpoint in higher education where peer advisors were evaluated to have more clearly defined roles and recognition for where they can bring value and where there is still a need for professional staff members. King's (1993) article provided clear indicators of the

changing times in peer advising research, including a bridge between practitioner work and scholarly research, intentional models of advising, and developmental approaches to professional advising.

As the new millennium arose, countless articles emerged utilizing students as peer advisors, tutors, counselors, mentors, and avenues of providing student support services in higher education. Harper and Quaye (2009) advocated that peers could provide support for particular groups of students with unique needs that would be best served by peers who have had similar experiences, such as transfer students, first-generation and low income students, international students, peers with similar academic and career interests, as well as racial/ethnic minority students. Student satisfaction and providing multiple avenues of advising to fit students' unique personalities became of more significant importance than ever before (Mottarella, Fritzsche, & Cerabino, 2004). Scholarly research on peer support services was expansive and cut across the field of academic advising and student affairs. Funded by a grant from NACADA, Mottarella, Fritzsche, and Cerabino (2004) conducted a quantitative research study which included a literature review, methods section, results with statistical analysis, and discussion of findings. The University of Central Florida researchers used a policy capturing method where student advisees made judgements of various advising scenarios. One of the most prominent findings was that the closeness of the relationship, rather than specific tasks addressed, created the highest levels of advising satisfaction for students (Mottarella et al., 2004). The type of advising and unique student relationship that peer advisors can offer fit into this framework, specifically that peer advisors could be utilized for curriculum advising which covers prescriptive information that they have been trained to communicate to other students about (Mottarella et al., 2004). As we can better understand the student expectation for advising, we can clearly outline the roles

that peer advisors can play in higher education. In this study, a citation from 1984 highlighted that peer advisors are better suited to handle curriculum matters, but it was unclear how this citation reflected the results in the study itself. Differences by gender were also found, with females noting that relationship closeness was more important than males. This aligned with the instrument in the present study, in which male and female scores were reviewed separately on the SDTLA instrument measuring psychosocial development. Additionally, as research studies take on stronger methodological approaches to research and this scholarly work is published, the field of peer support services can reach both practitioners and scholars in higher education.

The history, trends, and themes found in the scholarly literature of peer support services in higher education was closely tied with faculty and professional advising, greater societal issues, state and federal policies, and the founding of United States higher education. By tracing back to hints and clues that could predict the future of peer support services, important lessons were learned. Peer advising emerged out of necessity in reaction to growing student populations, changing curriculums, shifting of faculty priorities, and an overall focus on student support. Moreover, the value of peer advisors in 2019 is clear and has a century of historical accounts that illustrate its importance in higher education history. As higher education in the 21st century continues to evolve, so will peer advising as it continues to meet the needs of students as they work to find personal, social, academic, and vocational success.

Definitions. There are a number of differing peer support programs and alternative definitions for roles that may be considered peer advisors across various offices and institutions, each which may have differing training, goals, and outcomes (National Academic Advising Association, 2013). This has led to a common research focus on single programs or single institution studies to evaluate solely the outcomes in that one context. In order to create an

understanding of the exact role and function that this study examined, multiple definitions will be reviewed with clarification regarding the exact definition that this study utilized for its pool of participants.

A number of definitions exist for peer academic advisors that are both broad and specific. For example, Swisher (2013, p. 1) defined peer advising as, "programs in which students assist other students," although this definition could be widely applied to student mentors, tutors, front desk employees, and other roles. Another article on deliberate student connections described peer advising as “an educational process in which students are intentionally connected with other students to support learning and success” (Koring & Campbell, 2005, p. 11). This definition could also be applied to students who are advising their peers on areas that are not directly academic advising related, such as study abroad, career support, or student organization involvement. The most specific to peer academic advising and also most comprehensive in tasks covered was a definition shared in a study on peer advisor effectiveness: “Peer advisors are undergraduate students who are trained in a variety of academic programs and who assist fellow students with class scheduling, time management, and program progression issues" (Diambra & Cole-Zakrzewski, 2002, p. 56). This definition of peer advising showcased the role that this dissertation study intends to understand and will be expanded on in chapter three in the discussion of participant recruitment.

Assessment and Evaluation. Assessment and evaluation at any institution are essential parts of understanding the impact of attending college and value of programs and services, such as peer advising, on students. Assessment is considered the process of gathering or monitoring data and evidence, whereas evaluation engages with the evidence to make program improvements (Renn & Reason, 2013). Suskie (2004) described this further by stating that

evaluation includes a sense of judgement, interpretation, and utilization and provides a broader concept than assessment does.

The National Institute for Learning Outcomes Assessment published a report in 2018 which portrayed the value of identifying student learning outcomes for the purposes of compliance, improvement, and equity (Jankowski, Timmer, Kinzie, & Kuh, 2018). Institutional changes for "modifying advising processes" were noted as opportunities that assessments on student learning outcomes could provide (Jankowski et al., 2018, p. 18). Student learning outcomes can be examined at an institutional, college, program, or department level and are based on goals, needs, and values identified. Authors of How College Affects Students structured college outcomes into the following categories: development of verbal, quantitative, and subject matter competence; cognitive and intellectual development; psychosocial change; attitudes and values; moral development; educational attainment and persistence; career and economic impacts of college; and quality of life after college (Mayhew et al., 2016). Assessing student learning outcomes does have many challenges including how to directly measure change, gathering accurate information from self-reported data, and how to consider the impacts of factors other than attending college (Mayhew et al., 2016). To measure student outcomes and avoid these challenges, plans for assessment and evaluation are essential.

Astin's input-environment-outcome (I-E-O) framework provided one model for assessing student outcomes to overcome a common limitation in higher education research of only focusing on outcomes (Renn & Reason, 2013). It is essential to consider the student inputs and how those factors become relevant to how different students experience the same environmental conditions, leading to different outcomes. Utilization studies, such as utilization of peer advising services, are a common method of assessing the environment. To engage in an evaluation, one

would need to understand what impact that utilization has on student outcomes. This is further exemplified by Mayhew and colleagues (2016) who discussed that some outcomes are not actually a result of the college environment, even though it may appear that way. For example, are peer advisors demonstrating higher levels of psychosocial development because they are serving as a peer advisor or simply because they are a college student? For practitioners who hope to engage in a thorough outcome assessment of peer support programs, Upcraft and Schuh (1996) utilized Astin's I-E-O model to provide a fourteen-step strategy to evaluate program and service outcomes. This process begins with defining the problem, determining the purposes of the study, assessment approach, and outcomes. Next, the input or control and environment variables must be identified, followed by the selection of measurement instruments. The population to be studied and sample to draw from are selected and then the modes of statistical analysis are determined. The next four steps include a plan for data collection, a method of recording data, conducting analyses, and evaluating analyses for both policy and practical implications. The fourteenth step involves developing a strategy for using the results. Upcraft and Schuh (1996) acknowledged that in order to broadcast the value of programs and services, a valid and effective approach must be taken such as with a thorough fourteen step outcome assessment.

The most important feature of program evaluations for peer support programs is the plan for assessment. As higher education professionals are evaluating peer support programs, the focus of the evaluation should reflect the intended outcomes of the program. The majority of the literature on peer advising programs was focused on evaluation of their program; often the administrators aimed to showcase program accomplishments and initiate improvements. Many articles reviewed had a focus on initial development of a peer program and assessment was

examined as an afterthought. The first recommendation was to consider the goals of a program when it is being created and to consider outcomes that would demonstrate when those goals have been met (Suskie, 2004). By considering assessment as a four-step continuous cycle, scholars can ensure that it is woven throughout the development of peer programs and not left until an end point. Suskie (2004) laid out this four-step cycle by recommending that first one should establish learning goals (psychosocial development outcomes), then engage students in the learning opportunities (weekly peer advising shifts), next assess student learning (assessment), and last use the results (evaluation and implementation). A recommended process of creating the learning goals was to first consider the values, vision, and mission of the program (National Academic Advising Association, 2013). This cycle offers an opportunity for peer advising practitioners as the field of literature has demonstrated that they have often aimed to conduct assessments after programs are already created, without established learning outcomes.

Future research and evaluations using both quantitative and qualitative data would contribute to the field and many opportunities exist to build on the current research on peer advising. Upcraft and Schuh (1996) highlight opportunities for both qualitative (such as interviews or focus groups to understand student experiences and consider individual backgrounds) and quantitative (using measurement instruments with statistical analyses) value in assessment. Qualitative research available on peer support programs often include open-ended questions on a survey or are noted in themes from the researchers and practitioners' experiences working with the program. Most of the studies did not explain their qualitative research process utilized, skipping a methods and results section altogether to focus more on program development or improvement and then a section of discussion or themes on the process. From a research perspective, the reader was many times often left wondering how the researchers came

to these conclusions and on what data they were basing the themes they have discovered. Future qualitative research in peer support programs could highlight a deep and detailed account of students' experiences and would still allow for an understanding of the intended learning goals or outcomes of the program (Suskie, 2004). If the goal of the research is to understand the practitioners' perceptions of the program, that should be articulated clearly as a goal of the study to understand whose knowledge and meaning-making is the focus of the work.

Quantitative research in the peer support program literature has also had the challenge of not utilizing transparent questions and instruments, as well as an unclear write-up of methods, results, and discussions. Similar to studies that used qualitative approaches, article focus tended to be on program development and logistics and the reader is left to wonder exactly which students were surveyed and who responded. Most of the studies utilizing quantitative data focused on descriptive statistics, such as how many students utilized the program in one semester and what percentage were highly satisfied. Quantitative data does not have to include complex statistical analyses to be beneficial for the field. Additionally, practitioners do not always have to create their own survey questions. As one example, three satisfaction surveys commonly utilized when quantitatively measuring college student satisfaction are the College Student Experiences Questionnaire, the College Student Satisfaction Questionnaire, and the Student Satisfaction Inventory (Upcraft & Schuh, 1996). Upcraft and Schuh (1996) specifically noted the SDTLA (used in the current study) instrument developers', Winston and Miller, work as "an excellent example of developmental outcome assessment" (p. 225).

An exemplary practice of peer advising program evaluation is provided in Peer Advising and Mentoring: A Guide for Advising Practitioners (National Academic Advising Association, 2013). The Missouri University of Science and Technology created a program for students with

GPAs that had decreased over the past two semesters to provide them with services that support their academic and personal success. The program conducted evaluations at the end of each semester, as well as at the end of the program to make improvements. Additionally, students' initial enrollment, continuous involvement, and overall retention data were tracked and had been compiled for the three years prior to the publication date (National Academic Advising Association, 2013). As an exemplary program, it had crafted an evaluation plan based on the mission and vision for the program, considered the specific institutional and program context, and maintained a priority of ongoing evaluation and review.

Overall, there is significant room for growth and improvement for evaluation in peer support programs. Different institutions will have different priorities when it comes to evaluating peer support services. The background history, purpose, and student types all impact how peer support services may be examined. Among the research reviewed on peer advising, the focus areas tend to center on utilization of services, advisee satisfaction of program, and development of peer advisors. The majority of programs reviewed employed measures of assessment to solely track utilization and student feedback. Some programs did conduct more evaluative measures of peer programs, although with almost entirely single institution studies and a lack of clear methodology, it was often difficult to discern what the goals of the program were and if those goals were truly met. Creating an assessment team and considering the ongoing cycle of assessment for one or two focused outcomes will support practitioners to engage in valuable program reviews, while providing helpful information to understand the impact and make changes as needed. Considering the previous literature that focus on assessment and evaluation of peer advising programs for primarily practitioner value, it is also essential to review the

findings and outcomes for advisees, institutions, and peer advisors to comprehend the value of the present study to contribute to past findings.

Outcomes. After exploring the various approaches to assessment and evaluation, the demonstrated impact of peer advising programs is more apparent. By understanding the specific benefits that colleges and students receive, future research can intentionally examine how and why they occur. This discussion will begin with institutional outcomes of peer advising programs, leading into the impact on students utilizing peer advising services, and concluding with the demonstrated outcomes for peer advisors.

Institutions. Peer advising has been noted as one of the seven core components of an advising program that facilitates retention in colleges and universities (Kapraun & Coldren, 1982). Institutional objectives often included the retention, persistence, and educational attainment of students. It can be costly to recruit and admit students and once students are enrolled, colleges and universities must also work to help support their needs to retain them each semester. A few studies have found statistically supported evidence that peer advising facilitated retention (Davis & Ballard, 1985; Peck, 2011), while many other studies have anecdotally noted that programs increased student satisfaction which may have indirectly supported student retention. Three other institutional benefits were discovered from previous research. First, having an immediate resource for students to utilize was described as a value for institutions to have, often through drop-in peer advising services (Barman & Benson, 1981; Davis & Ballard, 1985; Poling, 2015). Second, as institutions aimed to implement efforts to decrease the achievement gap between different ethnic groups in higher education, peer advising offers a viable solution to address that effort. In a book on student engagement in higher education, Harper and Quaye (2009) advocated when institutions can focus on increasing persistence and graduation rates for

minority students, overall college rates will improve and lead to more success among students. Support services for students of diverse backgrounds through peer advising were mentioned in multiple sources (Apprey, Preston-Grimes, Bassett, Lewis, & Rideau, 2014; Guillory, 2009; Rios-Ellis, Rascón, Galvez, Inzunza-Franco, Bellamy, & Torres, 2015; Sanchez-Leguelinel, 2008). Third, retention is a popular topic in higher education and one of great importance and concern. Institutional initiatives to support retention on campus directly impacts the individual student experience, external perceptions of the institution, graduation rates, and often ratings or rankings systems (Guillory, 2009). Peer advising was described as enabling both a reduction on professional work and ability to offer more services at reduced costs in numerous studies (Barman & Benson, 1981; Koring & Zahorik, 2012; Migden, 1989; Poling, 2015; Shook & Keup, 2012; Timmis, 2012).

The primary institutional benefits of student retention and increased services led to increased utilization of peer advisors as a reliable source of student support initiatives. While supporting the psychosocial development of students is often a priority for practitioners, the importance of clear outcomes in retention, persistence, and graduation are often what created advocacy for greater funding and administrative support for peer support programs.

Student Advisees. Another factor demonstrated in the increasing growth and popularity of peer advising programs was the impact they had on the students they are serving. Peer advising programs have the potential to support students' academic success, increase retention and graduation rates, and lead to higher student satisfaction levels. Mayhew and colleagues (2016) determined six broad outcomes of college for students: development of verbal, quantitative, and subject matter competence; cognitive skills and intellectual growth; psychosocial change; attitudes and values; moral development; educational attainment and

persistence; career and economic impacts of college; and quality of life after college. How do peer advising programs specifically impact the college student experience? Three main outcomes emerged across the research on peer advising outcomes for student advisees: ability to access an immediate resource for advising knowledge (Barman & Benson, 1981; Davis & Ballard, 1985; Diambra & Cole-Zakrzewski, 2002; Habley, 1979; Kuba, 2010); having a role model (Bodemer, 2014; Bos, Berman, Kane, & Tseng, 2012; Koring & Campbell, 2005; Kuba, 2010; Rios-Ellis et al., 2015; Zevallos & Washburn, 2014); and developing positive and meaningful relationships with other students (Barman & Benson, 1981; Fullick & Smith-Jentsch, 2013; National Academic Advising Association, 2013; Xiong & Lee, 2011). Additionally, a number of peer leader programs targeted groups of diverse students who may benefit from additional mentorship or appreciate a more accessible form of advising than a professional or faculty advisor may provide (Apprey et al., 2014; Guillory, 2009; Rios-Ellis et al., 2015). Studies that found these outcomes were often associated with programs that qualitatively assessed student satisfaction after meeting with a peer advisor in their program.

Peer Advisors. The experiences of peer advisors serving these programs often went overlooked or are described as an afterthought. It is evident and rational that peer advising programs are created on behalf of institutional and student needs. However, academic peer advisors are students who are progressing through their undergraduate years and developing just as their peers are. Their specific experience as a peer academic advisor has its own set of outcomes and there is potential that their role may contribute to their development as a college student in advanced ways that other college students may not have experienced growth in yet. The outcomes of serving as a peer advisor are essential to understand because they shape the students and programs that they serve, as well as represent the development of a large number of

students. The methodological approaches will be reviewed simultaneously as the outcomes and results of these studies demonstrate both the conceptual and methodological value of this research.

As discussed in the origins of peer advising, Habley (1979) described the benefits of paraprofessionals in advising, from the perspective of the author and with a review of the literature available at the time. The last advantage stated that peer advising provides "meaningful work experiences" which include aspects of peer advisor development, such as interpersonal skills and other learning experiences (Habley, 1979, p. 4). More recently, the impact on peer advisors themselves has further emerged as a field of study. In 2012, Koring and Zahorik found that advisor survey respondents highlighted leadership and skill development as one of the primary benefits of peer advising programs. Even in more current literature on peer advisor outcomes, brief summaries such as this were frequent highlighting that there were positive impacts on students who serve as peer advisors. Opportunities were abundant to share a clear methodology of how these peer advisor experiences were captured and to provide more information on how those experiences compare to typical college students. A number of sources that examined peer advisor outcomes were reviewed, with a summary of themes found across these studies.

In a study that created a national survey on peer educators, focus group interviews with peer educators was the first step to identify the outcomes of their experiences (Wawrzynski et al., 2011). By beginning with a qualitative approach, it empowered students to utilize their own voice and language to describe their experience. Over 100 students participated in 12 focus groups, each led by a member of the research team. The focus groups were then transcribed, coded for themes, and led the researchers to the next step of comparing those themes to the field

of literature (Wawrzynski et al., 2011). This approach provided an opportunity for peer educators to reflect on their accomplishments and support a learning experience for students, two added outcomes of the focus group interview format (Wawrzynski et al., 2011). The methodological approach in this article was well articulated and outlined, although the purpose of this research was a much broader, national study on peer educators. The two outcomes found for students who served as peer educators were: "gains in practical competence and intrapersonal outcomes" (Wawrzynski et al., 2011, p. 18). Students cited specific benefits relevant to their particular programs, but also transferable skillsets of organization, speaking and communication, as well as self-confidence and consideration of individuals different from themselves. As the researchers developed the National Peer Educator Survey, they considered these themes in addition to students' cited learning experiences and also consulted the literature on learning outcomes for students engaging in student affairs initiatives. This led them to develop the outcomes of cognitive complexity, interpersonal competence, intrapersonal development, practical competence, and humanitarianism and civic engagement (Wawrzynski et al., 2011). With ongoing updates based on peer educator feedback and data analysis, in 2009 the six learning domains were categorized as cognitive complexity; practical competence; intrapersonal competence; interpersonal competence; knowledge acquisition; construction, integration, and application; and humanitarianism and civic engagement (Wawrzynski et al., 2011). As the survey continued to be distributed, peer educators were found to have significant gains among all six learning domains and that those gains were suggested to be because of their peer educator experience specifically. Again, while this suggests positive outcomes for the broader peer educator group for which peer advising falls under it is an excellent model for opportunities to better understand outcomes of serving as a peer educator.

One challenge with summaries of peer advisor outcomes is that they are often personal reflective summaries from administrators and practitioners of peer advising programs. These articles did not always depict the peer advising program explicitly from their perspective of their position, but rather stated the themes as findings from their study. One example was from Bertrand (1999) who wrote an opinion piece published in an academic advising journal. She shared her experience as a peer dean, writing a brief literature review on peer advising, and inserting her personal ideas on peer advising programs and their impact. It was helpful with this article that the author made it evident that she was incorporating her own thoughts on the outcomes of peer advising, such as when she wrote "Peer advising was something that I thoroughly enjoyed…I wanted to help people" (Bertrand, 1999, p. 2). Differently, Fierke (2012, p. 5) employed a model of group advising utilizing class advisors that was grounded in research, but included conclusions that were not apparent by the data gathered. The author discussed using "informal discussions," which were not discussed in the methodology, nor was any other information provided about the conversations other than the outcomes of student feedback, such as how they "liked" and "appreciated" various aspects of the program (Fierke, 2012, p. 5). Additionally, the value of serving in a leadership role and attending to student needs were highlighted as benefits. This disconnect between identified methodology and results was a challenging aspect of using personal accounts without an explicit methodological plan. Another author included their perceptions as evidence of peer advisor development in an article which was written to describe the creation of a peer mentoring and advising program for first year students in the sciences (Poling, 2015). When describing the program outcomes for the peer advisors the authors state "We believe that the MySci Advisors program has benefitted students…" (Poling, 2015, p. 7). The authors explicitly share that they have primarily qualitative

data, but the qualitative methodology is not detailed and functioned rather as a summary of their personal accounts as leaders in the program. It appears that when research is conducted on students who utilize peer advising services, outcomes on peer advisors may be an unanticipated, rather than intended, outcome.

Even when an author aimed to explicitly understand the experiences of peer advisors, the methodological approach was not always articulated as a traditional research article would describe. One such example of an end of semester peer advising program review conducted by Diambra (2003) who utilized an informal interview style to understand the competencies and skills gained by the peer advisors. Five summaries were provided which detailed the peer advisors' description of competencies gained from their peer advising experience. Responses were three to five sentences, which explained the theme and provided one student quote to further exemplify the theme. The first competency peer advisors described was their interpersonal skills, citing examples such as understanding the needs of their students and navigating challenges. The student quote highlighted showcased this first competency: "Sometimes all the student needs is someone to listen, really listen, without passing judgement" (Diambra, 2003, p. 31). The second area of competence, administrative skills, focused on procedures for leading group advising meetings and followed a specific process. Third, information skills for accessing resources that would best address further student needs showcased how peer advisors learned to become resourceful as a result of their position. The fourth competency was systemic planning which was focused on strategic planning of academic courses to meet graduation requirements. One student shared "I'd done it before for myself, several times, but it helped me to be prepared when I did it again with another student in mind" (Diambra, 2003, p. 32). The fifth and final competency was technology, specifically computer

software and web page development, which highlighted the importance of pairing service and technological skills. The emphasis of the article was on the results of the debriefing sessions with peer advisors, rather than on an articulated methodological approach. Implications and recommendations were provided as summaries of the author's experiences, rather than as a discussion of results found. For practitioners, it is common to have these informal conversations with students and this article provided a summary of those conversations. In terms of a research article, it would have been helpful to understand who the participants were and the steps taken to collect the stated outcomes.

A similar example of gathering outcomes of peer advisors was from an assessment of an academic peer mentoring program. The evaluation of the equal opportunity program for underserved students contained three parts, providing a well-rounded outlook on the experience of peer mentors and students utilizing their services (Zevallos & Washburn, 2014). The authors were conducting an evaluation, two parts of which were aimed at understanding the experience of the peer mentors utilizing an open-ended evaluation and focus group interviews. The open-ended questions were focused on the quality of their training and did not produce responses regarding peer advisors' sense of growth and development. In focus groups, the mentors were asked to discuss their "learning and personal growth" as a result of their experience (Zevallos & Washburn, 2014, p. 28). Academic mentors shared growth in the areas of confidence, interpersonal connection, professionalism, leadership, and communication skills. A few student quotes were included to demonstrate their focus group responses. These narrowed findings were not produced as explicitly being in these five areas, but the paragraph on focus group results highlighted these areas. The authors shared what the students were asked generally, but the paragraph regarding methodology and results was still relatively brief and heavily focused on a

discussion summary of the results. Similar to many research studies conducted by practitioners, the majority of the article describes the program, its logistics and administration, rather than providing a clear understanding of the methodology and results. This common theme occurs in many of the research articles on outcomes of peer advising, making it difficult to provide a clear summary and understanding of the phenomenon.

Two articles utilized reflection papers to gain a stronger understanding of the experiences of peer advising programs. The first article featured the implementation of a peer advising program as an evaluation and included a designated methods section, describing their use of peer advisor reflection papers (Griffin et al., 2014). Participants were described in number and gender, the timeline of when students were surveyed was included, a table of questions asked provided, and the coding process was also detailed. The results section included responses coded by theme and included the number of participants who shared feedback for that particular theme. Benefits that shared by peer advisors were described in terms of larger themes. The first theme of skill building was demonstrated by "interpersonal communication skills (n = 9), organizational and time management skills (n = 6), and presentation skills (n = 6)" (Griffin et al., 2014, p. 4). Quotes from students were included to highlight the accuracy of the theme, such as "I have seen myself transform over the course of the year…" (Griffin et al., 2014, p. 4). Having information regarding the facets that make up each theme, number of students who shared that experience, and example quotes strengthened the evaluation of how peer advisors were impacted by their experience. The second theme of feeling valued and supported followed a similar format, with two facets of feeling "valued (n = 6) and [like I] made a difference (n = 9)" (Griffin et al., 2014, p. 5). Quotes from peer advisors exemplified this theme by showing that they felt like student advocates, contributed useful insights to faculty and students, felt an overall personal sense of

pride and concerned success for their department. Third, the theme of engaged in the community was demonstrated by an "increased ability to work well with others (n = 7) and their strong sense of community (n = 7)" (Griffin et al., 2014, p. 5). This focus on teamwork was highlighted by a student's meaningful quote on having a support system as a result of their experience. The next theme was on gaining knowledge and facets focused on "academic and professional resources (n = 8)" and increased understanding of…careers (n = 6) and major (n = 5)" (Griffin et al., 2014, p. 5). The last theme of cultural competency was shared by four students and an expressive quote was included demonstrating the perceived awareness of a peer advisor's growth toward being more inclusive of diverse students. It was not until the discussion section at the end that the authors provided their summary account of the research findings. This article provided an example of a traditional research approach for how to conduct and write up qualitative research utilizing reflection papers to better understand peer advisor development. It also demonstrated clear themes that peer advisors have experienced as a result of their participation in a peer advising programs.

In another study, reflection papers were utilized in a case study to benefit peer supporters at an Australian university to provide them with an opportunity for personal development (Muldoon, 2008). This was unique in that the purpose was not for research or program evaluation, but the papers were ultimately reviewed to determine recipients of recognition awards. The authors were interested in the experiences of the peer supporters, including their reasons for becoming a peer supporter, personal and professional gains, and perceived benefits for the future as a result of their participation. The description of survey respondents, methodological paradigm (interpretive/constructivist), questions asked, research purpose, and coding process into themes were all highlighted so readers could understand the qualitative

methodological process (Muldoon, 2008). Within the results sections, themes were described with numbers of students who voiced comments within that theme, quotes from students were included, and the peer supporters were even asked about their thoughts on writing the reflection journals themselves. The most relevant theme for this discussion was the section on what the 20 peer supporter participants gained. Seventeen students cited the benefit of being altruistic, other students stated that they made new friends (*n* = 11), learned a new, broad skillset (*n* = 10), mentoring skills (*n* = 13), communication skills (*n* = 4), and referral skills (*n* = 2), as well as time management skills. The results for this section seemed to overlap at times, such as the next example that 17 of the 20 participants shared they gained, "personal skills and qualities such as increased confidence, diplomacy, tolerance, patience, leadership, self-awareness, sensitivity, energy and enthusiasm" (Muldoon, 2008, p. 212). It is unclear how this theme emerged independently from the same number of 17 participants that cited the benefit of being altruistic. Within the altruistic theme were "six specific skills… communication skills, problem solving, lifelong learning skills, team skills, listening skills and negotiating skills" (Muldoon, 2008, p. 212). Peer supporters were also asked to rank specific skills that the program aimed to develop, the highest being communication skills (*n* = 18). Interestingly, in the previous section communication skills were only voluntarily mentioned by four out of 20 students, whereas when asked in the ranking, communication skills was listed as the strongest gain over teamwork skills (*n* = 12), social responsibility (*n* = 11), problem solving (*n* = 10), lifelong learning skills (*n* = 9) information literacy skills (*n* = 5), and global perspective (*n* = 1) (Muldoon, 2008). While it seems initially that this article is clear in its methodological plan, the write up makes the results challenging to disseminate. Overall, personal skills and qualities and communication skills summarize the majority of findings from this Australian study on academic peer supporters.

Hamid (2004) examined the experiences of academic peer leaders in a dissertation study and utilized a questionnaire that contained open-ended questions. The dissertation featured a qualitative design with multiple approaches and at multiple sites, all strengths of the research approach. The questionnaire contained 11 questions, which were all open-ended, and was tested on an initial group of peer leaders to verify the accuracy of what the questions were asking. This was considered the primary method of data collection and informed the questions asked during the later interviews (Hamid, 2004). Two key findings pertaining to the peer leaders' development were "confronting and overcoming obstacles in terms of time management, conflict resolution and setting boundaries" and "gaining personal, social, and career skills" (Hamid, 2004, p. 181). As discussed earlier, to develop one must face an upset in the current equilibrium and Hamid's (2004) study results showed how students were resilient and continued to serve in their positions even when encountering challenges, such as interpersonal conflict. Furthermore, 79 of the 83 peer leaders surveyed shared, "that being a peer leader had changed them significantly" (Hamid, 2004, p. 169). Students described changes in their sense of self, career choices, leadership style, communication skills, and being more culturally competent. While the author noted that these experiences could be descriptive of their individual institutions, as students from three programs were studied it is also possible that these outcomes may be relevant of the wider academic peer leader experience (Hamid, 2004). The questionnaire was provided in an appendix and overall this dissertation study provided a strong example of a qualitative approach to learn about peer leader development and experiences.

Shook (2010) examined how academic peer leaders connected their leadership experience to their own academic success, in comparison to non-academic peer leaders. She developed a mixed methods study which utilized secondary data from a national peer leader study with 1,748

student participants. The instrument asked about change in skills as a result of peer leadership and the open-ended questions inquired about the impact of peer leadership on academic performance. Her dissertation study found that academic peer leaders cited an improvement in their own academic performance, because of the knowledge of skills and resources gained specifically in course connections to majors and careers, time management, mentoring, and campus resources (Shook, 2010). Being a role model and mentor encouraged and motivated students to examine their own progress, aiming to inspire others with their success. Some students also cited benefits in personal qualities, such as their confidence level and self-understanding. One aspect of this research that is relevant to the current study is that academic peer leader responses were compared to non-academic peer leaders and statistically significant results demonstrated that their academic skills and performance were higher. The non-academic peer leaders were not trained, which is what Shook (2010) attributed as being the reason for the difference in results. Overall, this dissertation study concluded by encouraging scholars to continue to examine the development of peer leaders themselves.

The author did this herself when a couple of years later, she partnered with another researcher, Keup, to write an overview of the literature article on benefits of peer leader programs (Shook & Keup, 2012). Their review began with an overview on the impact of peer influence in college students and transitioned into summaries of literature on peer leadership outcomes from multiple perspectives. They highlighted benefits of peer leadership programs from the perspective of the students receiving services, the peer leaders themselves, and the institutions offering peer leader services. Additionally, the researchers described the value of experiential learning experiences for college students, particularly in the perspective of skills that employers are looking for in their new hires. Overall, they found that peer leaders, the majority

of whom surveyed served in academic roles, gained the ability to both apply new skills and also integrate their new skillsets in areas such as communication, empathy, confidence, and group facilitation (Shook & Keup, 2012).

Ongoing studies have continued to assess peer advisors, including end-of-semester survey feedback to learn about their experiences in the program, and ability to adequately advise students on a number of matters. For example, Kiyama and Luca (2014) found that peer advisors experienced the same benefits that students attending peer advising had, likely due to the training and institutional supports provided to them through their leadership in the program. Opportunities for reflection and ongoing training were recommended to continue to support the development of peer advisors in the program (Kiyama & Luca, 2014).

While many of the articles reviewed have been covered in this discussion, a brief summary of outcomes across these three dimensions is valuable for the broader field of peer leadership. Among this review of literature on outcomes of serving as a peer advisor are many commonalities. A common theme found was interpersonal skills, including communication, empathy, and cultural competency (Griffin et al., 2014; Hamid, 2004; Muldoon, 2008; Wawrzynski et al., 2011; Zevallos & Washburn, 2014). Second, peer leaders viewed their intrapersonal skills were strengthened, such as confidence and self-awareness (Diambra, 2003; Hamid, 2004; Muldoon, 2008; Wawrzynski et al., 2011; Zevallos & Washburn, 2014). Knowledge and informed decision making appeared as another outcome in multiple studies (Diambra, 2003; Griffin et al., 2014; Wawrzynski et al., 2011). The fourth major theme found in this review was professional and career skills (Diambra, 2003; Hamid, 2004; Wawrzynski et al., 2011; Zevallos & Washburn, 2014). Table 2.1 demonstrates the exact theme from each source examined in summarizing these themes. Evidence of positive outcomes continues to emerge, but

scholarly research has still been minimal, program specific, and often lacking explicit methodological plans. The present research study bridged both the theoretical and the ideological to contribute to the field and the practice of peer advising.

Table 2.1

Peer Advisor Summary of Outcomes

Source	Interpersonal skills	Intrapersonal skills	Knowledge	Professional Skills
Wawrzynski et al., 2011	humanitarianism & civic engagement	intrapersonal competence	cognitive complexity; knowledge acquisition	construction, integration, & application; practical competence
Diambra, 2003		intrapersonal skills	systemic planning	administrative skills; information skills; technology competency
Zevallos & Washburn, 2014	interpersonal connection; communication skills	confidence		leadership; professionalism
Muldoon, 2008	communication skills	personal skills & qualities		
Hamid, 2004	social skills	confronting and overcoming obstacles; personal skills		career skills
Griffin et al., 2014	engaged in the community; cultural competency		gaining knowledge	

The majority of evidence indicated that peer advisors consistently describe positive benefits related to their role. The greatest challenge in understanding the outcome data are the limitations of the studies themselves and the lack of focus specifically on peer advisors, compared to broader groups of peer leaders or peer educators. Overall, it is clear that serving as a peer advisor serves college students in multiple ways, although many outcomes could be described as relating to psychosocial development as the present study has focused on.

Conclusion

The value of this research study is situated in the body of literature on college student development, focusing in on psychosocial development, and understanding the history and impact of peer advising in higher education. The nature of the peer advising role as a mentoring and leadership opportunity situated in an academic context appeared to provide a unique opportunity in which students build relationships, engage in self-assessment, and strengthen their communication and helping skills. These outcomes match closely with the summative definition of psychosocial development discussed earlier: changes in the self and identity formation, as well as relational development and the ability to connect with multiple relational systems (Mayhew et al., 2016). While there are commonalities, this study quantified peer advisor progress toward meeting three aspects of psychosocial development based on Chickering's vectors. Given the review of the literature which used various terminologies for psychosocial development, this study focused in on a group of students that have a similar role across institutions and identified a common language of their progress toward psychosocial development. Additionally, this study examined if peer advisors' experiences are truly unique compared to that of regular college students. The four research questions highlighted the purpose for this study and the methods discussion will further describe how.

CHAPTER 3: METHODOLOGY

In a call for assessment on student development that met goals of both pragmatism and research, Mines (1982) signaled for techniques that were stringently evaluated prior to utilization in research, but that also addressed student development programming. The present study was developed to contribute simultaneously to two demands: First, to understand psychosocial development levels of academic peer advisors in higher education, including differences among racial and cultural backgrounds, as well as number of terms served as a peer advisor. Second, to compare peer advisor psychosocial development levels to secondary data of a normed college student population. A cross-sectional, quantitative approach with a standardized instrument was utilized for a dual purpose of descriptive and comparative value. Peer advisors at a diverse range of institutions from across the United States completed the Student Developmental Task and Lifestyle Assessment (SDTLA; Winston et al., 1999b), an instrument based off of three vectors from Chickering's Theory of Identity Development (Chickering & Reisser, 1993).

The first three research questions investigated how the experience of serving as a peer advisor impacted progress toward three psychosocial developmental tasks.

1. How do peer advisors score, by class level and gender identity, on the psychosocial developmental tasks of Establishing and Clarifying Purpose, Developing Autonomy, and Mature Interpersonal Relationships, as measured by the SDTLA?
2. What are the differences in scores for peer advisors of different racial and cultural backgrounds on the psychosocial developmental tasks of Establishing and Clarifying Purpose, Developing Autonomy, and Mature Interpersonal Relationships, as measured by the SDTLA?

3. How does number of academic year terms served as a peer advisor impact progress on the psychosocial developmental tasks of Establishing and Clarifying Purpose, Developing Autonomy, and Mature Interpersonal Relationships, as measured by the SDTLA?

The last research question then compared the group of peer advisors to a normed set of college students, data provided by the SDTLA survey developers.

4. Do peer advisors demonstrate more advanced progress toward the psychosocial developmental tasks of Establishing and Clarifying Purpose, Developing Autonomy, and Mature Interpersonal Relationships, as measured by the SDTLA, compared to a normative sample of college students?

Each of these research questions were explored utilizing gender and class standing as contributing variables due to past research indicating the response differences in these identity groups on psychosocial development measures (Belenky et al., 1986; Chickering & Reisser, 1993; Jones & Watt, 2001; Wachs & Cooper, 2002; Winston et al., 1999a). The four research questions addressed practitioner interests while also contributing to the larger field of higher education research. Explanations and evidence of the methodological decisions conducted in the creation of this design were reviewed to demonstrate the value of this research.

Participants

Participants were 153 undergraduates at 59 higher education institutions from 28 states across the United States. All participants certified that their role met the same definition: "Peer advisors are undergraduate students who are trained in a variety of academic programs and who assist fellow students with class scheduling, time management, and program progression issues" (Diambra & Cole-Zakrzewski, 2002, p. 56). All participants were adults at least 18 years of age. Participants all had served as a peer advisor for at least one full academic year term, with some

completing as many as seven or more terms as a peer advisor. Even though this stringent level of peer advisor selection may have reduced the number of participant responses, it was more important to have a smaller pool of higher quality data rather than a larger pool of participants that did not reflect the intended target group (Punch, 2003). Participants who did not complete at least 88% of any subtask or task were excluded from the analysis of that section, which for the subtasks ranged between eight and fifteen questions minimum answered, 22 items minimum for the MIR task, and 45 questions minimum for each the PUR and AUT tasks.

The peer advisors who participated in the study were considered a representative sample of the greater population of peer advisors (Creswell, 2012). By utilizing a clear definition of peer advisor and requiring a minimum peer advising involvement of at least one academic year term, the defining characteristics that would reflect the entire population created the sample basis. However, because this study did not select peer advisor participants in the target population, but included peer advisors from institutions that elected to participate, this participant pool was considered nonprobability or convenience sampling (Creswell, 2012).

In addition to the data collected directly from peer advisor participants, a set of secondary data were utilized to answer the fourth research question. Their mean scores and standard deviations were provided as a normative sample of college students' scores on the SDTLA and were utilized in this study as a comparison participant pool, named the 'normative sample' by the survey developers. Incorporating survey design which utilized secondary data normed on over 800 college students increased the likelihood of generalizability to the sample population of peer advisors studied in the present research study. The survey research design also provided for the opportunity to access peer advisors across multiple institutions (Koh & Owen, 2000). By including multiple institutions instead of a single peer advising program, the ability to provide

more generalizable results for diverse students and regions was a valuable contribution to the peer advising research (Evans et al., 2009).

Informed consent. This research provided minimal risks to participants and thus utilized one question at the beginning of the survey to request consent. Therefore, a waiver of documentation of informed consent was incorporated as participants simply selected yes to provide consent. Students who selected no were not able to continue with the online survey. The notice of informed consent is available in Appendix C.

Instrumentation

There were a number of advantages to utilizing a designated instrument, such as for future use in research and for pragmatic purposes. This integration of theory and practice brought dual value to the profession of higher education and serving both priorities was important (Evans et al., 2009). Almost all of the previous quantitative peer advising research focusing on developmental outcomes consisted of questions that practitioners developed solely for the use of a program evaluation with their own students.

Creswell (2012) recommended several criteria for evaluating the selection of and quality of a good instrument for a study. The Student Developmental Task and Lifestyle Assessment (SDTLA) was created in 1999, with normative data provided between 2007 and 2011, seven years ago. Creswell (2012) warns that survey instruments over five years old could be considered outdated, certainly a major limitation of this decision. Other factors that strengthened the reasoning for the selection of the SDTLA in this study were the reliability and validity found both by the survey researchers and by continued use in research (Jones & Watt, 2001; Wachs & Cooper, 2002). The five conditions for evaluating an instrument for reliability and validity before utilization (Creswell, 2012) were each met with the SDTLA, with the survey researchers having

checked for multiple forms of both, provided coefficients, and had overall positive, high coefficients with the exception of two of the ten subtasks.

Updated in 1999 after three previous versions, the SDTLA (Winston et al., 1999b) measured three developmental tasks for college students, ages 17 to 24. Previous editions included the Student Developmental Task and Inventory (SDTI; utilized in Foubert et al., 2005; Foubert & Urbanski, 2006; Holland & Huba, 1989; Straub & Rodgers, 1986), Student Developmental Task and Inventory-2 (STDI-2; utilized in Greeley & Tinsley, 1988; Mines, 1982; Stonewater, Daniels, & Heischmidt, 1986), and Student Developmental Task and Lifestyle Inventory (STDLI; utilized in Hess & Winston, 1995; Long, Sowa, & Niles, 1995; Martin, 2000; Sheehan & Pearson, 1995).

The SDTI-2 (second version of the SDTLA) was reviewed by Mines (1982), who reported good instrumentation and initial validity, but also highlighted areas that would strengthen the assessment. He suggested that the instrument not solely focus on behavioral indicators and include specific scales to understand development. Additional feedback expressed frustration that no determined levels at which a student has completed each developmental task were provided, which reflected an ongoing issue with understanding college student development (Mines, 1982). As discussed previously, theories and frameworks of development often represent progress toward developmental tasks but are unable to clearly demonstrate completion or achievement of these tasks.

An additional study independently reviewed the SDTI-2 in 1986 utilizing four pilot studies, two of which tested the reliability and two which tested the validity of the measure (Stonewater et al., 1986). Results of the studies suggested that the majority of the tasks and subtasks were considered to be reliable and valid, but five of them would benefit from

restructuring to improve internal consistency. The issue of response type and choice was also raised as this version prevented students from answering all of the scale questions, allowing only students who advanced on the developmental task to answer the rest of the questions. Cronbach's alpha was utilized to demonstrate internal consistency in the SDTI-2, which the authors of this study explained that it was not an appropriate use of the statistic because not all participants were able to complete all questions (Stonewater et al., 1986). One of the four pilot studies in this article was an experiment with participants in a control and experimental group. A significant main effect demonstrated that students responded in an effort to appear socially desirable to potential employers and that there was no response bias difference distinguished by sex (Stonewater et al., 1986). Both males and females were responding in these socially desirable ways to the instrument questions on the SDTI-2 in this pilot study. Overall, students were not always providing an accurate self-assessment to make themselves come across as perfect candidates, rather than a truthful account of their current developmental stage. Despite concerns and suggestions for future improvement, the researchers still highlighted the SDTI-2 as "a widely used and accepted measure of selected aspects of psychosocial development" (Stonewater et al., 1986, p. 74).

To further understand the scale development, differences between the SDTLI (third version) and SDTLA (fourth, current version) were reviewed. The SDTLI consisted of 140 true-false questions and among the three developmental tasks, also included an intimacy subtask and first introduced the Response Bias scale. Buros Center for Testing reviewed only the SDTLI in the Mental Measurements Yearbook and these reviews are discussed further.

Henning-Stout (1992), an Assistant Professor of Counseling Psychology at Lewis and Clark College, examined the SDTLI as part of a formal test review through the Buros Center for

Testing Mental Measurements Yearbook. Feedback was discussed regarding the potential utilization of the instrument for research purposes, establishment of reliability and validity, and relationship to Chickering's developmental vectors. A limitation raised was regarding the standardization of the normed sample provided, since the socioeconomic status of participants was not disclosed, and minimal demographic information overall was given (Henning-Stout, 1992). Selection of participants and distribution of the instrument for testing were not included in the participant demographics and a limited number of participants were from the Western United States (5%), with most of the participants being from the Southeastern United States (33%). Additionally, demographic statistics, such as gender, ethnicity, and region participants were from differed among groups and were not explained further by the survey developers. Overall, the test reviewer noted no apparent sources of bias on behalf of the survey developers but indicated a reminder that Chickering's vectors were based primarily on male college students. Research on psychosocial development outside of studies conducted on men was recommended by Henning-Stout (1992), especially since the majority of participants in the SDTLI-2 development were women. Future use of the SDTLI-2 in research was noted as "excellent" as a "psychometrically sound inventory" (Henning-Stout, 1992, p. 5).

One additional, formal test review was conducted through the Buros Center for Testing Mental Measurements Yearbook by Porterfield (1992), who was an Assistant Professor of Educational Administration at the Ohio State University. Porterfield (1992) shared the importance of the survey researchers disclosing the values inherent in the instrument, as well as its establishment in a middle-class construct. The rest of the review is a summary of features provided in the instrument technical manual, such as the instrument consisting of solely true and false questions and concluded with the instrument being described as "one of the more valid and

reliable measures of Chickering's vectors of college student development" (Porterfield, 1992, pp. 7-8).

The instrument utilized in the present study is the fourth version of the original with efforts to improve response options and psychometric properties based on utilization of each instrument edition. As the fourth update, the SDTLA reflected these improvements and the data recording procedures fit with the research questions in the present study. The SDTLA included 153 questions, with 21 True/False and 132 as multiple choice with four or five answer choices. This update addressed the concern of having only true/false response options and students not being allowed to progress through the entire set of questions. This also created the opportunity for the survey developers to utilize Cronbach's alpha as an appropriate statistic to evaluate the internal consistency of the revised SDTLA survey. Additionally, the consistency of the tasks was revisited with questions being added or changed to increase levels of internal consistency. The intimacy subtask was completely removed due to a dissertation study which reflected that "the SDTLA approach was not adequate to the measurement of intimacy with young adult college students" (Winston et al., 1999a, p. 3). Additionally, due to concerns of social desirability raised by Stonewater and colleagues (1986), a Response Bias scale was included. The Response Bias scale was intended to monitor students who were only responding based on how they hoped to come across, rather than based on their actual responses. The Response Bias scale was further detailed in the instrument description.

The implicit value stance of the SDTLA instrument was demonstrated through developmental principles described in the technical manual. The survey developers stated that "college students should be seen as changing individuals engaged in a series of developmental tasks" (Winston et al., 1999a, p. 8). Additionally, they shared three principles of development

which enforced the basis for the SDTLA: continuous cumulative, and continuum. This reflected the perspective inherent in the instrument that growth is ongoing, that previous growth impacts future growth, and that development moves from simple to complex. Overall, the survey developers shared their value stance that college students are exposed to an environment which impacts their development and can provide them with new ways of learning, behaving, and teaching them how to participate responsibly in society and engage in further experiences, which support their development (Winston et al., 1999a).

A clear purpose for the SDTLA has been developed as providing "an assessment tool and procedure that educational practitioners can use with young adult college students to facilitate development of life purpose, mature interpersonal relationships, and academic autonomy" (Winston et al., 1999a, p. 4). Earlier forms of the instrument were intended for individual college students to be informed of their results, but the updates in the SDTLA lent itself to strong psychometric properties that enabled it to serve as a useful instrument in research (Winston et al., 1999a). The SDTLA can be utilized for both idiographic (in practice, for individual students) and normative (in research, for examining groups of students) approaches. This research study took a normative approach in which peer advisors across multiple institutions were surveyed.

To test the scale, the survey developers of the SDTLA initially collected data in 1999 from 1,458 students through convenience samples in the United States and Canada (Winston et al., 1999a). This included 31 colleges and universities, which consisted of 39 four-year colleges and three two-year colleges. Twenty of the four-year colleges were private and 19 were public, demonstrating a range of institutions. To update the normative sample data, additional groups of opportunity were utilized to collect data from over 800 undergraduate students in higher education between 2007 and 2011. The normative data set provided for comparative value and

included 800 randomly selected participants, among eight categories of gender and class standing. Institution type and number were not provided for the data set from 2007 to 2011, utilized in this study. The large data pool and developed normative scores provided an opportunity for this study to compare peer advisor participant scores to the normative data set, rather than including a control group that would have likely been smaller in number and institutional difference. Baseline information that was already developed created an opportunity for the sample of peer advisors in the current study to be compared against acceptable outcome thresholds that were already normed in a sample of college students (Robbins, 2009). As this was the first time a sample of peer advisors were assessed in this way, the benchmarked data had more value than a created control group or arbitrary level indicating higher levels of development (Robbins, 2009).

The SDTLA technical manual provided information as to how various demographic groups (age, gender, ethnicity) responded to the SDTLA. To examine age, Pearson product-moment correlations were utilized with each task and subtask leading to a range between $r = .33$ for the strongest correlation and $r = -.01$as the weakest. This represented extremely low correlations between age and SDTLA responses, which means that simply aging did not predict more advanced demonstration of psychosocial development, as measured by the SDTLA. A greater predictor instead of age was class standing. While class standing was connected to age ($r = .82$), students must have been progressing in their college degree attainment to achieve higher levels of class standing rather than simply growing older. The normative sample demonstrated that class standing must be examined separately to adequately assess progression toward the developmental tasks assessed in the SDTLA (Winston et al., 1999a).

Similarly, sex also must be assessed independently due to established gender differences in performance on the SDTLA. To lead to this determination, a two-way analysis of covariance was calculated and women scored higher on every developmental task and subtask in the 1999 normative sample, although none were statistically significant (Winston et al., 1999a). Women scored at the same level or higher on the majority of measures in the normative sample from 2007 to 2011, but male juniors scored higher on two tasks (Developing Autonomy, Mature Interpersonal Relationships) and three subtasks (Tolerance, Emotional Autonomy, Interdependence) (Winston et al., 1999a). Even without statistical significance for gender differences, due to the pattern the survey developers believe that both class standing and gender should be reviewed independently when calculating standard scores and interpreting results from the SDTLA.

Next, ethnicity was examined as an independent variable for African American/Black students and Caucasian/White students in a two-way analysis of covariance. Sufficient data was not available in the 1999 normative sample to examine other racial/cultural groups. Ethnicity was not determined to require independent analysis in the SDTLA data analysis and result reporting due to varied findings. African American/Black students scored higher (with statistical significance) on the Mature Interpersonal Relationships task and its two subtasks. Caucasian/White students scored higher (with statistical significance) on two subtasks. Therefore, five of the measures demonstrated differences without a specific pattern of one group solely scoring higher than the other. The survey developers speculated that White/Caucasian students may have scored at a higher level in Cultural Participation because many of the cultural events offered at college campuses in 1999 reflected majority group (White) members, which Black/African-American students may not have seen as being relevant (Winston et al., 1999a).

No other conjectures regarding the statistically significant differences were made by the survey developers, but this gap of understanding will be examined further as part of research question two in the present study.

Eleven studies from previous research that utilized the SDTLA instrument had between 48 and 582 participants: 48 participants (Campbell, 2002); 80 (Tatum, 2003); 90 (Palmer & Taylor, 2013); 142 (Watt & Vodanovich, 1999); 153 (Wiedenhoeft, 2011), 168 (Macari et al., 2005); 182 (Jones & Watt, 2001); 188 (Wachs & Cooper, 2002); 240 (Armstrong, 2006); 248 (Perlman, 2011), and an eleventh larger study having 582 participants (Waller, 2015). Excluding the outlier from Waller (2015) with 582 participants, the average size for a study utilizing the SDTLA was 153.9 participants. Keeping the sample sizes from previous literature in consideration, the survey in the present study remained open until a goal of 120 fully completed surveys was surpassed.

The most current practitioner use found for the SDTLA was in fall of 2018 at a psychological testing service offered to college students online and with debriefing workshops by the City University of Hong Kong as a personal development and goal setting tool (City University of Hong Kong, 2015). The SDTLA was publicly available and free without any special permissions required, so it was highly likely that other practitioners had been utilizing the SDTLA instrument as well.

Multiple studies had utilized the most recent version of the SDTLA in research on college students to understand progression toward the three development tasks in the instrument (Armstrong, 2006; Campbell, 2002; Jones & Watt, 2001; Kelsey & Sexten, 2003; Macari et al., 2005; Palmer & Taylor, 2013; Perlman, 2011; Tatum, 2003; Wachs & Cooper, 2002; Waller, 2015; Watt & Vodanovich, 1999; Wiedenhoeft, 2011), although none had examined peer leaders.

In chronological order, Watt and Vodanovich (1999) studied a connection between development and boredom proneness; Jones and Watt (2001) studied development and moral orientation in regards to gender and class standing; Campbell (2002) surveyed undergraduate employees; Wachs and Cooper (2002) conducted a validation study with a pre-test and post-test at the beginning and end of college; Tatum (2003) examined the development of upper-class intercollegiate football players; Kelsey and Sexten (2003) assessed an agricultural residential learning community; Macari and colleagues (2005) examined a nontraditional college student group; Armstrong (2006) compared the impact of three different service learning models; Wiedenhoeft (2011) examined a connection between study abroad program design and development; Perlman (2011) researched development in a second-year engagement program; Palmer and Taylor (2013) sampled Black engineering students to examine differences among class standing and identity development; and Waller (2015) studied first-year engineering students in residential learning communities.

In March of 2014, the copyright owners of the SDTLA, Appalachian State University, discontinued the administration and scoring of the SDTLA. The website stated in fall of 2018 that “The SDTLA instrument, manual, and answer key are offered here to users free of charge on an "as is" basis for non-profit educational and research purposes only. Accuracy of these materials or the soundness of their psychometric properties is neither guaranteed nor implied. No warranties, express or implied, including warranties of merchantability and fitness for a particular use are made to any user of these materials. Users may choose to modify the instrument or adapt it for their own purposes” (Winston et al., 1999b). A request for raw data of the normed college student results was never responded to and thus, this study created a research plan which utilized the publicly available instrument and only the mean, standard deviations, and

number of participants grouped by gender and class standing that were available in the normed college student data.

The original SDTLA instrument consisted of 153 questions and the survey developers estimated it would take 25-35 minutes to complete (Winston et al., 1999a). This provided a range from 9.8 seconds to 13.7 seconds to answer each question. With the Salubrious Lifestyle questions (an additional scale not part of the developmental tasks) and 4 research questions (survey no longer having data collected by the owners) removed, this eliminated 21 questions. The adapted instrument in this study was 132 questions total. Therefore, adapting the response time per question with the adapted instrument it was a range of 21.5 to 30 minutes to complete the study. The estimated survey time was important because it may have encouraged more students to apply if it was shorter. Given the detail of the range, an estimate of 20-30 minutes was provided to participants. The SDTLA was based on a reading level between 11.2 and 11.5 (Winston et al., 1999a), which is a few grades lower than the intended participant pool of this study so the majority of participants were likely able to complete the survey within the given timeframe.

The instrument (Appendix D), technical manual, score key (Appendix E), and normed data (Appendix F) were available online, as of spring 2019, at https://sdtla.appstate.edu/materials, available free of charge to users (Winston et al., 1999b).

Scoring. The score key is provided in Appendix E. Details regarding the scoring of the SDTLA were provided in the 1999 technical manual for normative interpretation, which involved converting the raw scores to standardized scores (Winston et al., 1999a). Scores were converted to consider both gender and class standing separately, because norms were created separately for men and for women due to the gender differences that have been shown in

measures of psychosocial development (Jones & Watt, 2001; Winston et al., 1999a). Class standing was also essential to evaluate distinctly when scoring the SDTLA, as significant differences had been found based on year in college, although not among age of student (Wachs & Cooper, 2002; Winston et al., 1999a). Two tables reflecting the normative scores for 800 college students on the SDTLA between 2007 and 2011 (Winston et al., 1999b) are provided in Appendix F.

The questions in the SDTLA were all choice selections with as many as five letter options. To score, a key was provided so that for each question an appropriate number of points was awarded. The point system was not standard throughout (A was not always 1), so it was essential to follow the score key for every question to interpret accurate results. The Salubrious Lifestyle scale and the four experimental questions were not included in the adapted, online SDTLA utilized in this study and, therefore, were also not scored. The total number of items was 132, plus a 10-question demographic questionnaire discussed further below.

Reliability. Test-retest reliability and internal consistency were both utilized to inform the reliability of the SDTLA. Cronbach's Alpha coefficient ranges between 0 and 1, with correlations of 0.6 or lower having questionable internal consistency of the scale, 0.7 being acceptable, 0.8 as good, and 0.9 or higher as excellent (Gliem & Gliem, 2003). Because psychosocial development was not expected to change over a short period, test-retest reliability was conducted over a period of four weeks among three groups of students at two different institutions (Winston et al., 1999a). Pearson product-moment correlations were provided for each aspect of the measure, with correlations ranging from 0.70 to 0.89 indicating stability over this short four-week time period. (Winston et al., 1999a). Cronbach's Alpha coefficients for internal consistency ranged from 0.88 to 0.62, based on almost 2,000 students at 32 institutions.

Two subtasks had lower Alpha coefficients, indicating that Instrumental Autonomy (0.62) and Peer Relationships (0.65) should not serve as dependent variables and scores should be evaluated cautiously, especially with smaller sample sizes (Winston et al., 1999a). The reliability of the three tasks was moderately strong at 0.81 (Establishing and Clarifying Purpose), 0.88 (Developing Autonomy), and 0.76 (Mature Interpersonal Relationships) (Winston et al., 1999a), which were the focus of the research questions in the present study.

Watt and Vodanovich (1999) also examined reliability scores between 0.55 (Instrumental Autonomy) and 0.91, reflecting consistent levels as the two previous studies across the three developmental tasks and additional subtasks. However, the Response Bias scale was found to have extremely low reliability at $r = 0.17$ (Watt & Vodanovich, 1999). The reliability of the three tasks was found to be moderately strong at 0.91 (Establishing and Clarifying Purpose), 0.86 (Developing Autonomy), and 0.75 (Mature Interpersonal Relationships), demonstrating robust evidence of reliability for the three tasks from another research study and concerns for the Response Bias scale (Watt & Vodanovich, 1999).

Similarly, Jones and Watt (2001) found scale and subscale reliability scores between 0.55 (Instrumental Autonomy subtask) and 0.90, which the researchers deemed to be sufficient with the exception of the Response Bias scale (0.34), which was not part of the three developmental tasks. The reliability of the three tasks was again moderately strong at 0.90 (Establishing and Clarifying Purpose), 0.86 (Developing Autonomy), and 0.72 (Mature Interpersonal Relationships) (Jones & Watt, 2001), providing a third account of the acceptability to investigate these three developmental tasks as research questions in the present study.

A more recent dissertation study also examined reliability when comparing the impact of study abroad experiences and psychosocial development and found scores between 0.55 (Peer

Relationships subtask) and 0.90 (Wiedenhoeft, 2011). Similar to the previous studies, the tasks had stronger reliability coefficients than the subtasks did: 0.90 (Establishing and Clarifying Purpose), 0.86 (Developing Autonomy), and 0.65 (Mature Interpersonal Relationships).

While each task had its own subtasks, two subtasks were not found to have as strong of internal consistency and were not recommended to be utilized in gathering statistical significance (Winston et al., 1999a). Instrumental Autonomy ranged from 0.55 to 0.62 and Peer Relationships ranged from 0.60 to 0.65 across three separate research studies (Jones & Watt, 2001; Watt & Vodanovich, 1999; Winston et al., 1999a). Other research studies utilizing the SDTLA did not provide results regarding the reliability of the instrument in their findings (Macari et al., 2005; Wachs & Cooper, 2002). Therefore, the three research questions evaluated will be based on the three developmental tasks and the 10 subtasks will be reviewed, but interpreted with caution.

This study utilized Cronbach's Alpha coefficient to investigate the internal consistency of the instrument among the group of peer advisors to demonstrate continued reliability of the SDTLA.

Validity. Due to the nature of developmental tasks and advanced development in one task impacting more accomplishments in other developmental tasks, it can be difficult to isolate each task, as it would be expected that correlations between similar tasks would be high (Winston et al., 1999a). As anticipated, the SDTLA technical manual provided intercorrelations among 1,822 respondents that were found to be moderately correlated with each other (Winston et al., 1999a). The Developing Autonomy task had intercorrelations between 0.50 and 0.62 for its four subtasks of Emotional Autonomy, Interdependence, Academic Autonomy, and Instrumental Autonomy. The Establishing and Clarifying Purpose task had intercorrelations between 0.71 and 0.78 for three of its subtasks of Educational Involvement, Career Planning, Lifestyle Planning,

and an intercorrelation of 0.48 for Cultural Participation. Lastly, the Mature Interpersonal Relationships task had intercorrelations of 0.53 for Peer Relationships and 0.54 for Tolerance, the two subtasks that make up the task (Winston et al., 1999a). These interrelationships provided one estimate of validity for the SDTLA utilizing intercorrelations between tasks and subtasks.

Second, construct validity was demonstrated in the SDTLA technical manual through utilizing various scales in comparison to the three developmental tasks in the SDTLA (Winston et al., 1999a). Six scales were employed to validate the constructs being assessed in the Establishing and Clarifying Purpose task (Winston et al., 1999a). These six scales were the Career Exploration Scale from Career Development Inventory with a correlation of 0.53, Classroom Learning Scale from College Student Experiences with a correlation of 0.33, Experiences with Faculty Scale from College Student Experiences with a correlation of 0.44, Life Skills Development Inventory with a correlation of 0.45, Art, Music, and Theater Scale from College Student Experiences with a correlation of 0.40, and the Problem Solving and Decision Making Scale from Life Skills Development Inventory with a correlation of 0.47 (Winston et al., 1999a). Each of these scales provided varying indications of the construct validity for the Establishing and Clarifying Purpose task of the SDTLA.

Construct validity of the Developing Autonomy task and subtasks were compared in the SDTLA technical manual to three scales from the College Student Questionnaire. The Georgia Autonomy Scales had a correlation of 0.56, the Family Independence Scale had a correlation of 0.37, and the Study Habits Scale had a correlation of 0.39 to the Developing Autonomy task (Winston et al., 1999a).

The third developmental task of Mature Interpersonal Relationships and its subtasks were compared to the total score and other group subscale from the Multi-group Ethnic Identity

Measure. Correlations for the full task were found to be 0.58 for the total score and 0.41 for the other group subscale (Winston et al., 1999a).

While the correlations of individual scales were reviewed in consideration of each developmental task, it is important to note that in many cases the correlations were much higher for specific subtasks within the developmental task. All correlations representing the construct validity of the three developmental tasks were considered to be moderate to strong and were available in the SDTLA technical manual (Winston et al., 1999a).

Wachs and Cooper (2002) conducted a study to provide further evidence for the construct validity of the SDTLA over a longitudinal study. The participants in this study were part of the normative study that led to the creation of the SDTLA at one institution who were then assessed four years later as seniors. Therefore, data from 188 students were utilized to examine differences in responses between their freshman and senior year responses to the SDTLA. Paired t-tests were utilized and demonstrated significant increases in progress toward the three developmental tasks between freshman and senior year. There was a significant difference in the scores for the Establishing and Clarifying Purpose task between freshmen year (M = 2.84, SD = 0.62) and senior year (M = 3.57, SD = 0.56) conditions; t(188)=17.16, $p < .001$. Significant differences were also found for the Developing Autonomy task between freshmen year (M = 3.41, SD = 0.39) and senior year (M = 3.65, SD = 0.37) conditions; t(188)=8.16, $p < .001$. Third, significant differences were found for the Mature Interpersonal Relationships task between freshmen year (M = 3.46, SD = 0.54) and senior year (M = 3.79, SD = 0.48) conditions; t(188)=9.26, $p < .001$. Wachs and Cooper (2002) determined that the three developmental tasks did reflect longitudinal developmental growth indicating construct validity, while the Salubrious

Lifestyle extra scale (which does not measure any developmental tasks and is not included in the present study) did not.

Instrument Analyses. When considering which data analyses would be most appropriate to answer research questions two, three, and four, past literature was evaluated to identify other studies which examined the SDTLA for research purposes. The SDTLA required that class standing and gender be considered as separate entities due to the group differences, so they needed to serve as covariates or independent variables in a statistical assessment.

When reviewing the literature for similar methodological approaches to research questions two and three in the present study, two studies had focused solely on a research perspective. These two studies ran statistics using a multivariate analysis of covariance (MANCOVA) in analysis of the SDTLA with age and class standing as covariates to test for the effect of gender (independent variable) on psychosocial development among the various subtasks in the SDTLA (the dependent variables) (Jones & Watt, 2001; Watt & Vodanovich, 1999). A multivariate design indicates that there are multiple dependent variables that should be evaluated in one statistical analysis and include a covariate variable that enables the researcher to control for a variable that exists across all participants (Schwartz, Wilson, & Goff, 2015). Jones and Watt (2001) continued with a second MANCOVA to apply age and gender as covariates to test for the effect of class standing on psychosocial development. Levels of significance were provided along with average scores (Jones & Watt, 2001). The goals of Jones and Watt (2001) were to examine the effects of gender and class standing on psychosocial development and the goals of Watt and Vodanovich (1999) were to study score differences between men and women. Therefore, the MANCOVA was an appropriate statistical tool to employ in these scenarios. However, Jones and Watt (2001) also utilized ANOVA analyses and found a number of

significant factors when utilizing the SDTLA tasks and subtasks as individual dependent variables.

A third research study utilized a similar statistical approach, a MANOVA, to examine identity development of Black engineering students at one Historically Black College/University (Palmer & Taylor, 2013). The goal of the study was to understand achievement toward the 10 developmental subtasks as students moved further into their college career. In this study, data from 90 participants were examined with three independent variables (gender, class standing, and grade point average) and ten dependent variables (ten subtasks of the SDTLA). Palmer and Taylor (2013) found that for three subtasks (Career Planning, Emotional Autonomy, and Academic Involvement), development spiked in the sophomore population and decreased for upper-classmen. Although this study focused on engineering students at a Historically Black College, the methodological approach closely mirrored the focus of research questions two and three in the present study.

In addition to Jones and Watt (2001), an ANOVA was also utilized in a study that compared football participation to traditional college students (Tatum, 2003). Tatum (2003) examined one independent variable (participators and non-participators in football) to fourteen outcomes, all tasks or scales from the SDTLA, through individual ANOVA tests. Due to a small sample size of 79 total participants (two groups of 23 and 56 made up the independent variable), a significance level of .10 was established. One scale was found to be significant, Establishing and Clarifying Purpose, and three subtasks were also significant: Career Planning, Lifestyle Planning, and Peer Relationships. Additionally, Tatum (2003) conducted a MANOVA which tested the same independent variable on the fourteen outcomes, in one statistical analysis. No significance was found from the MANOVA results. This study did not take into consideration

the variables of gender and class standing, which the SDTLA survey developers recommended to be included as part of statistical analyses due to the significant impact they have on psychosocial outcomes.

Another study utilized a 2x2 ANOVA and multiple regressions to examine the effect of a residential learning community experience over the course of a year (Waller, 2015). Waller examined six independent variables and one dependent variable (Mature Interpersonal Relationships task). Among the independent variables was race/ethnicity, although the researcher split up the participant data into White or Caucasian/European and Underrepresented when including it as a variable. Waller (2015) also followed the recommendations of the survey developers by examining solely the SDTLA outcomes as the task level, not the subtask level due to the lower reliability coefficients that had been demonstrated for the subtasks. The researcher also used the more common .05 significance level when evaluating the results. In this study, one of the research questions sought to examine the combination of independent variables and, therefore, regression analyses were also utilized (Waller, 2015).

In a dissertation study focused on study abroad experiences (Wiedenhoeft, 2011), raw data was utilized from the normed population of college students to run paired sample t-tests, ANOVA, chi-square, and a regression analysis. This study investigated the relationships between class standing and pre-abroad scores, two months upon returning and one year after students studied abroad in a cross-sectional study. A small sample size of 105 was described as impacting the lack of significant results and reason for a broad array of statistical analyses employed (Wiedenhoeft, 2011).

The most similar methodological approach to answer research question four in the present study was a dissertation conducted by Campbell (2002) which utilized the older version

of the normed college student data from 1999 to compare undergraduate student employees who worked part-time in the student union at the University of Akron. In the author's 12 research questions, she investigated developmental differences between gender and years of employment experience in the sample of student employees. Lastly, the researcher compared student employees to the 1999 norms provided in the SDTLA technical manual (Campbell, 2002). This study was similar in that the use of the normed data provided by the SDTLA research team was utilized, which had the benefit of being a large sample and already collected, publicly available data. While the normed data was updated with student responses from 2007 to 2011, the comparative use is similar by developing standard scores and calculating effect sizes for comparison, as discussed further in the data analysis section. This study was different in the value from the present study of collecting national data for a defined group that existed across institutions, providing future opportunities for practitioner usage of the results.

Overall, these examples from the literature helped to guide the data analysis conducted in the present study and were discussed later in this chapter.

Demographic questionnaire. Nine questions were included in the original SDTLA instrument, however only four of those questions were incorporated in the present study. Questions removed include name, birth date, and identification number as this study did not need to collect any identifying information for its research purposes. Additionally, the question inquiring how many semesters the student has attended college thus far was removed as it was covered in a newly added question. Lastly, the question regarding place of residence in college was removed as the information was not pertinent to the present study. The retained questions were those that asked about sex, racial/cultural background, academic class standing, and international student status.

Six demographic questions were also added by the researcher, for a total of ten demographic questions. Three of these questions were at the beginning of the survey, which inquired if the participant agreed their role had met the described definition of peer advisor, how many terms they had served as a peer advisor, and an open-ended response to list the institution they were enrolled at. Students had to select that they had served as a peer advisor for at least one academic year term to capture students that had completed a minimum amount of peer advising beyond solely training or a partial semester. The purpose of this was to portray the developmental impact of serving as a peer advisor, not the developmental impact of a specific model of training or personality type that seeks out peer advising. Additionally, the SDTLA required for some of its questions that students had attended college for a minimum of four weeks. This addition to the demographic questionnaire covered the four-week minimum by ensuring participants had been at college for at least a full academic year term. Participants were asked to list which institution they attended to track how representative the peer advisor sample was of a national study, one of the goals for this research.

An additional three demographic questions were added at the end of the study as optional responses to provide context for the participant demographics: what was their college major, what one or two other activities they were enrolled in other than peer advising, and if they intended to continue serving as a peer advisor. College major was requested to gather more information about traits and choices made by students to indicate any trends in students who choose to become peer advisors and to understand how that may impact their levels of psychosocial development. For example, if the majority of students were in helping profession majors (nursing, counseling, human development) scores on the SDTLA may be representing more than solely the impact of serving as a peer advisor. Similarly, requests for one to two

additional areas of involvement indicated if the peer advisors were grouped in another way, such as Greek life or athletics which may be other indicators of their responses. The last demographic question added was to inquire if students were planning to continue serving as a peer advisor, with options to address if they simply did not want to continue versus if they were graduating or studying abroad and unable to continue. The purpose of this question was to check for any data that may be skewed based on a student having a poor experience as a peer advisor. The demographic questionnaire consisted of ten total questions and is available in Appendix D.

Design

Cross-sectional, survey research has been considered the most common form of research design in education (Buchanan & Hvizdak, 2009; Creswell, 2012). A cross-sectional study measures current attitudes, opinions, beliefs, or practices at a single point in time. Survey research explains trends in data from a sample population so that researchers can learn about trends or test research questions or hypotheses (Creswell, 2012). The definitions of cross-sectional research and survey research both fit well into these goals as this study had a single gathering point of data and utilized a survey measure to understand the trends in data.

In this research design, the initial aim was to understand how a sample of peer advisors rated at a certain point in time on an instrument assessing level of advancement toward three developmental tasks. Due to the survey data serving as an explanation of how the variables were distributed, this study could be considered a descriptive or normative form of quantitative survey research (Punch, 2003). Punch (2003) defined normative surveys as only producing an introductory level of knowledge that describes statements of data. However, survey research is often considered descriptive research in that the researcher is asking questions of a sample of a group being studied (Koh & Owen, 2000, p. 220). This initial level of data production was useful

in the current research design as it provided a set of data for practitioners to utilize when evaluating their own peer advising programs for psychosocial development outcomes with the SDTLA measure. This described the first step of the current research design and the first research question in which scores on the SDTLA were gathered from the sample of peer advisors. The second and third research questions involved comparing peer advisors as a within-group evaluation by utilizing ANOVA and MANOVA analyses to evaluate the within-group characteristics as independent variables and the individual or combined SDTLA tasks as dependent variables.

The fourth research question consisted of a between-group comparison with the data compared to a normative data set of college students utilizing standard scores and effect size. The SDTLA provided a normed sample of 800 college students' means and standard deviations across the tasks and subtasks, distributed by gender and class standing, from data collected between 2007 and 2011 (Winston et al., 1999b). Given that the norms of 800 college students' group data on the SDTLA were available, the fourth research question functioned as a comparison between two groups which provided additional value for scholars.

Utilizing a comparative pool of students was highly beneficial for two reasons. First, the sample of peer advisors fit within the context of the normed data. Evaluating the reliability through Cronbach's Alpha provided an updated, useful appraisal of the continued reliability of the SDTLA measure. Second, the comparisons between groups were useful to provide a perspective on how peer advisors scored on three developmental tasks as compared to the larger group of college students, which provided new information for the field. Norms can be a highly useful tool when understanding results of standardized measures, such as IQ (Koh & Owen, 2000, p. 228). Norms provided the intended perspective in this research design for understanding

levels at which the peer advisors' results were higher or lower in progress toward psychosocial development tasks than the normed population. As is true with comparative research across cultures, what may be true for the greater population of college students may be similar or different among the group of peer advisors (Wolf, Joye, Smith, & Fu, 2016). The purpose of understanding score differences between peer advisors and a normed sample of college students among three developmental tasks, by gender and class standing, was further discussed throughout the following sections on research design.

Research setting. Although the SDTLA has been provided as a paper instrument**,** the technical manual noted that the most recent version of the instrument changed to a computer-scored version, which did not decrease its usefulness (Winston et al., 1999a). Providing surveys online has become part of a research transformation over the past two decades and allow for convenient, cost effective data collection with results received in real time (Buchanan & Hvizdak, 2009; Creswell, 2012). As this study intended to measure peer advisors across multiple institutions, the ability to reach college students across states without organizing a complex study requiring physical sessions provided the potential for students to participate from a diversity of institutions and allowed for straightforward processes for informed consent and data collection. The utilization of the Qualtrics survey tool provided an opportunity for students to complete the full online survey on a computer, tablet, or cell phone. Challenges often arise regarding participant recruitment in an online setting (Creswell, 2012; Davies & Hughes, 2014), but the ability to communicate easily likely outweighed this concern. Challenges were reviewed in further detail under methodological limitations. Lastly, the SDTLA continued to be utilized at the time of this study as an online tool for college students from the City University of Hong

Kong, discussed previously. To summarize, the research setting in this study took place fully online, with participants completing an online survey independently, on their own time.

Data Collection

To collect data online for the purposes of this study, the instrument was transferred into an online survey tool, Qualtrics, with the removal of the Salubrious Lifestyle scale (questions 4, 12, 16, 28, 30, 36, 41, 44, 48, 53, 57, 60, 63, 77, 97, 108, and 115) and the four experimental research questions (21, 29, 62, 148). The informed consent form was included as the first page of the survey. Additionally, the revised demographic questionnaire was included, with the seven questions at the beginning of the survey and three additional questions at the end of the survey. A list of contacts was created for recruitment purposes and e-mail drafts for program administrators and peer advisors were developed prior to data collection.

This study was approved by the Institutional Review Board on August 3, 2018 and an addendum was approved on September 12, 2018 (see approval letter and addendum in Appendix A). Furthermore, the University of Illinois Urbana-Champaign Office of the Dean of Students required a research approval form to avoid survey fatigue with their students, as it was anticipated peer advisors from this institution may participate in the study. The Student Affairs Research Approval (SARA) process was completed and approved as of August 10, 2018.

Recruitment took place in September and October of 2018. The communication plan was initiated with e-mails being sent to peer advising program administrators and peer advisors. A recruitment period of 5.5 weeks was utilized for potential participants to respond to one email invitation and one email follow-up. Follow-up continued with a maximum of two individual emails per program or person and as administrator contacts snowballed. The survey was closed

once administrator response and participant completion ceased and the goal for 120 fully completed survey responses was surpassed.

Participants were recruited through two complimentary avenues. In the first approach, student participants were contacted via their program administrator. The SDTLA survey developers recommended that completing the instrument be voluntary for participants and that the purpose of the data collection be explained so that students understand confidentiality and the importance of their responses (Winston et al., 1999a). The goal of having the requests for participation come from students' program leaders was for students to understand the value and legitimacy of the data collection. Therefore, program administrators were the target outreach group in the first approach.

Administrators of peer advising programs were contacted through e-mail, social media, and direct communication at professional conferences. The primary method to target administrators was through advising association email listservs, such as the Illinois Academic Advising Association (ILACADA). Next, staff and program email addresses that were publicly available online advertising their oversight of peer advising programs were contacted. Many programs widely publicized their contact information to provide outreach for their students who may utilize their services and this also provided an opportunity for the present study to gain additional contact information of program administrators. Additionally, a number of direct partner contacts developed were reached out to as the researcher for this study had been overseeing a peer advising program for several years. For example, the researcher had a database of contacts who have completed an eTutorial class on Creating Peer Advising Programs with her in 2017. In addition to individual contacts, the researcher contacted the University of Illinois Urbana-Champaign academic advising email listserv. From these clusters of practitioners, e-mail

requests were sent to pass the invitation for the study onto their groups of peer advisors if they believed their program met the targeted definition of peer advisors. Practitioner contacts snowballed as more would refer the researcher to other colleagues who oversaw peer advising programs. In alignment with the purpose of the research study, the value for practitioners leading peer advising programs and the potential usefulness of the results was communicated. The researcher requested a confirmation that the program administrator informed their students of the survey opportunity. For those that did not confirm, one additional follow-up email was sent. Practitioners received no more than two emails requesting their students' participation in the study from the researcher and were asked to send no more than two emails onto their students. The number of student participants was monitored throughout the data collection process and more program administrators were contacted with these approaches as the need for more student participants was evident or as administrators recommended more appropriate contacts for peer advising programs on their campuses.

Additional outreach to peer advising program administrators also occurred at a professional conference in September of 2018. The Illinois Academic Advising Association (ILACADA) consisted of attendees who were professional academic advisors that led or knew of peer advising programs at their respective institutions. Social media was also utilized to contact peer advising program administrators. Many advising centers and advising organizations maintained public social media accounts to bring awareness of services offered. This approach provided an alternative opportunity to encourage advisors to share the study information with peer advisors. While these recruitment tactics were indirect in the attempt to reach undergraduate peer advisors through academic advisors and peer advising program administrators, the potential for messages about the study to reach entire groups of peer advisors was valuable.

The second avenue in which student participants were recruited was through direct communication. Many university peer advising programs publicly posted their student peer advisors' email addresses online so that they may be contacted. By collecting a database of these student email addresses, it created an opportunity to directly contact potential student participants. Student subjects may also have been recruited through campus email listservs, such as college or departmental newsletters or email announcements from administrators on their campus. Students were not chosen directly from records. An email invitation was sent directly to them encouraging them to participate in the study. Since the survey was anonymous, all contacts from this avenue received a second reminder email encouraging them to complete the survey. Student participants received no more than two direct emails requesting their participation in the study. An additional method of contacting student participants directly was through the use of social media. Many peer advising programs have publicly available groups and pages to advertise their services and provide communication to their peers. No one race, gender, or ethnic group was targeted when recruiting subjects for the study.

From the participant perspective, they received an email either directly from the researcher, a generic email address (peeradvisorstudy@gmail.com), or from their peer advising program administrator. The email requested their voluntary participation in the study, provided a brief definition of the type of participant the study was seeking, included the length of time the survey would take, and a link to the survey. Interested peer advisor participants were provided a link via email to the online survey, which began with an online consent form. After reading the online consent form, students were given the opportunity to agree to be a participant in the study by selecting an answer choice, 'Yes'. Those who did not provide consent were able to exit out of the online survey, or select they did not give consent, and were then taken to an ending page,

without access to proceed in the study. Participants who had given consent were informed that they could print the consent form if they wished and also received information on withdrawing from the study if they changed their mind about providing consent. All students could withdraw from the study at any time by closing their browser. Once consent was given, the next page took them to the demographic questionnaire and SDTLA instrument. Due to the survey being anonymous, participants were not able to save their progress in the survey and return later. However, a note at the bottom of each page did inform them that they could pause their progress by leaving the browser open and returning within one week to continue advancing through the survey. Participants were given the researcher's email address in case they had any questions about the study. If a student successfully completed the survey, they saw a thank you screen with a submit button for results to be saved. A waiver of documentation of informed consent was submitted and this process was approved by the Institutional Review Board.

This study may have involved students enrolled in a program taught by the researcher. The researcher oversaw a peer advising program that consisted of approximately 60 volunteer students at the University of Illinois Urbana-Champaign. To mitigate the potential interference or influence of voluntary informed consent, the researcher did not directly contact students enrolled in the program. These students may still have served as participants but were only invited to participate by a generic research email address (peeradvisorstudy@gmail.com) or group list-serve announcement from another staff member. Additionally, invitation requests included the exact same language as the rest of the potential participants, except the signature at the bottom of the email stated 'Peer Advisor Development Study Research Team' rather than the researcher's name. The researcher did not make any verbal comments to the peer advisors enrolled in her program during data collection and, if asked any questions about the research, she directed them

to the email address for questions regarding their participation. It was intended that this approach would mitigate any concerning factors of allowing students from the researcher's program to participate in this research study.

Participants did not directly benefit from participating in this study. However, their input as a participant in the research study was noted for contributing to a greater understanding of how peer advising impacts college student development. Participants may have acknowledged their involvement as an opportunity to support research and program development in this area. Participants received no inducements or rewards before, during, or after their participation in this research study. Additionally, there were no risks to individuals participating in this survey beyond those that exist in daily life. No identifiable information was collected, eliminating concerns for confidentiality. The instrument questions may have caused students to think more about how their experience as a peer advisor has impacted their development. The survey questions had not been shown to impact the affective states of participants, with no concerns cited in other research studies using the SDTLA instrument. Student surveys and feedback on their college student experience are often collected without providing signed consent and there was a low amount of risk involved to the students. There were no procedures in this study for which written consent would have been necessary outside of the research context. Therefore, this study had minimal risks that did not extend beyond those of daily life. To minimize any unanticipated potential risks, both risks and benefits were provided in the informed consent, which was available prior to potential participants completing the online survey. Students were made aware of the types of questions they would be asked and the fact that no identifying information will be collected.

There were benefits to higher education to know more about peer advisor development. As discussed in the previous chapter, peer advising programs had been demonstrated to positively impact students and institutions. More recent research had begun to establish the value of the experience of serving as a peer advisor and this study aimed to heighten awareness of peer advisor development and to compare the developmental impact of the peer advisor experience to that of a normed college student population. In summary, the benefits outweighed the risks for the student participants and their participation in the study created an increase in knowledge for research and practice.

Privacy and confidentiality. No identifying data were collected as part of this study, so participants' identities were kept private and confidential. The researcher used a shared secured Box folder to store data (Box requires sign-in credentials and is utilized within the University of Illinois system). The survey was solely online in the Qualtrics survey software. These forms were closed, so only the researcher was able to see the participant demographic information and the results. Only very general information was shared about student participants, ensuring that it did not identify any one student. For example, institutional data were not shared in connection to students' results. The data will be kept for a minimum of three years following the completion of this project.

Data Analysis

Raw data from 323 participants was collected upon closure of the study. Data was not utilized from 170 participants for the following reasons: did not agree to informed consent (n = 3); did not agree they met the definition of peer advisor (n = 19); did not progress past demographic question one (n = 74); did not progress past demographic question six (n = 13); or did not begin survey at conclusion of demographic questionnaire (n = 35). This brought the

participant group to 179 who were assigned identification codes. Identification codes were allocated to record their set of data as belonging to one participant throughout the data analysis. A codebook was created for the demographic questionnaire to quantify participants' response selections for the categorical scales utilized, such as sex and class standing. Creswell (2012) provided recommendations for assigning participant identification numbers, understanding scales of measurement used, as well as guides for developing a codebook (pp. 166-181). Additionally, the codebook provided for the instrument was utilized to manipulate the multiple-choice responses into numerical data (Winston et al., 1999b).

Next, the data were reviewed to examine if any scores were missing. The survey developers recommended using a threshold of 12% missing responses to determine the point at which an entire task or subtask should not be utilized (Winston et al., 1999a). In this study, any participant who completed 88% or less of any subtask did not have the rest of their submitted responses for that subtask included in the analysis. Creswell (2012) indicated how to review a database for missing data, as well as suggestions for how to handle other issues regarding missing data (p. 182). From this group of 179, 40 participants finished only 27% to 31% of the SDTLA instrument and another nine participants finished between 46% and 79% of the instrument. The other 130 participants made it to the end of the survey, although a small number skipped a minor number of questions periodically. From the group of 179, 24 participants had to be eliminated because they only completed up to question 20 which did not meet the requirements of completing at least 88% of any given subtask. This brought the participant group to 155 total and two additional participants were eliminated as they attended international institutions and this study focused on solely institutions in the United States. The final, overall participant number was 153.

To determine the reliability coefficient for the three tasks and associated subtasks, Cronbach's Alpha coefficient was calculated. The SDTLA used a Likert-type scale, was made up of subtasks which had multiple items, and included only a single administration, so Cronbach's Alpha was an appropriate statistic to run to understand the internal consistency of the items that made up each task and subtask (Gliem & Gliem, 2003). The Response Bias scale of six questions was interpreted cautiously due to the extremely low reliability demonstrated in past studies (Jones & Watt, 2001; Watt & Vodanovich, 1999). The Response Bias scale had a Cronbach's Alpha of 0.55, which was lower than the established 0.60 threshold in the present study for removing participants due to responses which may have demonstrated social favorability. Therefore, although the technical manual suggested if a participant had a score of four to six to remove them from the data set, this did not occur in the present study (Winston et al., 1999a). If the reliability coefficient had been higher, it would have required removing seven participants, each of which had a score of four on the Response Bias scale.

Descriptive statistics were examined to understand the demographic background of participants sampled, examining the sex, racial/cultural background, academic class standing, international student status, institution characteristics, college major, other campus involvement, and intentions for serving as a future peer advisor.

Research question one. Next, the data for each subtask and task were separated by gender and class standing, with mean averages and standard deviations calculated for each group (i.e. female, sophomores). The two students who selected their gender as other were not assigned to a group. Finding the mean was considered a measure of central tendency which provided a summary number representing a distribution of scores (Creswell, 2012). Standard deviation quantified the amount of variation of each data set, signifying how close or far the rest of the

responses were from the average mean response. These means and standard deviations, including the number of participants in each group, served as the raw score data and a table including this information was provided to answer the first research question.

Research questions two and three. When analyzing the data in the present study some categories of independent variables were combined to achieve slightly larger group sizes. This was recommended when running statistical analyses to have at least ten subjects per variable to achieve satisfactory levels of power in the analysis (Morgan, Leech, & Barrett, 2012). In the present study, participants were able to select from six categories of race/ethnicity, although for the statistical analyses they were grouped as White or Caucasian/European (n = 70) and Underrepresented (n = 28) as previously done (Waller, 2015). These participant numbers are lower than previously reported due to the exclusion of sophomore students (too small of a group and there were no male sophomores) and students who did not complete at least 88% of the tasks that served as dependent variables. Additionally, in research question three, for the independent variable of number of academic year terms served participants could select from seven categories (one, two, three, four, five, six, or seven or more terms), but three categories was utilized of one (n = 33), two (n = 29), and three or more academic year terms (n = 36) to create fewer, larger groups to examine the independent variable of number of academic year terms served as a peer advisor. These categories were also lower than the total participant number due to the exclusions required for the analyses. The participant group utilized in research questions two and three consisted of 98 participants.

When considering the most appropriate statistical analyses to run for research questions two and three, the past literature provided some valuable perspectives. The most common statistics employed in previous studies were the use of ANOVA, MANOVA, and MANCOVA.

For research questions two and three, gender and class standing needed to be included as impactful variables. Due to gender serving as a binary variable, it could not be considered as a covariate and was, therefore, included as an independent variable. Additionally, although class standing had four categories in this study, zero freshmen participated and only eight sophomores. Therefore, for the purposes of research questions two and three only juniors and seniors were grouped for class standing and were examined as an independent variable, instead of covariate. These changes eliminated the option of running a MANCOVA to answer research questions two and three. Therefore, either an ANOVA or MANOVA could have been employed appropriately. Tatum (2003) and Jones and Watt (2001) both utilized ANOVA and MANOVA statistical analyses to examine the dependent variables individually, as well as together. The three tasks that made up the SDTLA instrument do bridge together to form an instrument which measures psychosocial development levels. However, the three tasks are not summed to provide a single SDTLA score and the correlations between the tasks were quite low in this study, as shown in Table 3.1.

Table 3.1

Correlations Between SDTLA tasks (AUT, PUR, MIR)

Task	AUT	PUR	MIR
AUT	1	0.329	0.040
PUR	0.329	1	0.282
MIR	0.040	0.282	1

Due to the correlations ranging between 0.04 and 0.33, the three tasks were considered to have very low correlations. There were differing perceptions of how correlated the dependent variables should be when considering a MANOVA analysis. In IBM SPSS for Intermediate Statistics, it was recommended that dependent variables have low to moderate correlations to avoid the possibility of a Type I error when running a MANOVA analysis (Morgan et al., 2012).

If the correlations are too low, there was simply no reason to include them in a single MANOVA analysis when an ANOVA analysis would better fit the needs of the data. It was appropriate to run both MANOVA and ANOVA analyses given that the assumptions were met for each analysis independently and that the goals of the study were met with the data output provided by each analysis (Morgan et al., 2012). Box's Test of Equality of Covariance Matrices was run with each MANOVA analysis in the present study to check homogeneity of variance, which tested the null hypothesis that the observed covariance matrices of the dependent variables were equal across groups (Morgan et al., 2012).

For research question two, two separate groups of analyses were run. First, three independent variables of gender (male, female), class standing (juniors, seniors), and race/ethnicity (White or Caucasian/European, Underrepresented) and second, three independent variables of gender (male, female), class standing (juniors, seniors), and international student status (international, not international) were assessed. Three dependent variables were examined with each: Establishing and Clarifying Purpose (PUR) task, Developing Autonomy (AUT) task, and Mature Interpersonal Relationships (MIR) task. Six ANOVA and two MANOVA analyses were employed to answer research question two.

ANOVA #1:

Independent variables: gender (male, female), class standing (juniors, seniors), and race/ethnicity (White or Caucasian/European, Underrepresented)

Dependent variable: Establishing and Clarifying Purpose (PUR) task

ANOVA #2:

Independent variables: gender (male, female), class standing (juniors, seniors), and race/ethnicity (White or Caucasian/European, Underrepresented)

Dependent variable: Developing Autonomy (AUT) task

ANOVA #3:

Independent variables: gender (male, female), class standing (juniors, seniors), and race/ethnicity (White or Caucasian/European, Underrepresented)

Dependent variable: Mature Interpersonal Relationships (MIR) task.

MANOVA #1:

Independent variables: gender (male, female), class standing (juniors, seniors), and race/ethnicity (White or Caucasian/European, Underrepresented)

Dependent variables: Establishing and Clarifying Purpose (PUR) task; Developing Autonomy (AUT) task; Mature Interpersonal Relationships (MIR) task.

ANOVA #4:

Independent variables: gender (male, female), class standing (juniors, seniors), and international student status (international, not international)

Dependent variable: Establishing and Clarifying Purpose (PUR) task

ANOVA #5:

Independent variables: gender (male, female), class standing (juniors, seniors), and international student status (international, not international)

Dependent variable: Developing Autonomy (AUT) task

ANOVA #6:

Independent variables: gender (male, female), class standing (juniors, seniors), and international student status (international, not international)

Dependent variable: Mature Interpersonal Relationships (MIR) task.

MANOVA #2:

Independent variables: gender (male, female), class standing (juniors, seniors), and international student status (international, not international)

Dependent variables: Establishing and Clarifying Purpose (PUR) task; Developing Autonomy (AUT) task; Mature Interpersonal Relationships (MIR) task.

For research question three, three independent variables of gender (male, female), class standing (juniors, seniors), and number of academic year terms served as peer advisor (one, two, three or more) were utilized. Three dependent variables were examined: Establishing and Clarifying Purpose (PUR) task, Developing Autonomy (AUT) task, and Mature Interpersonal Relationships (MIR) task. Three ANOVA and one MANOVA were employed to answer research question three.

ANOVA #7:

Independent variables: gender (male, female), class standing (juniors, seniors), and number of terms served as peer advisor (one term, two terms, three or more terms)

Dependent variable: Establishing and Clarifying Purpose (PUR) task

ANOVA #8:

Independent variables: gender (male, female), class standing (juniors, seniors), and number of terms served as peer advisor (one term, two terms, three or more terms)

Dependent variable: Developing Autonomy (AUT) task

ANOVA #9:

Independent variables: gender (male, female), class standing (juniors, seniors), and number of terms served as peer advisor (one term, two terms, three or more terms)

Dependent variable: Mature Interpersonal Relationships (MIR) task.

MANOVA #3:

Independent variables: gender (male, female), class standing (juniors, seniors), and number of terms served as peer advisor (one, two, three or more)

Dependent variables: Establishing and Clarifying Purpose (PUR) task; Developing Autonomy (AUT) task; Mature Interpersonal Relationships (MIR) task.

Levels of significance and power were examined based on the nine ANOVA analyses and three MANOVA analyses employed to answer research questions two and three. Post hoc analyses were attempted for any significant findings for research questions two and three.

Research question four. To answer research question four raw peer advisor scores were converted into standard T scores based on the normative samples for each group. Standard scores were based off of the normal curve and had multiple benefits including the ability to compare scores from difference scales and provided a measure of relative standing (Creswell, 2012). The survey developers indicated that it was necessary for the raw scores be converted to standard scores, based on the SDTLA National Norms 2007-2011 (Winston et al., 1999b) before analyzing the data for research or evaluation (Winston et al., 1999a). The conversion needed to be conducted separately for gender and class standing, due to demonstrated response differences among these groups. In previous research and instrument development, women consistently rated higher on measures of psychosocial development. The SDTLA developers also found that students higher in class standing rated statistically higher than students in lower class standing, so these groups were interpreted separately (Jones & Watt, 2001; Winston et al., 1999a). First, the normed mean was subtracted from the raw score and that result was then divided by the normed standard deviation to provide a Z score. Next, the Z score was multiplied by ten and, lastly, fifty was added to get the standard T score. This process was detailed in the SDTLA technical manual (Winston et al., 1999a). These between-group comparisons amid the peer

advisor sample and the normed college student sample from the secondary data served as the initial step of answering research question four. This resulted in a standard T score for each group (such as sophomore, female, peer advisors) which was then compared to the normed group (such as sophomore, female college students) for each of the tasks and subtasks.

Both standard T scores and a suggested phrase system were utilized to describe the results of the peer advisors for research question four, as indicated in the SDTLA technical manual (Winston et al., 1999a). Standard T scores have a mean of 50 and standard deviation of 10 (Creswell, 2012). Recommendations in the technical manual (Winston et al., 1999a) for describing results were presented in Table 3.2.

Table 3.2

Numerical and Descriptive Reporting of SDTLA Standard Scores

Standard Score	Phrase System
66 or higher	Substantially higher than the normative sample
56 - 65	Somewhat higher than the normative sample
45 - 55	About the same as the normative sample
35 - 44	Somewhat lower than the normative sample
34 or lower	Substantially lower than the normative sample

Therefore, results identified how the group of peer advisors compared on the three tasks and ten subtasks across groups, organized by gender and class standing. Differences that were higher or lower than the normative sample were discussed in chapter five given the research on peer advisor training or programs that may have impacted the results.

Effect size was then calculated between each identity group (i.e. female, senior peer advisors and female, senior college students from the normed data). Effect size quantified the difference between two means (Fan, 2001). Although the initial design was to utilize Cohen's *d*, which had been considered "the measure of choice for effect size" to compare two group means that have different levels of standard deviation (Fan, 2001, p. 277), it was not the most accurate

measure of effect size for the present study. Because the normed sample size was vastly different compared to all of the groups in the present study, Hedges' *g* was a more accurate measure of effect size to utilize. Hedges' *g* was considered a minor modification to Cohen's *d* and was suggested to be calculated more commonly as an unbiased method of calculating effect size, especially with small population sizes (Fritz, Morris, & Richler, 2012). Hedges' *g* weighted the standard deviation of each group, based on their sample size so that the weighted standard deviation was utilized when comparing the group means. The effect size was calculated for each set of groups for comparison.

Results regarding effect sizes were considered to be small at 0.20, medium at 0.50, and large at 0.80 (Cohen, 1988; Fritz et al., 2012). The effect size represented how much the two groups differed, so if the effect size was less than 0.20 it indicated that the groups had only trivial differences. Differently, an effect size of 0.80 or more demonstrated a quite obvious difference between the two groups. While these effect size descriptions may appear arbitrary, the operational definitions represented variability among normally distributed populations (Cohen, 1988). Effect size was important for the current study because it provided additional meaning for how different the peer advisors' progress toward developmental tasks were for the between-group comparisons in research question four.

Summary of data analysis. For the purposes of providing useful results that were clear and impactful for peer advising practitioners, while still contributing to the field of research, this study design met the intended goals. This research design involved first running the means and standard deviations for each group of students on each subtask and task to answer the first research question. Next, six ANOVA and two MANOVA analyses were run to answer research question two and three ANVOA and one MANOVA analyses were run to answer research

question three. To answer the fourth research question, raw scores were converted by group into standard T scores and reported results utilizing phrases provided in the SDTLA technical manual, intended for practitioner usage. Effect sizes were also calculated to demonstrate the size of the difference between groups.

This approach is most similar to two dissertation studies conducted in 2002 and 2003. Tatum (2003) utilized both ANOVA and MANOVA analyses to examine the impact of participation in football compared to no football participation on the tasks, subtasks, and scales of the SDTLA instrument. This methodology illustrated the approach taken in the present study for research questions two and three. The second dissertation study, by Campbell (2002), examined the standardized scores from the SDTLA 1999 normed college student data to compare SDTLA scores from groups of undergraduate student employees with varying lengths of employment experience. This reflected the analysis in the current study for research question four.

These methodological decisions were warranted given the goals of the research design to provide a comparative sample of peer advisors across multiple institutions for future practitioner usage of the instrument for peer advisor training purposes. Additionally, this approach utilized normative data for effective comparisons between the peer advisor group and normed data from college students in 2007 through 2011, as well as contributing Cronbach's Alpha reliability coefficients. Normative data was commonly used for understanding individual scores on measures and can be valuable for interpretation of results, provided that the normed sample was similar enough to the group being examined. As peer advisors were considered a sub-group of college students, this methodology was applicable for the present study.

Limitations and Delimitations

Information regarding methodological concerns have been incorporated throughout this chapter, but limitations and delimitations were also summarized here. Primary limitations for this research design included the SDTLA instrument selection, nature of self-reported data, and recruitment tactics, whereas the primary delimitations were the use of the secondary, normed data and the nature of a quantitative survey research design.

The first limitation of the current research design was the instrument selected for use in the study. The SDTLA had good evidence of strong psychometric properties and was in its fourth edition, but had not been reviewed in the past five years. Additionally, it only measured three of Chickering's seven vectors so it could only provide an indication of developmental task progress in three areas (Evans et al., 2009). The developmental questions were contextual in nature and may not have always reflected solely a participant's personality or developmental level. Inequalities such as race or poverty, as well as extenuating circumstances that arise frequently in college students (mental health issues, family crises, financial struggles) may also impact outcomes in these areas. A student's locus of control for what they perceive to be possible due to internal or external factors does impact their level of involvement (Astin, 1984). Even theories of attribution might lead to researchers assuming behavioral outcomes of involvement and growth are because of an individual's lack of development, when it could be due to outside forces. Therefore, the instrument may at times be reflecting sociological issues rather than psychological or developmental levels for students in these contexts. As with the majority of mainstream instruments, the SDTLA was tested with a large majority of white college student participants (75%) (Winston et al., 1999a). Differences in psychosocial development levels with instruments tested on students who did not make up the sample

population could be inaccurate if students in minority groups are receiving lower scores (Council of National Psychological Associations for the Advancement of Ethnic Minority Interests, 2016). In this study, this would include international students and students who identified as racial minorities (depicted as Underrepresented) in research question two. Additionally, a concern for research on psychosocial development was the differing approaches between men and women. Although the SDTLA considered this by developing separate normed data for each gender, gender is no longer considered a binary classification and two participants' data were unable to be utilized to answer the four research questions due to their gender identification of 'other.'

The second limitation was the nature of self-reported data. As the SDTLA asked participants to self-report their data, accuracy of reporting and time spent answering questions were both concerns. The SDTLA included a Response Bias scale, which functioned as a lie scale in an effort to determine if students were answering questions in a factiously positive manner. In some studies, if participants answered the majority of questions as such, their data was removed from the pool to address this concern. However, the Response Bias scale has had very low reliability coefficients in the past two studies and this was confirmed in the present study, so the Response Bias scale was not utilized. Unnecessary questions from the Salubrious Lifestyle scale and research questions were removed to shorten the instrument with only the necessary questions to encourage survey completion. Additionally, halfway through the survey indicators of progress toward completion were offered as well as the opportunity for participants to pause their progress and finish the survey within one week. Overall, the students who self-selected to participate in this survey, which took approximately 20 to 30 minutes of their time, may not be fully representative of the full peer advisor population. They may represent only those peer advisors

who are concerned with bringing greater awareness to how peer advising impacted them as a college student and had the time and resources to complete the survey.

A third primary limitation to this research design was the focus on email as a form of recruitment for reaching out to practitioners and administrators. As email tends to be a highly utilized form of communication, it would have been easy for emails regarding a survey to send to peer advisors to get overlooked or deleted. Evidence has also cited low response rates for email recruitment and web-based surveys (Creswell, 2012; Davies & Hughes, 2014). This research design intentionally considered the timing of emails sent based on periods of lighter workloads for advising practitioners and concisely demonstrated the value of the study. While cost efficient to utilize email, efforts to increase the personalization of outreach was essential to increase response rates. A clear plan and thoughtful construction of emails and the online survey were necessary to assist in gathering responses and survey distribution (Punch, 2003). Additionally, social media was used as an alternative format to recruit participants.

Two delimitations also framed the methodological approach in the present study. First, the use of the secondary data set provided by the survey developers was utilized to answer research question four. This data was collected between 2007 and 2011, a period which was between seven and 11 years prior to the present study. Participants in the present study were considered to be in the same generation of Millennials as the normative sample. Therefore, while the data collections occurred years apart, the time difference was determined to not be significant enough to warrant a change in how college students experience psychosocial development. The present study examined the groups in a comparative manner and acknowledged the potential delimitation of this decision.

Additionally, the survey developers provided descriptive data on the national norms of SDTLA scores for college students in their original data collection from 1999 including institution type, age, and racial breakdown. However, for the updated national norms from 2007-2011 only gender and class standing demographics with associated scores on the SDTLA tasks and subtasks were included. A last concern with the national norms was the utilization of the words: 'norm' and 'normative.' The present study utilized this language to mimic the survey developers' description of the comparative sample data. A concern with this choice of language is that the data from 1999 was collected through the survey developers' use of professional colleagues across the country from students who voluntarily consented to take the SDTLA instrument. While certainly a decent sample (N = 1,458) from a number of institutions (31), it is unclear how verifiable the data is to be considered a national normative sample of college students on the three psychosocial development tasks the SDTLA was designed to measure. The decision to utilize the secondary data rather than forming a control group as part of the present study was intentional as to prioritize the collection of survey data from as many peer advisors across the nation as possible and to give precedence to the exploration of their survey results through research questions one, two, and three.

A second delimitation of this study was the decision to engage in a quantitative research study that met the goals for the purpose of this study. Qualitative research can be highly valuable in understanding college student development and, specifically, Chickering's seven vectors of identity development (Evans et al., 2009). The possibilities for qualitative research studying peer advisor psychosocial development are endless and could provide in-depth, detailed understanding of how some peer advisors emerge among developmental tasks as they engage in peer advising. This most closely aligned with the current literature on peer advising, where

practitioners utilized reflections or open-ended questions on surveys to understand the impact of a peer advising program. This quantitative research design relied on instrument-based questions and interpretation of results without the depth, creation of themes, or emerging trends that a qualitative study could provide (Creswell, 2014). In particular, qualitative research may be best suited for exploring psychosocial development among multicultural populations as Chickering's theory has received only limited support for being updated to consider the current diverse populations of college students (Evans et al., 2009). Additionally, recent scholars have challenged the notion of post-positivist research on student development, advocating for critical perspectives that challenge our understanding of development altogether (Evans et al., 2009). Engaging in a quantitative survey research design does reduce participants' data to a common experience which was worthwhile and, simultaneously, serves as the primary delimitation of this study. Opportunities for both quantitative and qualitative research on peer advising and college student development can continue to create knowledge so that future research can improve what has been done in the past. As with any research study, it was essential to acknowledge the limitations and criticisms of approaches taken in the present study to offer perspective on decisions made and considerations for future research.

Summary of Methods

This research aimed to explore the psychosocial development of academic peer advisors across institutions in the United States. The study intended to serve two key priorities: provide usefulness for practitioners and students and to contribute to the scholarly research on peer advising in a new way. The first research question addressed the descriptive nature of the research, research questions two and three delved into within-group characteristics, and the last

research question addressed the comparative focus of contributing to the overall research in higher education and psychosocial development.

Participants completed the Student Developmental Lifestyle Assessment (SDTLA), which made up three developmental tasks designed to assess three corresponding vectors from Chickering's identity model of student development. Mean scores and standard deviations were calculated to provide a basis of scores from the national sample of peer advisors. Next, nine ANOVA and three MANOVA tests were run to provide information on the differences within the group of peer advisors based on their race and cultural group, as well as number of terms served as a peer advisor. Next, the sample group of peer advisors were compared to normed data from 800 college students who completed the SDTLA instrument between 2007 and 2011, using standard T scores. Effect size was also calculated to quantify the difference in means between the peer advisors and the normed college student sample, organized by gender and class standing.

This approach brought value to practitioners by identifying a measure of instrumentation that entailed moderately-strong psychometric properties, was easily accessible, and was cost-effective for the purposes of training or program evaluation. To summarize the research design, a cross-sectional, quantitative study was conducted to first understand peer advisor progress toward three psychosocial development tasks, measured by the SDTLA, to better understand the within-group characteristics of racial and cultural background and number of terms served as a peer advisor, and lastly, to compare peer advisors to a normed sample of 800 college students on the same three psychosocial developmental tasks.

CHAPTER 4: RESULTS

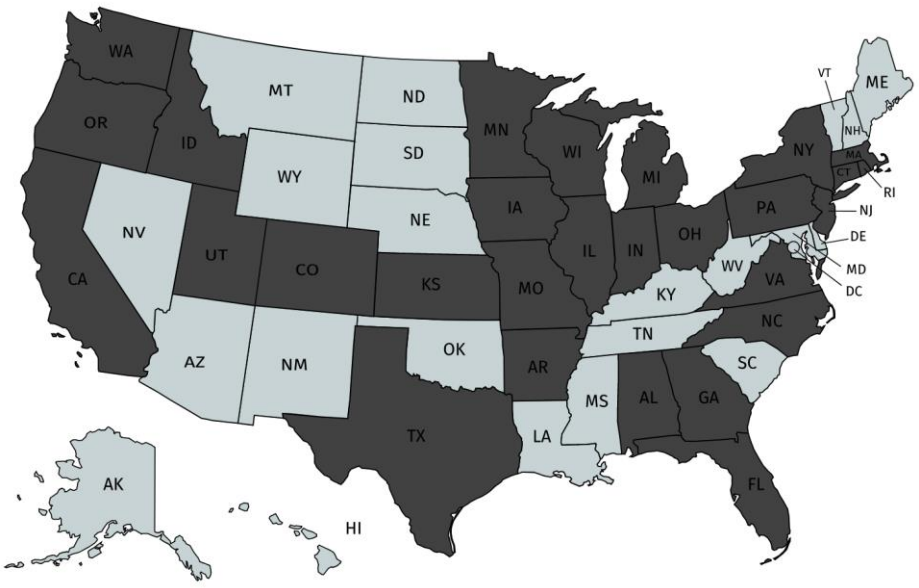
The analysis of the four research questions was initiated with a review of the demographic questions to depict the population of peer advisors in the present study. Due to the previously demonstrated impact of gender and class standing on psychosocial development levels, the 153 participants were grouped by these defining characteristics. The gender demographics consisted of 21% male (*n* = 32), 78% female (*n* = 119), and 1% students who identified their gender as other (*n* = 2). The students who identified their gender as other had their data included in the reliability analysis but were not able to be included as part of the data which answered the four research questions.

No students identified as freshmen/first-year students. The other class standing breakdowns were: 7% sophomore/second year (*n* = 10), 27% junior/third year (*n* = 41), and 67% senior/fourth year (*n* = 102). Five groups were established, which included 7% sophomore females (*n* = 10), 22% junior females (*n* = 33), 50% senior females (*n* = 76), 7% junior males (*n* = 8), 16% senior males (*n* = 24), and 1% seniors who identified their gender as other (*n* = 2).

The intended participant pool for this study was peer academic advisors across a diverse range of institutions across the United States, including public, private, four-year, and two-year colleges and universities. This goal was met with peer advisors at 59 institutions, 40 public (71% of participants, *n* = 108) and 19 private (27% of participants, *n* = 41) who participated in the study. Only 4% of participants (*n* = 6) were from public two-year colleges or universities. The range of states was broad, with students from 28 states participating in the study: 22% in the West (*n* = 33), 29% in the East (*n* = 44), 29% in the Midwest (*n* = 44), and 18% from institutions in the South (*n* = 28). A list of institutions, including number of participants, state, region, and

designation was provided in Appendix G and national coverage is demonstrated in Figure 4.1 below.

Figure 4.1. States Represented by Peer Advisor Participants (28)



Participants described their race and ethnicity as 65% White or Caucasian/European, (*n* = 99), 6% Black or African American (*n* = 9), 9% Hispanic, Latino/a, or Mexican American (*n* = 14), 5% Bi-racial or Multiracial (*n* = 7), 11% Asian American or Pacific Islander (*n* = 17), and 5% Other (*n* = 7). As discussed in the previous chapter, participants were designated into one of two racial/ethnicity categories (White or Caucasian/European, Underrepresented) for the purpose of creating larger, fewer groups for statistical analyses. Additionally, 84% did not identify as international students (*n* = 128) and 16% did identify as international students (*n* = 25).

Students were required to have served as a peer advisor for at least one full academic year term (summer, quarter, semester) to participate in the research study. The breakdown of number of terms served was: 36% served one term (*n* = 55), 29% served two terms (*n* = 44), 17% served three terms (*n* = 26), 11% served four terms (*n* = 17), 4% served five terms (*n* = 6), 3% had served six terms (*n* = 4), and only one student had served seven or more terms (*n* = 1).

At the end of the survey, student participants were asked three additional questions to learn more about the population of students who engaged in this research study. Students were asked to list one or two involvements they had participated in while in college, other than peer advising. The majority of students listed two other activities (58%), while 24% listed one other activity, and 15% listed three or four activities. The most common involvement activities listed were student clubs (*n* = 61), research/tutoring/teaching assistant (*n* = 25), Greek life (*n* = 22), athletics (*n* = 13), student jobs (*n* = 10), mentoring (*n* = 9), religious activities (*n* = 8), service (*n* = 8), and student government (*n* = 8). Many of the student clubs were relevant to major, professional, or personal interest areas. The next question asked was regarding what college major participants had selected. These majors were grouped into larger categories by the researcher and designated as: Arts/Media (*n* = 5), Social Work/Education (*n* = 8), Engineering (*n* = 19), Business (*n* = 20), Psychology (*n* = 22), Not Listed (*n* = 25), Sciences (*n* = 28), and Other Liberal Arts (*n* = 34).

The last question participants were asked was if they intended to serve as a peer advisor in future terms. The most common response was yes, with 67% agreeing that they planned to serve as a peer advisor in the future (*n* = 86). Other responses included: No, I am graduating/ studying abroad (27%, *n* = 35); No, I have other commitments (5%, *n* = 6); and No, I decided not to (2%, *n* = 2).

Reliability Analysis

When examining the internal consistency of the SDTLA instrument, Cronbach's Alpha was utilized to review each subtask and task. Cronbach's Alpha coefficient ranges between 0 and 1, with correlations of 0.6 or lower having questionable internal consistency of the scale, 0.7 being acceptable, 0.8 as good, and 0.9 or higher as excellent (Gliem & Gliem, 2003). The

Establishing and Clarifying Purpose (PUR) task consisted of 51 items (α = .88), which included four subtasks: Educational Involvement (EI) had 14 items (α = .68), the Career Planning (CP) subtask consisted of 14 items (α = .85), Lifestyle Planning (LP) had 13 items (α = .73), and Cultural Participation (CUP) had 10 items (α = .63). Therefore, the PUR subtasks ranged from .63 to .85, with an overall reliability of .88, demonstrating the PUR task to be considered as having good and almost excellent internal consistency.

In the next task of Developing Autonomy (AUT) with 51 questions (α = .85), four subtasks also make-up the task: Emotional Autonomy (EA) had 17 items (α = .70), Interdependence subtask (IND) had 14 items (α = .76), Academic Autonomy (AA) had 11 items (α = .77), and Instrumental Autonomy (IA) had 9 items (α = .63). Overall, the subtasks within the AUT task ranged from .63 to .77, with an overall task reliability of .85, demonstrating the AUT task as having good internal consistency.

The last task of Mature Interpersonal Relationships (MIR) consisted of 24 items (α = .69), which included two subtasks: the Peer Relationships subtask (PR) had 10 items (α = .47) and the Tolerance subtask (TOL) had 14 items (α = .66). Therefore, the subtasks within the MIR task ranged from 0.47 to 0.66 with an overall MIR task reliability of 0.69, demonstrating just under acceptable levels of internal consistency, mainly because of the Peer Relationships subtask. To explore this further, an item analysis was conducted on the Peer Relationships subtask which demonstrated that if question 37, “Because of my friends’ urgings, I get involved in things that are not in my best interest” was removed, Cronbach’s Alpha would increase to 0.53 for the subtask.

Research Question One

The first research question was:

How do peer advisors score, by class level and gender identity, on the psychosocial developmental tasks of Establishing and Clarifying Purpose, Developing Autonomy, and Mature Interpersonal Relationships, as measured by the SDTLA?

To answer this research question, five groups were examined among the 10 subtasks and three tasks to calculate their means and standard deviations. The number of participants in each group for each subtask or task did vary, based on the number of participants who completed the minimum of 88% or more of the given subtask or task. Table 4.1 provided the detailed means, standard deviations, and participant numbers for each task and subtask among the female participants.

Table 4.1

SDTLA Scores for Female Peer Advisors

	Female Sophomores			Female Juniors			Female Seniors		
Task/Subtask	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*
Establishing and Clarifying Purpose (PUR)	**3.82**	1.47	7	**3.68**	1.48	30	**3.83**	1.42	64
Subtask: Career Planning (CP)	3.57	1.34	7	3.21	1.40	29	3.68	1.29	62
Subtask: Educational Involvement (EI)	4.14	1.35	7	3.99	1.47	29	4.08	1.42	62
Subtask: Lifestyle Planning (LP)	3.89	1.44	7	3.73	1.38	29	3.62	1.43	62
Subtask: Cultural Participation (CUP)	3.61	1.71	7	3.83	1.57	30	3.95	1.51	64
Developing Autonomy (AUT)	**3.80**	1.28	10	**3.84**	1.26	29	**3.79**	1.27	62
Subtask: Instrumental Autonomy (IA)	3.92	1.13	7	3.72	1.24	29	3.77	1.22	63
Subtask: Emotional Autonomy (EA)	4.16	1.18	8	3.78	1.31	31	3.80	1.29	67
Subtask: Interdependence (IND)	3.92	1.22	7	3.56	1.36	29	3.62	1.39	63
Subtask: Academic Autonomy (AA)	4.24	0.96	10	3.91	1.20	33	3.97	1.17	74
Mature Interpersonal Relationships (MIR)	**4.25**	1.24	8	**3.91**	1.37	31	**4.02**	1.31	67
Subtask: Peer Relationships (PR)	3.91	1.47	8	3.39	1.52	31	3.62	1.46	67
Subtask: Tolerance (TOL)	4.49	0.98	8	4.29	1.11	32	4.29	1.12	71

When examining the data from female participants on the PUR task sophomores and seniors scored approximately the same, while female juniors had lower mean averages. Inversely, for the AUT task female juniors scored higher while again female sophomores and

seniors scored similarly as they did in the PUR task, but lower than the juniors did on the AUT task. On the MIR task, there were larger differences with female sophomores scoring the highest, followed by female seniors and then female juniors.

When reviewing the two groups of male participants, male seniors scored higher on the PUR and MIR tasks, while male juniors scored higher on the AUT task. This mirrors the results from the female population between juniors and seniors. Table 4.2 provided the detailed means, standard deviations, and participant numbers for each task and subtask among the male participants.

Table 4.2

SDTLA Scores for Male Peer Advisors

	Male Juniors			Male Seniors		
Task/Subtask	*M*	*SD*	*n*	*M*	*SD*	*n*
Establishing and Clarifying Purpose (PUR)	**3.69**	1.48	7	**3.82**	1.44	22
Subtask: Career Planning (CP)	3.33	1.38	7	3.48	1.38	22
Subtask: Educational Involvement (EI)	4.00	1.47	7	4.11	1.40	22
Subtask: Lifestyle Planning (LP)	3.55	1.47	7	3.82	1.37	22
Subtask: Cultural Participation (CUP)	3.96	1.50	7	3.86	1.58	22
Developing Autonomy (AUT)	**3.87**	1.20	7	**3.79**	1.29	18
Subtask: Instrumental Autonomy (IA)	3.71	1.20	7	3.72	1.21	22
Subtask: Emotional Autonomy (EA)	3.96	1.22	7	3.99	1.22	22
Subtask: Interdependence (IND)	3.50	1.42	7	3.73	1.32	22
Subtask: Academic Autonomy (AA)	4.09	0.95	8	3.84	1.30	24
Mature Interpersonal Relationships (MIR)	**3.98**	1.30	7	**4.06**	1.24	22
Subtask: Peer Relationships (PR)	3.60	1.46	7	3.67	1.34	22
Subtask: Tolerance (TOL)	4.23	1.09	7	4.34	1.08	22

Upon examining the data of the PUR task, very similar scores (within 0.01) are apparent for juniors and seniors, regardless of gender. The AUT task also indicates closeness in scores (within 0.03) for juniors and seniors, regardless of gender. Lastly, the MIR task demonstrated scores within 0.07 between males and females.

For the eight students who selected that they would not be continuing in their role as peer advisor because they had other commitments or decided not to, their mean averages for each task were reviewed in comparison to their larger identity group of peer advisors to determine if they served as outliers. Their individual mean averages can be viewed in Table 4.3 below.

Table 4.3

Task Scores for Peer Advisors Who Did Not Plan to Continue Peer Advising

Participant ID	Sex	Class	PUR	AUT	MIR
FP	Male	Senior	3.51	3.63	4.00
CC	Female	Senior	4.02	3.47	3.67
EI	Female	Senior	4.43	4.64	3.83
AA	Female	Senior	3.67	3.65	3.88
AM	Female	Junior	3.57	3.63	4.25
FJ	Female	Junior	3.69	3.96	4.00
CN	Female	Junior	3.51	4.04	3.83
AL	Female	Junior	3.96	3.41	4.17

The male senior (FP) had a lower score for AUT and PUR and very similar score (0.06 lower) on the MIR task. For the group of three female seniors (CC, EI, and AA), their mean average on the AUT task (M = 3.92) and PUR task (M = 4.04) were higher than their larger peer group for the AUT (M = 3.79) and PUR task (M = 3.83). However, on the MIR task the three female seniors scored lower (M = 3.79) than the rest of the female, senior peer advisors (M = 4.02). Lastly, the group of four female junior peer advisors (AM, FJ, CN, and AL) scored lower (M = 3.76) on the AUT task compared to their peers (M = 3.84), the same on the PUR task (M = 3.68), and higher (M = 4.06) on the MIR task compared to their greater population of female, junior peer advisors (M = 3.92). Overall, there were no apparent developments when briefly examining the mean averages of the students who selected they did not intend to continue serving as a peer advisor.

One trend that emerged in research question one was the higher senior scores on the PUR and MIR tasks compared to the junior populations. Second, the female sophomore students

scored mostly in alignment with the senior populations, except higher on the MIR task. Third, mean scores from females and males were intended to be examined separately although their averages emerged as being quite similar to each other. Utilization of this raw data for practitioners and implications for future research will be discussed in chapter five.

Research Question Two

The second research question was:

What are the differences in scores for peer advisors of different racial and cultural backgrounds on the psychosocial developmental tasks of Establishing and Clarifying Purpose, Developing Autonomy, and Mature Interpersonal Relationships, as measured by the SDTLA?

This research question was categorized to define racial and cultural backgrounds by examining race/ethnicity and international student status in separate analyses. A consistent approach was taken to evaluate both aspects of this question. A series of three factorial univariate analysis of variance (ANOVA) analyses were conducted, followed by a multivariate analysis of variance (MANOVA) for both race/ethnicity and international student status.

First, the influence of three independent variables gender, class standing, and race/ethnicity were examined in three ANOVAs. Gender included two levels (male, female), class standing included two levels (juniors, seniors), and race/ethnicity included two levels (White or Caucasian/European, Underrepresented). The designation and reasoning behind utilizing White or Caucasian/European and Underrepresented as the race/ethnicity categories was discussed in the previous chapter. The first dependent variable in ANOVA 1 utilized the psychosocial development task of Establishing and Clarifying Purpose (PUR), ANOVA 2 examined a dependent variable of psychosocial development task Developing Autonomy (AUT), and ANOVA 3 examined psychosocial development task Mature Interpersonal Relationships

(MIR). Table 4.4 depicts the overall means and standard deviations for each independent variable across the dependent variables from each ANOVA.

Table 4.4

SDTLA Task Scores of Peer Advisors, based on Peer Advisor Race/Ethnicity Category

	PUR task			AUT task			MIR task		
	M	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*
Gender									
Female	3.817	.065	77	3.799	.045	77	3.968	.059	77
Male	3.591	.136	21	3.709	.094	21	4.025	.123	21
Class Standing									
Juniors	3.635	.135	33	3.715	.094	33	4.072	.123	33
Seniors	3.773	.066	65	3.793	.045	65	3.921	.060	65
Race/Ethnicity									
White	3.838	.073	70	3.764	.050	70	3.926	.066	70
Underrep	3.569	.131	28	3.745	.091	28	4.067	.119	28

Table 4.5 provides the variables for the dependent variable of the Establishing and Clarifying Purpose (PUR) task and no effects were statistically significant at the .05 significance level. The main effect for race/ethnicity yielded an F ratio of (1, 90) = 3.205, p = .077, indicating no significant difference between Underrepresented students (M = 3.569, SD = .131) and White or Caucasian/European students (M = 3.838, SD = .073) on the PUR task. While the p-value was above .05 indicating no significance, it may suggest a possible effect given a larger sample size although this would also warrant additional discussion. No additional significant interactions were found through this ANOVA.

Table 4.5

ANOVA 1: Class Standing, Gender, and Race/Ethnicity across PUR task (n = 98)

	SS	*df*	*MS*	*F*	*p*
Gender	.443	1	.443	2.260	.136
Class	.166	1	.166	.848	.360
Race	.629	1	.629	3.205	.077
Gender x Class	.008	1	.008	.042	.838
Gender x Race	.356	1	.356	1.817	.181
Class x Race	.391	1	.391	1.993	.162
Gender x Class x Race	.143	1	.143	.730	.395
Note. *p ≤ . 05					

Table 4.6 shows a dependent variable of the Developing Autonomy (AUT) task and no effects were statistically significant at the .05 significance level. The main effect for race yielded an F ratio of (1, 90) = .034, p = .854, indicating no significant difference between Underrepresented students (M = 3.745, SD = .091) and White or Caucasian/European students (M = 3.764, SD = .050) on the task of AUT. No additional significant interactions were found through this ANOVA.

Table 4.6

ANOVA 2: Class Standing, Gender, and Race/Ethnicity across AUT task (n = 98)

	SS	*df*	*MS*	*F*	*p*
Gender	.071	1	.071	.751	.388
Class	.052	1	.052	.553	.459
Race	.003	1	.003	.034	.854
Gender x Class	.068	1	.068	.719	.399
Gender x Race	.000	1	.000	.005	.943
Class x Race	.047	1	.047	.502	.480
Gender x Class x Race	.020	1	.020	.212	.647
Note. *p ≤ . 05					

Table 4.7 depicts a dependent variable of Mature Interpersonal Relationships (MIR) and no effects were statistically significant at the .05 significance level. The main effect for race/ethnicity yielded an F ratio of (1, 90) = 1.065, p = .305, indicating no significant difference between Underrepresented students (M = 4.067, SD = .119) and White or Caucasian/European students (M = 3.926, SD = .066) on the MIR task. No additional significant interactions were found through this ANOVA.

Table 4.7

ANOVA 3: Class Standing, Gender, and Race/Ethnicity across MIR *task (n = 98)*

	SS	*df*	*MS*	*F*	*p*
Gender	.028	1	.028	.172	.680
Class	.197	1	.197	1.214	.274
Race	.173	1	.173	1.065	.305
Gender x Class	.011	1	.011	.066	.797
Gender x Race	.351	1	.351	2.168	.144
Class x Race	.022	1	.022	.133	.716
Gender x Class x Race	.000	1	.000	.003	.960

Note. *p ≤ . 05

Next, a multivariate analysis of variance (MANOVA) was conducted with three independent variables (race/ethnicity, sex, class standing) and three dependent variables (PUR task, AUT task, MIR task). Gender included two levels (male, female), class standing included two levels (juniors, seniors), and race/ethnicity included two levels (White or Caucasian/European, Underrepresented). *Box's M* (38.759) was not significant, p (.721) > α (.001), which demonstrated that there were no significant differences across the covariant matrices and the assumption of homogeneity was met, indicating it was appropriate to proceed with analyzing the MANOVA data output for Wilks Lambda (Λ). There was no significant main effect for race/ethnicity (F(3,88)=1.780, p =.157; Wilk's Λ = .943, partial n^2 = .057. No interaction

between race/ethnicity and sex were found ($F(3,88)=1.723$, p =.168; Wilk's Λ = .945, partial n^2 = .055. Additionally, no interaction between race/ethnicity and class standing were found ($F(3,88)=.852$ p =.469; Wilk's Λ = .972, partial n^2 = .028. Lastly, no interaction effects were found between gender, class standing, and race/ethnicity ($F(3,88)=.381$, p =.767; Wilk's Λ = .987, partial n^2 = .013.

Second, the influence of three independent variables gender, class standing, and international student status were utilized in three ANOVAs. Gender included two levels (male, female), class standing included two levels (juniors, seniors), and international student status included two levels (international, not international). The first dependent variable in ANOVA 4 utilized the psychosocial development task of Establishing and Clarifying Purpose (PUR), ANOVA 5 examined a dependent variable of psychosocial development task Developing Autonomy (AUT), and ANOVA 6 examined psychosocial development task Mature Interpersonal Relationships (MIR). Table 4.8 displays the overall means and standard deviations for each independent variable across the dependent variables from each ANOVA.

Table 4.8

SDTLA Task Scores of Peer Advisors, based on International Student Status

	PUR task			AUT task			MIR task		
	M	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*
Gender									
Female	3.813	.068	77	3.828	.047	77	3.928	.062	77
Male	3.832	.138	21	3.709	.094	21	3.914	.125	21
Class Standing									
Juniors	3.864	.134	33	3.711	.092	33	3.931	.122	33
Seniors	3.781	.075	65	3.826	.051	65	3.911	.068	65
International Student Status									
Interntl	3.897	.136	19	3.773	.093	19	3.839	.124	19
Not Interntl	3.748	.071	79	3.764	.049	79	4.003	.065	79

Table 4.9 provides the variables for the dependent variable of the Establishing and Clarifying Purpose (PUR) task and no effects were statistically significant at the .05 significance level. The main effect for international status yielded an F ratio of (1, 90) = .943, p = .334, indicating no significant difference between international students (M = 3.897, SD = .136) and non-international students (M = 3.748, SD = .071) on the PUR task. No additional significant interactions were found through ANOVA 4.

Table 4.9

ANOVA 4: Class Standing, Gender, and International Status across PUR task (n = 98)

	SS	*df*	*MS*	*F*	*p*
Gender	.003	1	.003	.014	.905
Class	.058	1	.058	.293	.589
Interntl	.186	1	.186	.943	.334
Gender x Class	.320	1	.320	1.624	.206
Gender x Interntl	.486	1	.486	2.465	.120
Class x Interntl	.128	1	.128	.652	.422
Gender x Class x Interntl	.413	1	.413	2.096	.151

Note. *p ≤ . 05

Table 4.10 displays a dependent variable of the Developing Autonomy (AUT) task and that no effects were statistically significant at the .05 significance level. The main effect for international status yielded an F ratio of (1, 90) = .009, p = .925, indicating no significant difference between international students (M = 3.773, SD = .093) and non-international students (M = 3.764, SD = .049) on the AUT task. No additional significant interactions were found through ANOVA 5.

Table 4.10

ANOVA 5: Class Standing, Gender, and International Status across AUT task (n = 98)

	SS	*df*	*MS*	*F*	*p*
Sex	.119	1	.119	1.300	.257
Class Standing	.111	1	.111	1.208	.275
Interntl	.001	1	.001	.009	.925
Sex x Class Standing	.043	1	.043	.470	.495
Sex x Interntl	.006	1	.006	.067	.797
Class x Interntl	.133	1	.133	1.452	.231
Sex x Class x Interntl	.024	1	.024	.262	.610

Note. *p ≤ . 05

Table 4.11 below illustrates a dependent variable of the Mature Interpersonal Relationships (MIR) task and reflects no effects were statistically significant at the .05 significance level. The main effect for international status yielded an F ratio of (1, 90) = 1.377, p = .244, indicating no significant difference between international students (M = 3.839, SD = .124) and non-international students (M = 4.003, SD = .065) on the MIR task. No additional significant interactions were found through ANOVA 6.

Table 4.11

ANOVA 6: Class Standing, Gender, and International Status across MIR task (n = 98)

	SS	*df*	*MS*	*F*	*p*
Gender	.002	1	.002	.011	.917
Class	.003	1	.003	.020	.889
Interntl	.225	1	.225	1.377	.244
Gender x Class	4.508	1	4.508	.000	.987
Gender x Interntl	.001	1	.001	.006	.941
Class x Interntl	.122	1	.122	.751	.389
Gender x Class x Interntl	.001	1	.001	.005	.944

Note. *p ≤ . 05

Next, a multivariate analysis of variance (MANOVA) was conducted with three independent variables (international status, sex, class standing) and three dependent variables (PUR task, AUT task, MIR task). Gender included two levels (male, female), class standing included two levels (juniors, seniors), and international status included two levels (international, not international). *Box's M* (55.270) was not significant, p (.213) > α (.001), which demonstrated that there were no significant differences across the covariant matrices and the assumption of homogeneity had been met. There was no significant main effect for international status (F(3,88)=.958, p =.416; Wilk's Λ = .968, partial n^2 = .032. No interaction between international status and sex were found (F(3,88)=.936, p =.427; Wilk's Λ = .969, partial n^2 = .031. Additionally, no interaction between international status and class standing were found (F(3,88)=1.355 p =.262; Wilk's Λ = .956, partial n^2 = .044. Lastly, no interaction effects were found between gender, class standing, and international status (F(3,88)=.713, p =.547; Wilk's Λ = .976, partial n^2 = .024.

Research Question Three

The third research question was: How does number of academic year terms served as a peer advisor impact progress on the psychosocial developmental tasks of Establishing and Clarifying Purpose, Developing Autonomy, and Mature Interpersonal Relationships, as measured by the SDTLA?

A series of factorial univariate analysis of variance (ANOVA) analyses were conducted. The influence of three independent variables of sex, class standing, and number of terms served as peer advisor were utilized in each of the three ANOVAs to answer research question three. Gender included two levels (male, female), class standing included two levels (juniors, seniors), and number of terms served included three levels (one, two, three or more). The first dependent

variable in ANOVA 7 utilized the psychosocial development task of Establishing and Clarifying Purpose (PUR), ANOVA 8 examined a dependent variable of psychosocial development task Developing Autonomy (AUT), and ANOVA 9 examined psychosocial development task Mature Interpersonal Relationships (MIR). Table 4.12 shows the overall means and standard deviations for each independent variable across the dependent variables from each ANOVA.

Table 4.12

SDTLA Task Scores of Peer Advisors, based on Terms Served as Peer Advisor

	PUR task			AUT task			MIR task		
	M	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*
Gender									
Female	3.783	.057	77	3.799	.041	77	3.972	.054	77
Male	3.688	.102	21	3.722	.074	21	3.972	.097	21
Class Standing									
Juniors	3.712	.096	33	3.745	.070	33	4.008	.092	33
Seniors	3.763	.063	65	3.780	.046	65	3.941	.060	65
Terms Served									
1	3.747	.084	33	3.842	.061	33	4.046	.088	33
2	3.640	.104	29	3.685	.075	29	3.999	.099	29
3-7	3.832	.094	36	3.785	.068	36	3.889	.089	36

Table 4.13 illustrates the variables for the dependent variable of the Establishing and Clarifying Purpose (PUR) task and one effect was statistically significant at the .05 significance level. The main effect for terms served as peer advisor yielded an F ratio of (2, 87) = 1.013, $p = .367$, indicating no significant difference between one term served as peer advisor ($M = 3.747$, $SD = .084$), two terms served as peer advisor ($M = 3.640$, $SD = .104$), and three or more terms served as peer advisor ($M = 3.832$, $SD = .094$). However, a significant interaction was found between class standing and academic year terms served with an F ratio of (2, 87) = 4.795, $p < .05$. Tukey post hoc test revealed that there were no significant multiple comparisons. Upon analysis of the estimated marginal means plots, there were no male juniors who had served only one term. Therefore, because a post hoc cannot be done with less than three groups, the only variable

included was terms served which had no significant differences. Overall, this analysis established that there was an interaction between class standing and number of terms served however no other information could be reported as none of the post hoc multiple comparisons were significant. Additionally, a non-significant trend was found in the interaction between sex, class standing, and number of terms served which yielded an F ratio of (1, 87) = 3.130, p = .080. No additional significant interactions were found through ANOVA 7.

Table 4.13

ANVOVA 7: Number of Terms Served, Gender, and Class Standing across PUR task (n = 98)

	SS	*df*	*MS*	*F*	*p*
Gender	.013	1	.013	.072	.789
Class	.008	1	.008	.045	.833
Terms	.371	2	.185	1.013	.367
Gender x Class	.155	1	.155	.845	.361
Gender x Terms	.181	2	.091	.495	.611
Class x Terms	1.755	2	.877	4.795	.011*
Gender x Class x Terms	.573	1	.573	3.130	.080

Note. *p ≤ . 05

Table 4.14 displays a dependent variable of the Developing Autonomy (AUT) task and no effects were statistically significant at the .05 significance level. The main effect for terms served as peer advisor yielded an F ratio of (2, 87) = .910, p = .406, indicating no significant difference between one term served as peer advisor (M = 3.842, SD = .061), two terms served as peer advisor (M = 3.685, SD = .075), and three or more terms served as peer advisor (M = 3.785, SD = .068). No additional significant interactions were found through ANOVA 8.

Table 4.14

ANOVA 8: Number of Terms Served, Gender, and Class Standing across AUT task (n = 98)

	SS	*df*	*MS*	*F*	*p*
Gender	.041	1	.041	.429	.514
Class	.012	1	.012	.127	.723
Terms	.174	2	.087	.910	.406
Gender x Class	.057	1	.057	.601	.440
Gender x Terms	.002	2	.001	.008	.992
Class x Terms	.088	2	.044	.462	.631
Gender x Class x Terms	.005	1	.005	.057	.812

Note. *p < . 05

Table 4.15 exhibits a dependent variable of the Mature Interpersonal Relationships (MIR) task and no effects were statistically significant at the .05 significance level. The main effect for terms served as peer advisor yielded an F ratio of (2, 87) = .887, p = .415, indicating no significant difference between one term served as peer advisor (M = 4.046, SD = .088), two terms served as peer advisor (M = 3.999, SD = .099), and three or more terms served as peer advisor (M = 3.889, SD = .089). No additional significant interactions were found in ANOVA 9.

Table 4.15

ANOVA 9: Number of Terms Served, Gender, and Class Standing across MIR (n = 98)

	SS	*df*	*MS*	*F*	*p*
Gender	.002	1	.002	.014	.905
Class	.086	1	.086	.521	.472
Terms	.294	2	.147	.887	.415
Gender x Class	.001	1	.001	.007	.934
Gender x Terms	.085	2	.043	.257	.774
Class x Terms	.054	2	.027	.164	.849
Gender x Class x Terms	.118	1	.118	.712	.401

Note. *p < . 05

Next, a multivariate analysis of variance (MANOVA) was conducted with three independent variables (terms served as peer advisor, sex, class standing) and three dependent variables (PUR task, AUT task, MIR task). Gender included two levels (male, female), class standing included two levels (juniors, seniors), and number of terms served included three levels (one, two, three or more). *Box's M* (55.75) was not significant, p (.686) > α (.001), which demonstrated that there were no significant differences across the covariant matrices and the assumption of homogeneity was met. There was no significant main effect for terms served as peer advisor (F(6,170)=.936, p = .470; Wilk's Λ = .937, partial n^2 = .032. No interaction between terms served as a peer advisor and sex were found (F(6,170)=.297, p = .938; Wilk's Λ = .979, partial n^2 = .010. Additionally, no interaction between terms served as a peer advisor and class standing were found (F(6,170)=1.794, p = .103; Wilk's Λ = .884, partial n^2 = .060. Lastly, no interaction effects were found between gender, class standing, and number of terms served as a peer advisor (F(3,85)=1.163, p = .329; Wilk's Λ = .961, partial n^2 = .039. Lastly, Figure 4.2 provides a visual depiction of how class standing and the number of terms served as a peer advisor aligned in this study.

Figure 4.2. Peer Advisor Class Standing with Number of Terms Served

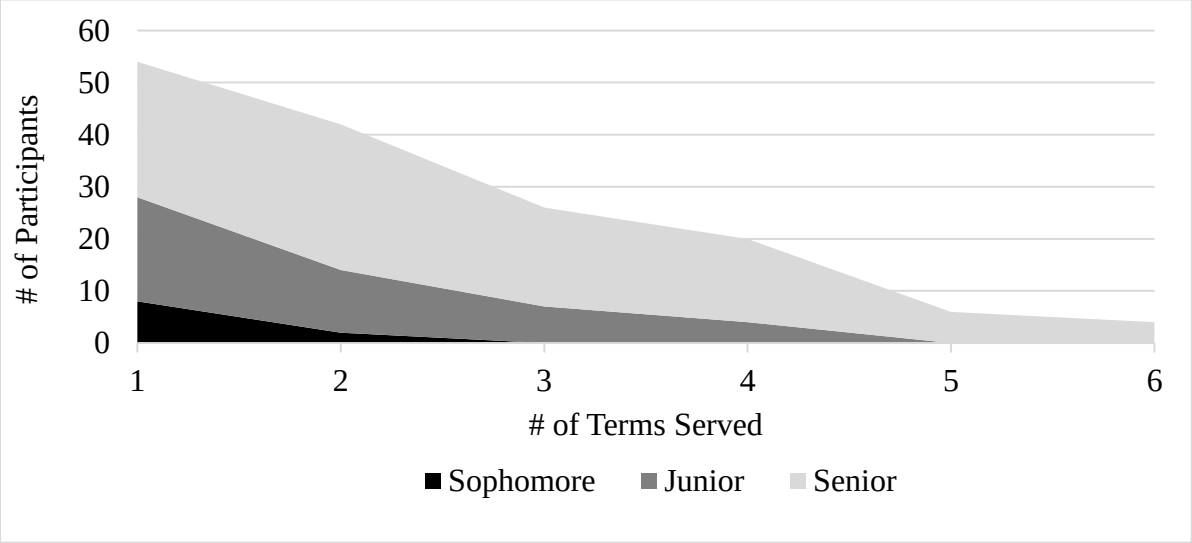


Figure 4.2 demonstrated that most sophomores had served as a peer advisor for one or two terms, juniors had served mostly for one or two terms with few students who served three to five terms, and seniors having served mostly one to four terms with few students serving as many as five or six terms. Therefore, when considering how the independent variables of class standing and number of terms served as peer advisor in this study, groups were not distinct in that not all sophomores had served the fewest terms and seniors had served the most terms. Rather, students in all levels of class standing had served one or two terms and far fewer participants with higher class standing had served for more terms as peer advisors. This consideration was discussed further in chapter five.

Research Question Four

The fourth research question was:

Do peer advisors demonstrate more advanced progress toward the psychosocial developmental tasks of Establishing and Clarifying Purpose, Developing Autonomy, and Mature Interpersonal Relationships, as measured by the SDTLA, compared to a normative sample of college students?

The mean averages were higher for every group of peer advisors (female sophomores, female juniors, male juniors, female seniors, and male seniors) than each corresponding normed college student sample group, across all three tasks. When examining the standard scores and effect sizes for the female population, Table 4.16 specifies the data across all of the subtasks and tasks and Figure 4.3 provides a pictorial representative of the effect sizes. First, standard scores will be reviewed, per the guidelines from Table 3.2 in chapter three, provided by the SDTLA technical manual.

Table 4.16

Female Peer Advisor Standard T Scores and Effect Size

	Female Sophomores		Female Juniors		Female Seniors	
Tasks/Subtasks	Standard Score	Effect Size	Standard Score	Effect Size	Standard Score	Effect Size
Establishing and Clarifying Purpose (PUR)	**60.50**	**0.93**	**56.97**	**0.50**	**55.24**	**0.33**
Subtask: Career Planning (CP)	60.28	0.96	52.91	0.25	54.94	0.38
Subtask: Educational Involvement (EI)	62.38	1.18	58.21	0.68	56.14	0.42
Subtask: Lifestyle Planning (LP)	57.81	0.72	54.07	0.34	50.95	0.07
Subtask: Cultural Participation (CUP)	50.82	0.08	55.94	0.51	54.78	0.37
Developing Autonomy (AUT)	**55.83**	**0.47**	**58.05**	**0.46**	**54.74**	**0.20**
Subtask: Instrumental Autonomy (IA)	56.51	0.61	53.08	0.003	52.68	0.17
Subtask: Emotional Autonomy (EA)	61.18	0.98	52.62	0.15	52.09	0.10
Subtask: Interdependence (IND)	61.02	1.01	57.54	0.55	55.00	0.34
Subtask: Academic Autonomy (AA)	56.71	0.65	52.03	0.16	51.31	0.09
Mature Interpersonal Relationships (MIR)	**59.81**	**0.87**	**54.57**	**0.27**	**54.26**	**0.22**
Subtask: Peer Relationships (PR)	55.17	0.44	45.56	0.31	46.60	0.17
Subtask: Tolerance (TOL)	60.59	1.09	60.36	0.79	57.30	0.53

Female sophomores scored ‘somewhat higher’ than the normative sample on all three tasks: PUR, AUT, and MIR tasks. ‘Somewhat higher’ than represents one standard deviation higher. Female juniors scored ‘somewhat higher’ than the normative sample on the PUR and AUT tasks and ‘about the same as’ the normative sample for the MIR task. ‘About the same as’ represents a score within the same standard deviation, even though the peer advisor mean was visibly higher than the normed college student group. Female seniors scored ‘about the same as’ the normative sample across all three tasks. No female peer advisor group scored ‘substantially higher’, ‘somewhat lower’, or ‘substantially lower’ among the subtasks than the normative sample. The highest standard score among the tasks and subtasks for female peer advisors was 62.38 by female sophomores in the subtask of Educational Involvement (EI), part of the Establishing and Clarifying Purpose (PUR) task. The lowest standard score among the tasks and

subtasks for female peer advisors was 45.56 by female juniors in the subtask of Peer Relationships (PR), within the Mature Interpersonal Relationships (MIR) task. Overall, among the three groups of female students and nine accompanying task scores, five task standard scores were 'somewhat higher' (one standard deviation higher) and four were 'about the same as' (within the same standard deviation as) compared to the normed population of female college students.

Next, the male peer advisor population of juniors and seniors were examined in comparison to the normed population of male junior and senior college students across the subtasks and tasks of the SDTLA, as shown in Table 4.17.

Table 4.17

Male Peer Advisor Standard T Scores and Effect Size

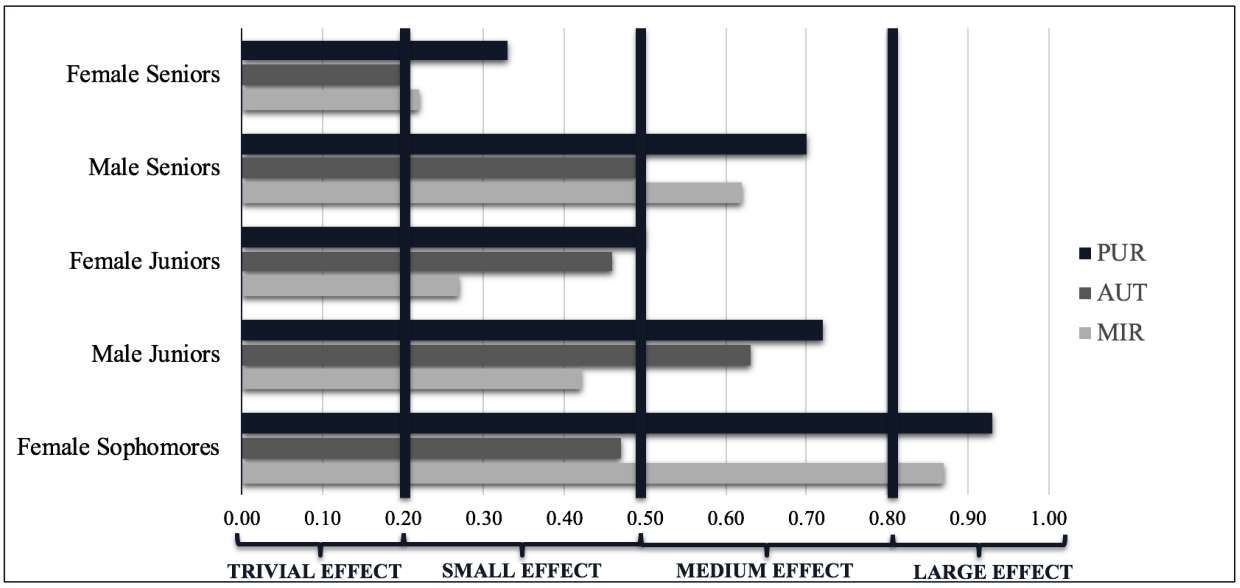
	Male Juniors		Male Seniors	
Task/Subtasks	Standard Score	Effect Size	Standard Score	Effect Size
Establishing and Clarifying Purpose (PUR)	**58.20**	**0.72**	**58.71**	**0.70**
Subtask: Career Planning (CP)	55.48	0.51	56.30	0.55
Subtask: Educational Involvement (EI)	58.86	1.19	59.18	0.80
Subtask: Lifestyle Planning (LP)	52.40	0.22	56.53	0.55
Subtask: Cultural Participation (CUP)	58.00	0.77	56.00	0.54
Developing Autonomy (AUT)	**57.50**	**0.63**	**57.39**	**0.49**
Subtask: Instrumental Autonomy (IA)	53.73	0.34	55.00	0.40
Subtask: Emotional Autonomy (EA)	54.38	0.38	56.86	0.51
Subtask: Interdependence (IND)	55.29	0.48	60.48	0.82
Subtask: Academic Autonomy (AA)	55.29	0.51	53.69	0.30
Mature Interpersonal Relationships (MIR)	**55.00**	**0.42**	**59.11**	**0.62**
Subtask: Peer Relationships (PR)	45.82	0.36	48.04	0.15
Subtask: Tolerance (TOL)	58.81	0.83	63.22	1.11

Male juniors scored 'somewhat higher' than the normative sample on the PUR and AUT tasks and 'about the same as' the normative sample on the MIR task. Male seniors scored 'somewhat higher' than the normative sample across all three tasks. Again, 'somewhat higher'

represents one standard deviation higher and ‘about the same as’ reflects a score within the same standard deviation, even though the peer advisor score was visibly higher than the normed college student group. No male peer advisor group scored ‘substantially higher’, ‘somewhat lower’, or ‘substantially lower’ than the normative sample. The highest standard score among the tasks and subtasks for male peer advisors was 63.22 by male seniors in the subtask of Tolerance (TOL), part of the Mature Interpersonal Relationships (MIR) task. The lowest standard score among the tasks and subtasks for male peer advisors was 45.82 by male juniors in the subtask of PR. Overall, among the two groups of male students and six accompanying task scores, five task standard scores were ‘somewhat higher’ and one was ‘about the same as’ compared to the normed population of male college students.

Effect size between the peer advisor population and the normed sample were reviewed for both females and males, as depicted in Figure 4.3 below, with data from all tasks and subtasks available in Table 4.16 for females and Table 4.17 for males.

Figure 4.3. Effect Sizes Between Peer Advisors & Normed College Student Data



Female sophomores demonstrated large effect sizes for the PUR and MIR tasks and a small to medium effect size for AUT. Female juniors had a medium effect size for the PUR task, small to medium effect size for the AUT task, and small effect size for the MIR task. Last, female seniors had small effect sizes across all three tasks when their standard scores were compared to the normed population of college students. The highest effect size across all of the tasks and subtasks was among female sophomores (1.18) for the subtask of EI. The lowest effect size across all of the tasks and subtasks for female peer advisors was among female juniors (.003) for the subtask of Instrumental Autonomy (IA), part of the Developing Autonomy (AUT) task. Therefore, among the female peer advisor population two large effects were found, one medium, two small-to-medium, and four small when comparing standard scores to the female normed college student population. For reference, effect sizes are considered to be small at 0.20, medium at 0.50, and large at 0.80 (Cohen, 1988; Fritz et al., 2012).

Next, effect size between the male peer advisor population and the normed sample was reviewed. Male juniors had a medium effect size for the PUR and AUT tasks and a small to medium effect size for the MIR task. Male seniors had medium effect sizes across all three tasks when their standard scores were compared to the normed population of college students. The highest effect size across all of the tasks and subtasks was among male juniors (1.19) for the subtask of EI. The lowest effect size across all of the tasks and subtasks for male peer advisors was among male seniors (0.15) for the subtask of PR. Overall, male peer advisors had five medium effects and one small to medium effect when examining their task scores compared to the normed male college student population.

Overall, research question four demonstrated that each group of peer advisors by gender and class standing had a higher average score than the normed group of college students. To

provide perspective and meaning to the higher scores, standard scores and effect size were utilized. When reviewing the standard scores for the peer advisor population in comparison to the normed college student sample, peer advisors, regardless of gender or class standing, always scored ‘about the same as’ the normative sample (standard scores 45-55) or ‘somewhat higher’ than the normative sample (standard scores 56-65). Among the five groups of students examined, across three tasks (total of 15), ten were ‘somewhat higher’ than the normative sample and five groups were ‘about the same as’ the normative sample. When examining the overall effect sizes for the peer advisor population in comparison to the normed college student sample (15 groups) there were two large effects, six medium effects, three small-to-medium effects, and four small effects.

Summary of Results

This study was designed to explore the psychosocial development levels of academic peer advisors in the United States and to compare their scores on three tasks of the SDTLA instrument to a normed population of college students, provided by the survey developers. The first research question provided the mean averages and standard deviations of the five groups of peer advisors, organized by gender and class standing, across the three tasks and ten subtasks of the SDTLA instrument. Research question one indicated that female sophomores and female seniors scored quite similarly on two tasks. Among men and women, scores were also quite similar and overall seniors scored higher on only two tasks compared to junior populations.

Research question two examined data within the peer advisor groups, focusing on differences within the peer advisor population for international student status and race/ethnicity. No statistically significant differences were found utilizing ANOVA and MANOVA analyses to examine within-group differences of racial and cultural background. Research question three

explored within-group differences based on number of terms served as a peer advisor and found a significant interaction between class standing and number of academic year terms served as a peer advisor on the Establishing and Clarifying Purpose (PUR) task, but post hoc analyses provided no further statistical significance to explain the interaction.

Last, research question four utilized a between-groups approach with standard scores and effect size to compare the peer advisor population to that of a normed college student population. All mean averages were higher for every group of peer advisors compared to every group of the normed college students, across all three tasks. Standard scores of the peer advisor sample were shown to be 'somewhat higher,' or one standard deviation higher, than the normed college student sample for ten of the fifteen groups and 'about the same as,' or within the same standard deviation, for five of the fifteen groups. Additionally, when calculating effect size utilizing Hedges' *g*, two large effects, nine medium or small to medium, and four small effects were found. The following chapter evaluated these results, discussed implications for practitioners and for research, and made recommendations for future research on academic peer advisors, psychosocial development, and use of the SDTLA instrument.

CHAPTER 5: DISCUSSION

This research study examined three research questions in an exploratory analysis to describe psychosocial development task scores of undergraduate peer advisors and a fourth research question which compared their scores to a secondary data set of undergraduate college students. This study has critical implications for both practitioners and administrators in the field and scholars conducting research in higher education. Each of the three tasks in the SDTLA demonstrated moderate or strong reliability coefficients, although both the Peer Relationships (PR) subtask and Response Bias scale had concerning, lower levels of reliability. Future research should eliminate or improve the Response Bias scale as this was the third research study which demonstrated very low reliability levels. Additionally, the researcher has concerns regarding the validity of the Response Bias scale and a true/false response choice to the items for the purposes of measuring an intention to respond in a socially desirable manner. Additionally, the PR subtask has had consistently lower levels of reliability and needs a factor analysis to adequately conceptualize the items that constitute the subtask. The SDTLA only covers three of the seven psychosocial development vectors established by Chickering and it would be helpful to have an instrument which measures more or all of the vectors. The questions included in the SDTLA did reflect the expectations of psychosocial development set for this study and deemed to be a valid measure of three areas of psychosocial development, as examined through the three tasks.

A limited baseline of indicators was examined for participants in this study. As Astin's input-environment-outcome (I-E-O) model indicated, the student characteristics before they enter college must be considered to fully capture the impact of the college environment on outcomes (Astin, 1993). When considering the additional participant characteristics which may have impacted their psychosocial development scores, there were no major trends among academic

major selected or type of involvement, although the vast majority of students were involved in at least one campus club. When asked if they wished to continue serving as a peer advisor, the vast majority of the participants stated they intended to continue serving in their role, indicating that they did not have significant concerns regarding their peer advising experience. The results from the study do reflect participants from a diverse number of states and regions across the United States, although almost entirely the experiences of peer advisors at four-year institutions. Additionally, the majority of institutions students attended were public (71%) which reflects the institutional context of the peer advising experience assessed in this study. The gender breakdown of peer advisor participants in this study (21% male, 78% female) was not surprising to the researcher and does appear to reflect the typical gender breakdown in peer advising programs. Each research question was discussed followed by specific implications for practitioners and for research.

Research Question One

Data provided to answer research question one included means, standard deviations, and numbers of responses on each SDTLA task and subtask for males and females, separated by sophomore, junior, and senior class standing. While previous research had demonstrated that class standing was significantly correlated with higher levels of psychosocial development (Winston et al., 1999a), after examining the means for solely higher or lower score differences it was visible that scores did not align based on class standing. Even without examining statistical significance, it was evident that higher levels of class standing did not always align with the highest mean averages of psychosocial development task scores. Rather, sophomores scored just as high or higher on two tasks (PUR and MIR) in comparison to the senior populations and juniors scored higher on the AUT task, compared to the senior population of peer advisors.

A few speculations were drawn from these results. First, serving as a peer advisor may have a stronger impact on students with lower class standing. For example, the additional training, mentorship, and leadership opportunity of serving as an undergraduate peer advisor impacts sophomore students who, without that experience, may have had lower levels of psychosocial development. Senior peer advisors have already exhibited the growth in which the additional experience of peer advising may not advance much further. Two previous research studies also showed that sophomores experienced a surge in psychosocial development when provided opportunities to become involved in college (Foubert & Urbanski, 2006; Palmer & Taylor, 2013).

Another outlook drawn could be that serving as a peer advisor had a greater impact on one's development in the task areas of PUR and MIR. The peer advising experience enabled peer advisors to gain skills as self-directed learners, realization of personal direction and career goals, and have strong relationships with respect for others different from themselves. Additionally, as junior peer advisors scored higher than senior peer advisors on the AUT task it would represent that peer advising impacted the juniors to gain independence, contribute to their community, and follow expectations without direction. When gauging the possibility of these speculations, the literature on the impact of peer advising affirmed these possibilities. Table 2.1 identified a summary of peer advisor outcomes, which described a number of similarities as those described above. For example, the PUR task reflected outcomes listed by Griffin and colleagues (2014) regarding community engagement, cultural skills, and knowledge attainment. The MIR task directly linked to outcomes discussed by five of the authors summarized in areas such as communication skills and interpersonal connection (Zevallos & Washburn, 2014). The third task of AUT also aligned with the peer advisor outcomes summarized in Table 2.1 in regards to

humanitarianism and civic engagement, as well as practical competence (Wawrzynski et al., 2011). While previous literature provided evidence for how peer advisor outcomes aligned with psychosocial development, there was space available to consider why levels of class standing did not align as much with the survey developer's expectations. Research questions two and three included class standing as an independent variable, in which statistical analyses further explored this finding.

Additionally, this research study found that females and males aligned in their scores on the psychosocial development tasks. This trend was different than literature findings that females scored higher than males and that their outcomes was recommended to be analyzed separately in order to gauge the true phenomenon occurring for each gender (Winston et al., 1999a). As students voluntarily sought out undergraduate peer advising roles, it was possible that male students drawn to these roles may already have had higher levels of psychosocial development. Many of the peer advisor outcomes reflected interpersonal and intrapersonal skills which related to the psychosocial development areas assessed in the SDTLA. Another possibility was that the peer advisor role had a greater impact and demonstrated greater levels of psychosocial development for male students than for female students. This was examined further in the discussion for research question four, which compared the peer advisor data to the normed college student data. Overall, this descriptive set of data was intended to serve future utilization rather than to draw conclusions from this sample of undergraduate peer advisors. Therefore, implications for practitioners and in research will be discussed further.

Implications for practitioners. No previous literature found through the course of this study demonstrated SDTLA score outcomes of peer leaders in higher education settings, although this was a recommended utilization in the SDTLA technical manual (Winston et al.,

1999a). When reviewing the results, research question one demonstrated the opportunity for a peer advising program to provide a greater impact at supporting psychosocial development for students with sophomore and junior class standing. It also highlighted the potential that males are experiencing gains from serving as peer advisors since their scores were comparable to the female peer advisor population, when previous literature suggested their scores should be quite lower.

Additionally, while the SDTLA developers provided normative data it was from a population of undergraduate college students from 1999 with an updated sample collected between 2007 and 2011. The data in the current study are valuable for practitioners of peer leader programs who may want to use it as a new example of normative data to compare their group or individual peer leaders' scores to. Although it was not as large of a study as the SDTLA normed data set, it did include peer advisors across the country at a diverse set of institutions and the participant sample was described thoroughly for administrators to review if the demographic make-up is appropriate for comparison to the backgrounds of their peer advisors.

The SDTLA has been described as being useful in training and as a developmental tool by having students take the instrument and discuss the areas of growth (Winston et al., 1999a). Given the close connection between peer advisor outcomes and psychosocial development tasks, the SDTLA can give an indication of students' scores before their experience as a gauge for who may demonstrate the psychosocial scores that would make them a successful peer advisor. The survey developers recommended that when the instrument is used for self-exploration that a relationship of trust first be established so that results can be more accurate and helpful (Winston et al., 1999a). Additionally, it was described as essential to communicate with students that the instrument was designed to help students focus on areas of growth through self-understanding,

rather than as focusing on earning perfect scores to attain by the time they graduate. If practitioners can focus on the "unique developmental characteristics" of the group they are working with, it will better aid in their goal of using the SDTLA to further support students' development (Winston et al., 1999a, p. 6).

Peer advising program administrators who engage in program evaluation may identify intentional learning outcomes of peer advisor psychosocial development. Based on reviewing a number of peer advisor program evaluations, a suggestion for identifying learning outcomes, strategies for assessing those outcomes, and a timeline to follow is recommended. A similar process was outlined earlier in chapter two which described an evaluation cycle of establishing learning goals, engaging students in the learning opportunities, assessing student learning, and lastly using the results (Suskie, 2004). Instead of waiting until after a term has ended or a program has been developed, evaluation can serve as an embedded aspect of a peer advising program. The biggest challenge practitioners may have is time, so by setting up an evaluation structure initially it can assist in the ongoing analysis and opportunity for improvements based on findings. The SDTLA survey developers highlighted the instrument as a tool available for program evaluations (Winston et al., 1999a) and has potential for practitioners to incorporate.

While the SDTLA has served as a method of measuring peer advisor outcomes on progress toward three psychosocial development tasks, qualitative research could also share more about the impact and explain if learning outcomes were met as part of the evaluation process (Suskie, 2004). Many studies reviewed were published in journals which served both scholars and practitioners. These program evaluations were the most valuable in the development of the present research study when they clearly highlighted the goals, methodological process, results, separate discussion of the findings, and applicable modifications for the program being

evaluated. This research study intended to bring awareness of the SDTLA instrument for peer leader programs as a selection or training tool for ongoing development, as well as in program evaluations. Additionally, it provided the peer advisor means and standard deviations for utilization as a normative sample for peer advising program administrators.

Implications for research. This research investigated a national sample of peer advisors and assessed their psychosocial development levels with a quantitative survey, which was the first known study to do so, rather than a more general group such as peer mentors or peer leaders. This study provided a snapshot of the demographics of 153 peer advisors throughout the United States from four-year, two-year, public and private institutions. While this study was limited to the students who self-selected to respond to the online survey, it was still valuable as new data available in the field of higher education. Theoretical questions examined as part of this research question were if peer advisor outcomes were reflective of students who decided to become peer advisors (personality type or background) or if it was a representation of the impact of the responsibilities and duties of the peer advisor role.

The SDTLA normative sample indicated that women scored higher on every developmental task and subtask in the 1999 normative sample (Winston et al., 1999a). Because of this and other research which has described the varying levels of psychosocial development between males and females, the SDTLA identified that evaluation of data be separate for males and females. However, the scores from the 1999 sample were not significant and one other study also did not find gender effects between tasks on an earlier version of the SDTLA (Sheehan & Pearson, 1995). Additionally, the 2007 to 2011 sample reflected that male juniors scored higher on two tasks (Developing Autonomy, Mature Interpersonal Relationships) and three subtasks (Tolerance, Emotional Autonomy, Interdependence) (Winston et al., 1999a). In the present

study, the mean averages found in research question one were almost exactly the same between males and females. Future research should conduct a focused investigation with a large sample that examines gender differences in psychosocial development. This addition would clarify if the SDTLA truly needed to be examined separately across the two genders, would allow for the inclusion of students who identify their gender on a non-binary spectrum (such as the two students in this study who selected 'other' for their gender identity), and would allow for smaller sample sizes in statistical analyses because the data would not need to be split between two (or more) gender groups.

Many research studies examined involved researchers creating their own survey questions to evaluate their program and produce outcome results. A benefit to using the SDTLA for future research on psychosocial development was the availability of standardized questions for which comparisons could be made between the present study and other programs, across different programs, across different students every year in the same program, and more. The SDTLA has been tested and, despite some limitations, the survey developers made significant and multiple revisions of the instrument to make improvements, whereas many of the research studies examined were single-institution and single-point in time examinations. Therefore, from this perspective, the SDTLA has had detailed reviews to identify issues with wording of questions, order of questions response time, and more, all of which impacted the value and precision of results (Groves et al., 2009). Use in future research studies was recommended given the psychometric properties and accessibility of the instrument (Henning-Stout, 1992; Mines, 1982; Porterfield, 1992). It can also be challenging to find pre-developed instruments to utilize and the SDTLA allowed researchers to access and utilize the instrument without charge, score it themselves, and employ it for individuals or in group settings which are significant benefits to

future research using the SDTLA (Evans et al., 2009). Ongoing survey development for the SDTLA and new measures of psychosocial development would be very useful as qualitative research continues to identify more understanding regarding the psychosocial experiences of diverse college students. An option to utilize an instrument for pre and post analyses would provide opportunities to scrutinize programs and experiences offered during college to identify the short-term impact, a growth area in which the SDTLA explicitly was not able to capture.

Research question one reflected growth among peer advisors across three SDTLA tasks, based on three of Chickering's vectors. However, four additional vectors also reflect psychosocial development in college students which were not covered in the SDTLA: developing competence; managing emotions; establishing identity; and developing integrity. Although the vectors were considered to be quite interdependent, a new SDTLA task which, at minimum, reflects the establishing identity vector would be useful because identity exploration and development has often been considered to be a culmination of the other psychosocial development areas. It would be beneficial to have an instrument which assesses all seven of Chickering's vectors. Future research and instrumentation development could consider all of Chickering's vectors or new perspectives on psychosocial development gathered from the qualitative work published in recent years.

Overall, research question one provided means and standard deviations of undergraduate peer advisors, delved into elementary analysis of trends among gender and class standing for each task, and provided recommendations for both practitioners and for future research.

Research Question Two

Next, within-group differences for racial and cultural background were examined among the national sample of undergraduate peer advisors on the three SDTLA psychosocial

development tasks. No statistically significant results or interaction trends were found after analyzing students who identified as White or Caucasian/European versus Underrepresented racial backgrounds or for students who identified as international students or not. Findings from the present study indicated that Underrepresented students scored higher on one task (MIR), lower on one task (PUR), and almost exactly the same on another task (AUT) as the White or Caucasian/European students. International students scored higher on one task (PUR), almost exactly the same on another task (AUT), and lower on one task (MIR), compared to non-international students. An effect was identified between White or Caucasian/European and Underrepresented students on the Establishing and Clarifying Purpose (PUR) task, with White or Caucasian/European students having scored slightly higher than Underrepresented students at the .10 significance level.

When considering students from Underrepresented racial identities in this study, which included Black/African American, Hispanic, Latino/a, or Mexican American, Asian American or Pacific Islander, Native American/People, Bi-racial or multiracial, and Other (compared to White or Caucasian/European), the SDTLA technical manual indicated many factors could aid in the formation of identity. Therefore, while the SDTLA aimed to measure psychosocial development levels, the survey developers also acknowledged that there were many aspects of identity, some of which may have been particularly salient for students from Underrepresented racial groups, such as "language, customs, socioeconomic status, racism, and acculturation" (Winston et al., 1999a, p. 9). While no patterns emerged between White or Caucasian/European students, psychosocial progress based on ethnic identity was covered in the biographical-demographic section of the technical manual to provide additional information on statistically significant differences. The possible effect (White or Caucasian/European students scoring higher than

Underrepresented students on the PUR task) identified in the present study did not align with the statistical differences found by the survey developers (African American/Black students scored higher on the MIR task and Caucasian/White students scored higher on only two subtasks) (Winston et al., 1999a). Therefore, race/ethnicity has not, in this research study or in previous findings, demonstrated consistent results regarding how racial or ethnic identity correlate with psychosocial development scores. Future research in this area must acknowledge the development of the SDTLA on a primarily white group of students and interpret findings through a lens that it may not accurately reflect psychosocial development for minority students (Council of National Psychological Associations for the Advancement of Ethnic Minority Interests, 2016).

The lack of statistically significant findings regarding international student status differed from research that showed international students in the United States scored lower on two (PUR and MIR) of the three tasks when compared to non-international students, on an earlier version of the SDTLA (Sheehan & Pearson, 1995). This research looked particularly at students from Asia who were studying in the United States and concluded that their lower results were perhaps because of the instrument development in a Western Culture with inherent Western values (Sheehan & Pearson, 1995). Only students from the United States and Canada were included in the initial creation of the instrument (Winston et al., 1999a), so it was not reasonable to evaluate a direct comparison even when scores were different on the SDTLA instrument. This may be why the survey developers included the question on international student status in the original demographic questionnaire. Given the definition of a developmental task, "An interrelated set of behaviors and attitudes that the culture specifies should be exhibited at approximately the same time by a given age cohort in a designated context" and that age and development are both culturally defined and adapt as social customs vary among cultures, international students would

not be expected to score at similar levels as non-international students, whom the instrument is based on (Winston et al., 1999a, p. 5). Additionally, since previous evidence indicated that international students may score lower on the SDTLA, the findings in the current study misalign. Therefore, while the findings were not significant in this study between the international students and non-international students, an inference of this research demonstrated how the role of serving as a peer advisor for international students who elect to be peer advisors have adapted to the U.S. higher education context in their respective institutions. The psychological adaptation process may have included the ability to cope with stress, identify social support, manage expectations, build new friendships, and encounter discrimination. How international students identified and appraised these impacted their experience in acculturation, which may have been magnified through their role as a peer advisor (Smith & Khawaja, 2011; Wang & Mallinckrodt, 2006). Further research that explained the difference in findings in the present study on how peer programs facilitated international student adjustment indicated that, while international students typically experienced lower levels of institutional attachment and social adjustment, social interaction helped facilitate their adjustment (Abe, Talbot, & Gellhoed, 1998). Students who integrated into the new environment (such as peer advisors), may have been able to psychologically adapt in a manner which facilitated their psychosocial development scores on the SDTLA. Subsequently, implications were analyzed in consideration of previous research and future recommendations for study.

Implications for practitioners. The obligation for practitioners to take the responsibility for students' engagement in college, rather than waiting for students to get involved, was discussed in chapter one. Additionally, facilitating student development and engaging in assessment to ensure involvement activities are being utilized in an equitable manner among

students of differing racial and cultural backgrounds is essential (Bensimon, 2009; Martínez-Alemán et al., 2015). Although higher or lower scores on the SDTLA psychosocial development tasks may indicate certain sociological factors for students coming from backgrounds or identities that are traditionally oppressed in the United States, there are still useful considerations for considering the results of this research study and for future practitioner use of the instrument.

The SDTLA technical manual provided suggestions for how practitioners could utilize the instrument to identify needs from students to develop events and programming that align with certain tasks or subtasks in which students have scored lower (Winston et al., 1999a). This would provide an opportunity for tailoring practitioner-led student life programs that can be designed for the specific population of students they are working with. For example, racial identity formation has been shown to have positive impacts on psychosocial development, psychological health, and involvement in cultural organizations (Patton et al., 2016; Pope-Davis et al., 2000), so programs which include learning outcomes for racial identity development could then also support their psychosocial development as well.

One area for practitioners to consider is the concept of stereotype threat in regard to how effective their peer advisors feel based on how they believe others perceive them. When a peer advisor does not identify with a stereotype they are aware others may have about their social group, it may lead to an increased conscientiousness to avoid behaving in alignment with the stereotype (Steele, Spencer, & Aronson, 2002). If an individual feels adequately capable of managing the threat, they may feel less threatened overall. It is possible that in developing these coping skills, an individual is developing psychosocially as well, such as with the Emotional Autonomy subtask of the Developing Autonomy task on the SDTLA. This subtask reflects confidence and trust in oneself without reliance on authority, even in situations where they voice

disagreement. As a peer advisor working independently, the psychosocial skills gained may even assist individuals from Underrepresented backgrounds in developing coping skills for managing any future experiences of stereotype threat.

An institutional focus on retention and graduation as student outcomes was outlined in chapter one, which may be identified as goals for an entire population of students or specific groups (often racial minorities) with lower persistence rates. As discussed earlier, efforts to promote persistence among population sub-groups do create a culture and promotion of persistence for all students (Harper & Quaye, 2009). Some administrators developed programs which specifically targeted minority groups through their peer services (Apprey et al., 2014; Guillory, 2009; Rios-Ellis et al., 2015; Sanchez-Leguelinel, 2008), which are a recommended option if the goals of the program are to provide intentional support for a specific group. Students with similar experiences or backgrounds may be able to connect with their peers in ways that other offices or administrator support programs may not. Suitably, Harper and Quaye (2009) suggested racial/ethnic minority students and international students as two populations that could benefit from similar peer support.

Advising and peer advising are both opportunities in which cultural expectations of the institution can be communicated to achieve student success. Consideration of institutional histories, theoretical knowledge, and passion to engage a diverse group of students have the potential to transform current student engagement practices in higher education. The knowledge raised through examining within-group differences of peer advisors from different racial and cultural backgrounds elevated awareness for programs which intend to target and support specific groups of students, utilizing the SDTLA instrument to identify needs and cultivate purposeful programming.

Implications for research. Research that continues to develop a greater understanding of how students from diverse backgrounds experience and engage in the culture of higher education contributes to creating more equitable knowledge and cultures in these contexts. Previous literature has cited a call for the importance of research which highlights the college experiences of students from different ethnic backgrounds (Patton et al., 2016). Individuals from all backgrounds deserve to be recognized in the conceptual and theoretical bases which make up scholars' understanding of students in higher education. As discussed earlier, by supporting students' identity development it can directly impact their psychosocial development factors such as self-esteem (Patton et al., 2016). If intentional and direct research is not examined on students from Underrepresented backgrounds in higher education, their experiences may be unrecognized, continuing to support a status quo culture of oppression. Research which examines the experiences of racial and identity groups separately would indicate more precise levels of psychosocial development. For example, an article on racial and ethnic identities of Asian American students highlighted the difference between race and ethnicity and the importance of gathering how an individual identifies to support their psychological well-being (Iwamoto & Liu, 2010). Researching college student development is especially important to ascertain the factors which contribute to students' future personal and professional success.

Additionally, while research highlighting the experiences of Underrepresented groups in higher education was valuable, some have noted that to truly understand the developmental experience and to capture the lived experience of a minority group member, qualitative research which challenges traditional positivist is needed (Evans et al., 2009). Therefore, future research is recommended to continue exploring the thoughts, feelings, and behaviors which characterize psychosocial development with peer advisors who identify as a racial/ethnic minority or as an

international student. Since the current study and previous research using the SDTLA did not gather any specific patterns or trends between White or Caucasian/European and Underrepresented students, qualitative research, which has the opportunity to learn more about how peer advisors from different racial/ethnic backgrounds experience their role, could better identify these considerations through narrative research, case studies, or a phenomenological approach. In particular, the experiences of Asian American students are very complex due to their diverse histories (Iwamoto & Liu, 2010) and the use of an Underrepresented student category limited the ability to capture the experiences of individual racial and ethnic groups. Similarly, international students who have a strong background in English due to language of instruction at previous institution would benefit from desegregated data analysis in the future to clarify the role language has in psychosocial development survey responses.

A third implication for future research is the consideration postulated by Astin (1984) on the value of how peers can influence others to become more involved. Whether a peer advising program is targeting a specific group of students or a full population, if students see peer advisors in their roles it may encourage them to connect with other opportunities on campus as well. One example was in an involvement role where students interacted frequently with their peers and results found that the involvement activity "seems to accentuate the changes normally resulting from the college experience" (Astin, 1984, p. 526). The possibilities for future research on outcomes of peer advising as an involvement activity for racial/ethnic minority students in particular, how representation in peer advising and its impact on other students' involvement levels, or a shift to mixed-methods or qualitative studies would offer great contributions to the field in these areas.

Research Question Three

The third research question investigated how number of academic year terms served as a peer advisor impacted psychosocial development scores on the three SDTLA tasks for undergraduate peer advisors. Class standing was examined as a separate independent variable due to previous research citing the demonstrated impact on psychosocial development scores, more than simply aging alone (Winston et al., 1999a). When running the statistical analyses for number of terms served as peer advisor, one result was found to be statistically significant which was on the Establishing and Clarifying Purpose (PUR) task. Class standing and number of terms served as a peer advisor had a significant interaction, although post hoc analyses were not available to further explain these results due to the small group sizes.

While number of terms served as a peer advisor could be assumed to be correlated with level of class standing, Figure 4.2 demonstrated that students across all levels of class standing had similar representation among one and two terms served as a peer advisor, whereas it was only in the three or more terms served as peer advisor group that mostly juniors and seniors were represented. This verified that students of all class standing levels began in their roles as peer advisors and that many of them continued in their roles as they grew in class standing. Therefore, while the post hoc analyses were not able to provide further depth into the interaction between class standing and number of terms served, Figure 4.2 was able to provide a pictorial representation of the data.

The interaction between class standing and number of terms served as a peer advisor related to previous research that utilized an earlier version of the SDTLA in a longitudinal sample of students and their associated levels of involvement (Foubert & Urbanski, 2006). After surveying students at the start of their freshmen, sophomore, and senior years, the researcher

found that involvement was most impactful for sophomore students and that involvement did not have to include a leadership role as long as it included joining an organization rather than just attending a meeting (Foubert & Urbanski, 2006). Serving as a peer advisor involves a regular commitment to an organization, so this reinforced the significance found for the PUR task in the present study and by Foubert and Urbanski (2006) among students who were very actively involved on campus. Establishing and Clarifying Purpose (PUR) represented students' integration into the academic and educational life of their campus, engagement in cultural activities, and the ability to connect current activities to future personal and professional life goals. Therefore, students do not need to have served as a peer advisor for many terms to reap the developmental benefits of serving as a peer advisor. Joining and being committed to the peer advising role is what leads to psychosocial impact (particularly in the area of Establishing and Clarifying Purpose). Astin's (1984) theory of involvement reinforced this speculation as his research identified that "a highly involved student is…one who spends much time on campus" (p. 518). The peer advising literature review demonstrated that peer advisors are spending between two and fifteen hours each week serving as a peer advisor. Instead of a developmental impact due to an increased number of terms served, it could be simply the high engagement of one term of peer advising or even the hours per term that could better represent the level of activity. Another view to further explain the concept of commitment and dedication to peer advising, rather than a focus on terms served, was established by Erikson in psychosocial stage six: intimacy versus isolation. Since this stage lasts from approximately age 19 to 40, it includes the college student population. A feeling of belonging and formation of relationships through social connections form the basis of this stage (Evans et al., 2009). From Erikson's developmental perspective for the present study, the sense of closeness and community offered

from involvement as a peer advisor may facilitate psychosocial development as examined through the SDTLA. Further research could investigate these aspects to identify if a sense of belonging to the peer advisor group facilitates psychosocial development.

While this research question inquired how the number of terms served as a peer advisor affected psychosocial development levels, it also offered an exploration into some of the factors that impact the conceptualization of the research question rather than providing a formative resolution. Next, ramifications for how this research question demonstrated how practitioners can support involvement in peer advising and propositions for scholarly research in these areas were discussed.

Implications for practitioners. Administrators of undergraduate peer advising programs may consider the value of this research study as demonstrating that serving as a peer advisor does not require multiple terms to have an impact on students' psychosocial development. Some may assume the act of serving as a peer advisor term after term facilitates development along with students' class standing levels as they progress to graduation. However, this research study, along with analyzing previous research, fostered a valuable consideration about how peer advising may impact psychosocial development levels by offering a meaningful involvement activity for college students. Peer advising can be considered an involvement initiative for practitioners to develop to support the psychosocial growth of their students. Practitioners should consider their methods of identifying, training, and supporting peer advisors in their respective programs so that peer advising constitutes a beneficial involvement activity in which students feel connected to. Some peer advising programs provided teambuilding retreats and exercises, others included appreciation events or recognition at graduation, and even more found ways to enhance ongoing connection between cohorts of peer advisors. Even offering a structured

program, with dedicated time toward administration and evaluation can demonstrate the importance of the program to students. Any opportunities to cultivate a sense of commitment and express value may help address this for undergraduate peer advisors.

Additionally, the results from research question three provided insight to target populations of future peer advisors for practitioners to draw from. Practitioners may hope for under-class students so that they can be retained in the program over time to develop expertise in peer advising. The sample of peer advisors in this study had a range of class standing levels who had also served just one or two terms as a peer advisor. The participation of juniors and seniors in this research study demonstrated that even upper-class students may be searching for opportunities in undergraduate peer advising. Therefore, advertising or hiring campaigns could be intentionally directed toward students in all levels of class standing. Current peer advisors could be given a role in recruiting the next class of peer advisors so that outreach can be wide to reach diverse groups of students who may not be encompassed in a convenience pool of applicants. Practitioners are encouraged to think strategically about their recruitment and hiring plans to consider who is joining their programs and how training is tailored to the developmental needs of each individual as they prepare to become undergraduate peer advisors.

Implications for research. A demonstrated statistical connection was made between class standing and number of terms served as a peer advisor on the Establishing and Clarifying Purpose task. Therefore, future research was encouraged to explore this further using a larger sample size or among other groups in which involvement covers multiple terms to better understand the impact on psychosocial development. Additional clarification regarding if and how students' ongoing participation continues to facilitate their development more than advancing to the next year as a college student would contribute to the field in a similar manner

as the current understanding on how class standing advances psychosocial development more than aging alone.

Examining research question three through a lens of statistical significance also raised opportunities to challenge the notion of the research question and introduce other methodological opportunities to study the psychosocial development impact on peer advisors. Rather than focusing on the timeline of involvement, other research questions would also identify the impact of the peer advising experience on students' psychosocial development levels such as the time they put in weekly or monthly into their position or how they prioritize their role compared to other demands in their life. Astin's (1984) first postulate of involvement states "involvement refers to the investment of physical and psychological energy in various objects" (p. 519). The present research study analyzed involvement in research question three from a behavioral lens, focusing on the physical activity of peer advising for a quantified amount of time. Because Astin's postulate also covers the investment of psychological energy, research examining commitment to or motivation for the peer advising role could explore this further to identify the potential for correlations with psychosocial development levels.

Both quantitative and qualitative research could explore more about how the time and dedication to the peer advising role impacts students. A set of case studies could provide focus on a few peer advisors and better understand how their growth is impacted through the time served in the short-term and long-term. Another methodological approach which would bring value to the field would be to create a longitudinal study which examines peer advisors during training and then measure again when they depart their role to test and retest their progress toward psychosocial development tasks. Each of these approaches would be beneficial to

increase the understanding of how serving as a peer advisor impacts psychosocial development, considering the time they have spent in their role.

Research Question Four

The last research question initiated an examination of between-group differences among the sample of peer advisors surveyed in this research study and a secondary set of normative college student data provided by the survey developers on the three SDTLA tasks. Results were provided using standard scores and effect size to capture differences. Peer advisors scored either 'about the same as' or 'somewhat higher than' compared to the normed college student population across every task, although the majority (ten of fifteen groups examined) scored in the 'somewhat higher than' category. The present study demonstrated that mean averages from each group of peer advisors, across gender and class standing, consistently scored higher on psychosocial development levels compared to a normative population of college students. For females, the greatest scores in development were among the sophomore students, rather than among juniors and then seniors. For example, female sophomores scored highest on the Establishing and Clarifying Purpose (PUR) task which made up four tasks covering psychosocial progress in educational and career goal planning, a sense of personal direction, and cultural involvement. They scored even higher on the Educational Involvement subtask (EI) within the PUR task, which reflected their knowledge of campus resources, active engagement in the college setting, and identification of their academic plans. Peer advisors often acquired these elements through both their training and their ongoing service in their positions, so this finding was not surprising although it raised perspective in regard to the impact for sophomores compared to students in upper-class standing. Effect sizes among the female peer advisor populations supported the findings from the standard scores, with sophomores demonstrating the

greatest effect sizes, followed by juniors, and seniors. Additionally, since the highest effect size was also for the EI subtask, these results were utilized to corroborate the discussion on standard scores rather than to produce additional insights regarding the female peer advisor populations.

For males, the impact appeared to cross both junior and senior levels of class standing more than the female juniors or female seniors with five of the six male groups scoring 'somewhat higher' than the normed college student population. Male students had the highest score on the Mature Interpersonal Relationships (MIR) task, although this was primarily because of their results on the Tolerance (TOL) subtask. The second subtask within MIR of Peer Relationships was quite low in average score and also suffered from very low reliability. Therefore, this discussion focused primarily on the subtask of Tolerance (TOL), which reflected an openness and acceptance to others different than oneself. This was an important attribute for peer advisors as they often work with students outside of their own immediate friend group to provide services for all students.

Among the 24 male senior peer advisors, 12 identified as white, non-international students and 12 identified either as international or in an Underrepresented racial/ethnic group. This provides additional perspective as to the higher score in the Tolerance category as 50% of the students were from gender and racial majority groups. Perhaps this result is skewed by the other 50% who shared that they were open to difference because they were a minority group and this represented a more diverse group of students than the normed sample did. There is also the potential that serving as a peer advisor had a greater effect on the 50% in majority identity groups. This could be because they received training on awareness of stereotypes and value of individual differences (many peer advising programs listed covering these topics in their training) prior to having opportunities to be exposed to and collaborate with many individuals

different than themselves, which led to a bigger impact on their psychosocial development in this area.

Effect sizes provided a bit more perspective for the male peer advisor population by endorsing the standard score results with five medium effects and only one small to medium effect. Interestingly, the highest effect size was identical to that of the female peer advisors on the subtask of Educational Involvement (part of the PUR task). It was expected that this was for similar reasons, dependent on the nature of the training and ongoing role which required engagement in and knowledge of one's own academic plan and offerings in the educational college environment. For females, the highest standard score and greatest effect size were for the Establishing and Clarifying Purpose (PUR) task, which greatly reflected the highest subtask of Educational Involvement (EI). Males also had the greatest effect size for the Establishing and Clarifying Purpose (PUR) task (because of the EI subtask), although the greatest standard score was for the Tolerance (TOL) subtask. Each of these areas of psychosocial development reflected key aspects of the peer advisor role and it was important to acknowledge where there were similarities and differences among students of different genders and class standing.

Therefore, after examining the standard scores and effect sizes to compare the peer advisors in this study with the normed college student sample provided by the survey developers it appeared that serving as a peer advisor had the greatest impact for female sophomores and for male students. It is hypothesized that these groups had the most to gain from serving in their role as a peer advisor and that the positions offered these students an opportunity to strengthen their psychosocial development progress in comparison to other peer group populations. Based on these results (particularly on the PUR and MIR tasks), the role of peer advisor can be summarized as having an impact for students being self-directed learners, taking responsibility to

identify academic opportunities and resources to be successful, making connections in the campus community, as well as having an appreciation, respect for, and seeking out opportunities to engage with individuals who are different from themselves.

Implications for practitioners. Administrators of peer advising programs may find these results valuable to consider who is being impacted through the peer advisor role and how they are being impacted. This research study identified female sophomores (no freshmen were in the study) and males as having higher levels of psychosocial development than the normed population. Therefore, peer advising programs across the country may inherently benefit these groups of peer advisors. Practitioners may want to be thoughtful on how they are recruiting male students and students in lower levels of class standing for their programs, even though this study demonstrated that female peer advisors with upper-level class standing were in the majority. Additionally, this research study indicated that these groups had the most to gain, so it was recommended that practitioners also consider the ways in which they could continue to challenge and support growth of their female students with upper-class standing. Some programs utilized promotional structures to provide the development of new skill sets, which would be open to all students, but provide varied responsibilities for experienced peer advisors who may not have continued to develop as a result of their involvement in the same peer advising role term after term.

Another opportunity could be to provide ongoing training, perhaps using the SDTLA, to identify growth areas and create programming based on those identified needs. For example, in this research study female juniors and female seniors had lower standard scores and effect sizes, compared to the female sophomores and male students (although quite similar to the normed college student population) on the Developing Autonomy (AUT) task. This is excluding the Peer

Relationships subtask, because the reliability was so low the low standard scores and small effect size could not be appropriately gauged as accurate. Practitioners could examine the aspects of the AUT task, such as facilitating skills of independence, decision-making, planning, and feeling confident in their decisions without needing reassurance from others. Practitioners are recommended to identify learning outcomes to ensure that events and programming are targeting those outcomes and also assessing if those outcomes were met.

As was discussed in chapter one, the pressure for administrators to focus on employer sought after skills can be challenging, but many of the peer advisor psychosocial outcomes aligned with the National Association of Colleges and Employers attributes they were seeking from college graduates. A focus on peer advisor psychosocial development can provide data that aligns with these recruiter and institutional expectations for career readiness. While the overall group of peer advisors scored 'about the same as' or 'somewhat higher than' on the Career Planning (CP) subtask, with medium effect sizes, compared to the normed population of students, when comparing the female juniors and female seniors they had just slightly lower scores from the normed population, although still within the same standard deviation. Employer sought-after skills reflect the individual preparation and confidence in one's internship and career path, but also in the independence and confidence reflected in the other tasks. Thinking about student development from a practitioner perspective, it is valuable to support the holistic growth of students, while also facilitating development which corresponds with employer-sought after skillsets to meet institutional demands, such as job placement rates. Overall, research question four provided helpful insight for practitioners of peer advising as an activity which promotes development at a higher rate than other students attending college. It also challenges them to

consider who is benefitting from their experience as a peer advisor and how to identify opportunities for ongoing growth and development.

Implications for research. The present study demonstrated findings that serving as a peer advisor for at least one academic year term does impact students' psychosocial development scores more than a typical college student, factoring in the limitations of the study. As the literature review discussed, being involved in college almost always leads to lower dropout rates and although the type of involvement is not the biggest indicator, research which connects specific involvement activities with developmental outcomes is highly valuable (Astin, 1984). Previous literature highlighted many outcomes, which were described similarly but using different language across a variety of methodological approaches. Chapter two highlighted a summary of these outcomes as interpersonal skills, including communication, empathy, and cultural competency (Griffin et al., 2014; Hamid, 2004; Muldoon, 2008; Wawrzynski et al., 2011; Zevallos & Washburn, 2014); intrapersonal skills, such as confidence and self-awareness (Diambra, 2003; Hamid, 2004; Muldoon, 2008; Wawrzynski et al., 2011; Zevallos & Washburn, 2014); knowledge and informed decision making (Diambra, 2003; Griffin et al., 2014; Wawrzynski et al., 2011); and professional and career skills (Diambra, 2003; Hamid, 2004; Wawrzynski et al., 2011; Zevallos & Washburn, 2014).

While the findings in the present study were quite comparable to outcomes cited in previous research, the present study contributed to demonstrating outcomes with clearly identified tasks and subtasks with definitions, explanations of findings for different groups, evidence of reliability and validity, and the opportunity for future research to replicate the methodology of the study. Although future research may choose or not choose to utilize the

SDTLA instrument given its limitations, it was valuable to have a detailed and replicable methodological plan for other researchers to model from and amend for their own needs.

There was value in learning more about what makes the experience of serving as a peer advisor different for males and females with lower class standing versus upper class standing. Future research could consider utilizing case study or phenomenological approaches to capture the lived experiences of these students since peer advising demonstrated higher rates of psychosocial development than other students attending college. Future researchers may find value in having students complete the SDTLA and engaging in qualitative research through open-ended questions at the end of the survey, focus groups, or individual interviews to consider both psychosocial development scores as measured by the SDTLA, while also considering the described experiences in consideration of their scale results. There are significant opportunities for more research in the field of peer advising that the present study was not able to cover. Understanding more regarding why students elected to become peer advisors, what training they encountered, and what aspects of peer advising had the greatest impact on them would all provide additional perspective on the value of this experience for students. Overall, the present study demonstrated the psychosocial impact of serving as an undergraduate peer advisor utilizing the Student Developmental Task and Lifestyle Assessment (SDTLA), how the peer advisors developed compared to a normed population of college students, and reviewed multiple recommendations for future research.

Conclusion

This research study provided an exploration of undergraduate peer advisor psychosocial development progress. Four research questions investigated participants' scores on three tasks, within-group differences, and between-group differences with secondary data from a normed

population of college students. This study did not intend to fully explain peer advisors' psychosocial development levels or to verify their differences from the normed population, but to explore, to consider, and to gain additional insights into this unique population. There has been limited research on undergraduate peer advisors, despite the rich and longstanding history which led to the creation of peer advising programs and the ongoing focus on the students they serve rather than on their own experiences. It is possible when studying college students that outcomes may not always be due to the college environment, even when appearing so (Mayhew et al., 2016). Findings from this study brought more awareness of an engagement activity which has been shown to impact psychosocial development and has identified future opportunities for research to gain further understanding and knowledge in these areas. Additionally, this research offers advocacy for student involvement initiatives as opportunities to support college student success in new and innovative ways.

Results from the present study indicated that peer advisors who demonstrated the furthest progress in psychosocial development were sophomore females and all males, particularly in the areas of Establishing and Clarifying Purpose and Mature Interpersonal Relationships (Tolerance subtask). Female students in upper-class standing may have already exhibited the growth that the peer advising experience offers (training, mentorship, leadership, knowledge of resources), so that their scores were not as advanced, but still comparable to their non-peer advisor peers. For males, who traditionally have lower levels of psychosocial development, and for females in lower-class standing they had more growth potential and thus peer advisors had higher scores than the normed college students. Although males and female peer advisors scored quite similarly, despite previous research indicating otherwise, it seemed evident that either males who become peer advisors or how peer advising has impacted males increased their psychosocial

development scores to be comparable to the female peer advisor population. Research questions one and four indicated that peer advising offered males and sophomore students an opportunity to strengthen their psychosocial development progress to be more similar to other students who have already achieved higher progress in these areas.

No trends, patterns, or effects were found regarding racial/ethnic and cultural identity and psychosocial development scores for this sample of peer advisors (research question two). While previous research indicated international students' scores may be lower than non-international students, scores were quite similar to each other. This reflected the potential that serving as a peer advisor supports the adaption and acculturation of international students, likely due to the high level of social interaction required for the role. Race/ethnicity continued to demonstrate inconsistent results, in this study and in previous research on psychosocial development.

Number of academic year terms served as a peer advisor produced one statistically significant result, with a significant interaction between class standing and number of terms served on the Establishing and Clarifying Purpose (PUR) task (research question three). Post hoc analyses were not run due to one of the group sizes, so no further analyses were able to be examined. Previous literature was examined to provide context, understanding, and justification for the results found.

Recommendations for practitioners and administrators of peer advising programs were also reviewed which highlighted the opportunity for future use of the SDTLA instrument in selection, training, intentional programming based on needs and learning outcomes, ongoing development, and evaluations. Practitioners employed at public, four-year institutions may have a particular interest in ongoing use of the SDTLA due to the environmental context in this and previous studies utilizing the instrument. Results demonstrated that certain populations of

students may already be benefitting from the experience of serving as a peer advisor (all males, sophomore females, and international students), so practitioners may want to consider how they can assess and identify ways to support the ongoing growth and development of all their students. This recommendation aligned with previous advocacy for administrators to take responsibility for the engagement of their students, particularly monitoring the equity of students who engage (Martínez-Alemán et al., 2015). Additionally, while the majority of students in this study were juniors and seniors, since sophomores demonstrated the greatest psychosocial progress practitioners may intentionally seek out freshmen and sophomore students to serve as peer advisors and acquire the positive outcomes of the role. Overall, the main highlight for administrators of peer advising programs as a result of this research study was to consider how their programs represent equitable, impactful, and engaging involvement opportunities that intentionally support the development of their students and in which students feel connected to each other, their department/college, their faculty/staff, and their institution. If practitioners are seeking new programs or opportunities to facilitate psychosocial development, a new peer advising program itself could be the intervention in which peer advisors who are serving are gaining new skills and developing with an added benefit to the students who need advising and are receiving peer advising services.

The last conclusions drawn were regarding recommendations for future research in the areas of peer advising and psychosocial development. Theoretically, a major question raised in this study was if this sample of peer advisors demonstrated such strong progress on the psychosocial development tasks because their role as a peer advisor has impacted them or if students who sought out peer advising were already further along in their psychosocial development growth. While this dissertation study has provided additional insights and

perspectives, a conclusion has not yet been drawn. Recommendations for future research to better address this with a conceptual focus are on the role of gender in psychosocial development research and an examination of how students from diverse backgrounds describe the impact of the peer advising experience on their development. While having a larger sample size and including a normed sample group within the same study to provide for more direct comparisons would help address some of the limitations in the present study, mixed-methods or qualitative research would also greatly contribute to the field of research in these areas. Future survey development with the SDTLA or new measures of psychosocial development are warranted and it would be helpful to develop measures which reflect all of Chickering's vectors or identify new perspectives of psychosocial development all together.

This research study began with an emphasis on the value of intentional student engagement which meets student and institutional needs: an enormous expectation for administrators facing many demands already. However, the value of peer advising programs, the demonstrated outcomes of serving as a peer advisor, and psychosocial impact described all address the value of how administrators can actively support a diverse student population with varying needs. Peer advisors serve as a substantial resource for the students and institutions, but the programs function as their own form of engaging and equitable programming. The unique attributes of serving as a peer advisor differs from other student involvement or employment on campus through the training and ongoing nature of their role as an advising resource for undergraduate students. This study highlights how student participants who have served as undergraduate peer advisors for at least one academic year term scored on three psychosocial development tasks, measured by the Student Developmental Task and Lifestyle Assessment (SDTLA), examined their within-group characteristics, and compared them to a normed

population of college students. Results and discussion supported the value of these programs as an intervention that supports psychosocial development and also informed future recommendations for practitioners and higher education research.

REFERENCES

Abe, J., Talbot, D. M., & Gellhoed, R. (1998). Effects of a peer program on international student adjustment. *Journal of College Student Development, 39*(6), 539-547.

American College Testing Program. (1979). A national survey of academic advising. Iowa City, IA: Carstensen, D. J., & Silberhorn, C.

Apprey, M., Preston-Grimes, P., Bassett, K. C., Lewis, D. W., & Rideau, R. M. (2014). From crisis management to academic achievement: A university cluster-mentoring model for Black undergraduates. *Peabody Journal of Education, 89*(3), 318-335.

Armstrong, J. P. (2006). Developmental outcomes of service learning pedagogics. *Journal for Civic Commitment,* (8), 1-10.

Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel, 25*(4), 297-308.

Astin, A. W. (1993). *What matters in college: Four critical years revisited*. San Francisco, CA: Jossey-Bass, Inc.

Barman, C. R., & Benson, P. A. (1981). Peer advising: A working model. *NACADA Journal, 1*(2), 33-40.

Belenky, M. F., Clinchy, B. M., Goldberger, N. R., & Tarule, J. M. (1986). *Women's ways of knowing: The development of self, voice, and mind* (Vol. 15). New York, NY: Basic Books.

Bensimon, E. M. (2009). Foreword. In Quaye, S.J. & Harper, S.R. (Ed.), *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations* (pp. xxi-xxvi.). New York, NY: Routledge.

Bertrand, R. (1999). Reflections on my peer advising career. *The Mentor: An Academic Advising Journal, 1*(3).

Bodemer, B. B. (2014). They CAN and they SHOULD: Undergraduates providing peer reference and instruction. *College & Research Libraries, 75*(2), 162-178.

Bos, J. M., Berman, J., Kane, T. J., & Tseng, F. M. (2012, November). *The impacts of SOURCE: A program to support college enrollment through near-peer, low-cost student advising*. Paper presented at the Association of Public Policy Analysis and Management Annual Conference, Baltimore, MD.

Buchanan, E. A., & Hvizdak, E. E. (2009). Online survey tools: Ethical and methodological concerns of human research ethics committees. *Journal of Empirical Research on Human Research Ethics, 4*(2), 37-48.

Campbell, M. L. (2002). *The description of students developmental growth in an intentional learning environment* (Unpublished doctoral dissertation). University of Akron, Akron, OH.

Chickering, A. W., & Reisser, L. (1993). *Education and identity.* San Francisco, CA: Jossey-Bass.

City University of Hong Kong (2015). Psychological testing service. Retrieved from http://www.cityu.edu.hk/sds/psytesting/main.htm#psytest2_sdtla.

Clark, T. A. (1923). Advisory systems for students. *School and Society, XVII*(422), 85–90.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences. 2nd.* Hillsdale, N.J.: L. Erlbaum Associates.

Cokley, K. O. (2002). Testing Cross's revised racial identity model: An examination of the relationship between racial identity and internalized racialism. *Journal of Counseling Psychology, 49*(4), 476-483.

Cook, S. (2001). A chronology of academic advising in America. *The Mentor, 3*(4), 1-7.

Council of National Psychological Associations for the Advancement of Ethnic Minority Interests (2016). *Testing and assessment with persons & communities of color*. Washington, DC: American Psychological Association. Retrieved from https://www.apa.org/pi/oema.

Cowley, W. H. (1949). Some history and a venture in prophecy. In E. G. Williamson (Ed.), *Trends in student personnel work* (pp. 12–17). Minneapolis, MN: The University of Minnesota Press.

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Saddle River, NJ: Prentice Hall Upper.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications, Inc.

Cross, W.E. (1971). Toward a psychology of Black liberation: The Negro-to-Black conversion experience. *Black World, 20*(9), 13-27.

Davies, M. B., & Hughes, N. (2014). *Doing a successful research project: Using qualitative or quantitative methods*. New York, NY: Palgrave Macmillan.

Davis, B. B., & Ballard, M. R. (1985). Peer advisors: Agents of change for high-risk students. *NACADA Journal, 5*(1), 9-15.

Diambra, J. F. (2003). Peer advising: An opportunity for leadership and competency development. *Journal of Human Services, 23*(1), 25-37.

Diambra, J. F., & Cole-Zakrzewski, K. G. (2002). Peer advising: Evaluating effectiveness. *NACADA Journal, 22*(1), 56-64.

Dillhunt, E. M. (1979). Peer Power. *Change, 11*(4), 25-26.

Ellis, J., & Gershenson, S. (2016). *LATE for the meeting: Gender, peer advising, and college success*. Paper presented at the W.E. Upjohn Institute for Employment Research, Kalamazoo, MI. Retrieved from https://doi.org/10.17848/wp16-262.

Eliot, C. W. (1950). Educational reform (inaugural address). In D. A. Weaver (Ed.), Builders of American universities (pp. 13–42). Alton, IL: Shurtleff College Press.

Elliott, E. S. (1985). Academic advising with peer advisors and college freshmen. *NACADA Journal, 5*(1), 1-7.

Ender, S. C. (1984). Student paraprofessionals within student affairs: The state of the art. *New Directions for Student Services, 27,* 3-21.

Evans, N. J., Forney, D. S., Guido, F. M., Patton, L. D., & Renn, K. A. (2009). *Student development in college: Theory, research, and practice*. San Francisco, CA: John Wiley & Sons, Inc.

Fan, X. (2001). Statistical significance and effect size in education research: Two sides of a coin. *The Journal of Educational Research, 94*(5), 275-282.

Ferdman, B. M., & Gallegos, P. (2001). Racial identity development and Latinos in the United States. *New perspectives on racial identity development: A theoretical practical anthology*, 32-66.

Fierke, K. K. (2012). "Rounding" with students: A model for class advising and leadership building. *Research in Higher Education*, 1-8.

Foubert, J., Nixon, M. L., Sisson, V. S., & Barnes, A. C. (2005). A longitudinal study of Chickering and Reisser's vectors: Exploring gender differences and implications for refining the theory. *Journal of College Student Development, 46*(5), 461-471.

Foubert, J. D., & Urbanski, L. A. (2006). Effects of involvement in clubs and organizations on the psychosocial development of first-year and senior college students. *NASPA Journal, 43*(1), 166-182.

Fritz, C. O., Morris, P. E., & Richler, J. J. (2012). Effect size estimates: Current use, calculations, and interpretation. *Journal of Experimental Psychology: General*, *141*(1), 2-18.

Frost, S. H. (2000). Historical and philosophical foundations for academic advising. In V.N. Gordon & W.R. Habley (Eds.), *Academic advising: A comprehensive handbook*, (pp. 3-17). San Francisco, CA: Jossey-Bass.

Fullick, J. M., & Smith-Jentsch, K. A. (2013). Advisees' expectations for support as moderator between advisor behavior and advisee perceptions of advisor behavior. *NACADA Journal, 33*(2), 55-64.

Gillispie, B. (2003). History of academic advising. Retrieved from http://www.nacada.ksu.edu/Resources/Clearinghouse/View-Articles/History-of-academic-advising.aspx.

Gliem, J. A., & Gliem, R. R. (2003, October). *Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales.* Paper presented at the Midwest Research-to-Practice Conference in Adult, Continuing, and Community Education, Columbus, OH.

Gordon, V.N. (2004). The evolution of academic advising: One institution's historic path. Retrieved from http://nacadajournal.org/doi/pdf/10.12930/0271-9517-24.1-2.17?code=naaa-site.

Gray, K., & Koncz, A. (2017). Employers seek teamwork, problem-solving skills on resumes. National Association of Colleges and Employers. Retrieved from http://www.naceweb.org/about-us/press/2017/employers-seek-teamwork-problem-solving-skills-on-resumes/.

Greeley, A. T., & Tinsley, H. E. (1988). Autonomy and intimacy development in college students: Sex differences and predictors. *Journal of College Student Development, 29*(6), 512-520.

Griffin, M., DiFulvio, G. T., & Gerber, D. S. (2014). Developing leaders: Implementation of a peer advising program for a public health sciences undergraduate program. *Front Public Health, 2*(288), 1-7. doi:10.3389/fpubh.2014.00288.

Groves, R. M., Fowler, F. J., Jr., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2009). *Survey methodology*. Hoboken, NJ: John Wiley & Sons.

Guillory, R. M. (2009). American Indian/Alaska Native college student retention strategies. *Journal of Developmental Education, 33*(2), 14-16.

Habley, W. R. (1979). The advantages and disadvantages of using students as academic advisors. *NASPA Journal, 17*(1), 46-51.

Hansen, R. N., & Johnston, M. C. (1986). College students as paraprofessional career specialists. *Journal of Career Development, 13*(1), 18-29.

Hamid, S. (2004). *The experiences of peer leaders in first-year seminars (Doctoral dissertation).* Retrieved from https://trace.tennessee.edu/utk_graddiss/1846.

Harper, S. R., & Quaye, S. J. (2009). *Student engagement in higher education*. New York, NY: Routledge.

Havighurst, R. J. (1953). *Human development and education*. Toronto, Canada: Longmans, Green and Co., Ltd.

Helms, J. E. (1995). An update of Helm's White and People of Color racial identity models. In Ponterotto, J.G., Casas, J.M., Suzuki, L.A., & Alexander, C.M. (Eds.), *Handbook of Multicultural Counseling* (pp. 181-198). Thousand Oaks, CA: Sage Publications, Inc.

Henning-Stout, M. (1992). Test review of Student Developmental Task and Lifestyle Inventory. In J. J. Kramer & J. C. Conoley (Eds.), *The eleventh mental measurements yearbook.* Retrieved from http://marketplace.unl.edu/buros/.

Herdlein, R. J. (2004). Thyrsa Wealtheow Amos: The Dean of Deans. *NASPA Journal, 41*(2), 336-355.

Hess, W. D., & Winston, R. B. (1995). Developmental task achievement and students' intentions to participate in developmental activities. *Journal of College Student Development, 36*, 314-321.

Holland, A., & Huba, M. E. (1989). Psychosocial development among student paraprofessionals in a college orientation program. *Journal of College Student Development, 30*, 100-105.

Horse, P. G. (2005). Native American identity. *New Directions for Student Services,* (109), 61-68.

Iwamoto, D. K., & Liu, W. M. (2010). The impact of racial identity, ethnic identity, Asian values, and race-related stress on Asian Americans and Asian international college students' psychological well-being. *Journal of Counseling Psychology, 57*(1), 79-91.

Jankowski, N. A., Timmer, J. D., Kinzie, J., & Kuh, G. D. (2018). *Assessment that matters: Trending toward practices that document authentic student learning.* Urbana, IL: University of Illinois and Indiana University, National Institute for Learning Outcomes Assessment (NILOA).

Jones, C. E., & Watt, J. D. (2001). Moral orientation and psychosocial development: Gender and class-standing differences. *NASPA Journal, 39*(1), 1-13.

Jones, M. O. (1970). *Paraprofessionals at Clearwater Campus*. Paper presented at the American College Personnel Association, St. Louis, MO.

Jones, S. R., & Abes, E. S. (2011). The nature and uses of theory. *Student services: A handbook for the profession, 5*, 149-167.

Josselson, R. (1996). *Revising herself: The story of women's development from college to midlife.* New York, NY: Oxford University Press.

Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in Higher Education, 38*(5), 758-773. doi:10.1080/03075079.2011.598505.

Kapraun, D. E., & Coldren, D. W. (1982). Academic advising to facilitate student retention. *NACADA Journal, 2*(2), 59-69.

Kelsey, K. D., & Sexten, A. (2003). A quasi-experiment of a residential learning community for College of Agriculture freshmen. *Journal of Southern Agricultural Education Research, 53*(1), 20-32.

Kim, J. (2012). Asian American racial identity development theory. In Wijeyesinghe, C.L., & Jackson, B.W. III, *New Perspectives on Racial Identity Development: Integrating Emerging Frameworks* (pp. 138-160). New York, NY: New York University Press.

King, M. C. (1993). Advising models and delivery systems. *New Directions for Community Colleges, 82*, 47-54.

Kiyama, J. M., & Luca, S. G. (2014). Structured opportunities: Exploring the social and academic benefits for peer mentors in retention programs. *Journal of College Student Retention: Research, Theory & Practice, 15*(4), 489-514. doi:10.2190/CS.15.4.b.

Koh, E. T., & Owen, W. L. (2000). Descriptive research and qualitative research. *Introduction to Nutrition and Health Research* (pp. 219-248). New York, NY: Springer Science+Business Media, LLC.

Koring, H., & Campbell, S. (2005). *Peer advising: Intentional connections to support student learning (NACADA Monograph Series, no. 13)*. Manhattan, KS: National Academic Advising Association.

Koring, H., & Zahorik, D. (2012). *The peer advising member survey*. Unpublished instrument. Retrieved from http://www.nacada.ksu.edu/Portals/0/Clearinghouse/Research_Related/documents/Peer%20Advising%20Survey%202012%20survey.pdf.

Kuba, S. E. (2010). *The role of peer advising in the first-year experience (Doctoral dissertation).* Retrieved from ERIC (ED522152).

Kuh, G. D., Kinzie, J., Schuh, J. H., & Whitt, E. J. (2005). *Student success in college: Creating conditions that matter*. San Francisco, CA: John Wiley & Sons.

Kuh, G. D., Kinzie, J., Schuh, J. H., & Whitt, E. J. (2011). Fostering student success in hard times. *Change: The Magazine of Higher Learning, 43*(4), 13-19.

Long, B. E., Sowa, C. J., & Niles, S. G. (1995). Differences in student development reflected by the career decisions of college seniors. *Journal of College Student Development, 36*(1), 47-52.

Loss, C. P. (2012). *Between citizens and the state: The politics of American higher education in the 20th century*. Princeton, NJ: Princeton University Press.

Macari, D. P., Maples, M. F., & D'Andrea, L. (2005). A comparative study of psychosocial development in nontraditional and traditional college students. *Journal of College Student Retention: Research, Theory & Practice, 7*(3), 283-302.

Martin, L. M. (2000). The relationship of college experiences to psychosocial outcomes in students. *Journal of College Student Development, 41*(3), 292-301.

Martínez-Alemán, A. M., Pusser, B., & Bensimon, E. M. (2015). *Critical approaches to the study of higher education: A practical introduction*. Baltimore, MD: John Hopkins University Press.

Mayhew, M. J., Bowman, N. A., Rockenbach, A. N., Seifert, T. A., Wolniak, G. C., Pascarella, E. T., & Terenzini, P. T. (2016). *How college affects students: 21st century evidence that higher education works (Vol. 3)*. San Francisco, CA: John Wiley & Sons.

Migden, J. (1989). The professional advisor. *NACADA Journal, 9*(1), 63-68.

Miller, T. K., & Prince, J. S. (1976). *The future of student affairs: A guide to student development for tomorrow's higher education*. San Francisco, CA: Jossey-Bass.

Mines, R. A. (1982). Student development assessment techniques. *New Directions for Student Services, 1982*(20), 65-91.

Morgan, G. A., Leech, N. L., & Barrett, K. C. (2012). *IBM SPSS for intermediate statistics: Use and interpretation*. New York, NY: Routledge.

Mottarella, K. E., Fritzsche, B. A., & Cerabino, K. C. (2004). What do students want in advising? A policy capturing study. *NACADA Journal, 24*(1 & 2), 48-61.

Muldoon, R. (2008). Recognising and rewarding the contribution and personal development of peer supporters at university. *Journal of Further and Higher Education, 32*(3), 207-219.

National Academic Advising Association. (2013). *Peer advising and mentoring: A guide for advising practitioners (second edition)*. Manhattan, KS: NACADA Monograph Series.

National Center for Educational Research and Development. (1972). *Evaluation of a college curriculum advisory program utilizing student advisors*. Pocatello, ID: Brown, C.R.

Nuss, E. M. (2003). The development of student affairs. *Student services: A handbook for the profession, 4,* 65-88.

Palmer, R. T., & Taylor, K. (2013). Cultivating engineering student success at an HBCU: An empirical study on development. In *Fostering success of Ethnic and Racial Minorities in STEM*. New York, NY: Routledge.

Pascarella, E. T., Terenzini, P. T., & Feldman, K. A. (2005). *How college affects students (Vol. 2).* San Francisco, CA: Jossey-Bass.

Patton, L. D., Renn, K. A., Guido, F. M., & Quaye, S. J. (2016). *Student development in college: Theory, research, and practice*. San Francisco, CA: John Wiley & Sons.

Peck, A. (2011). Peer involvement advisors improve first-year student engagement and retention. *About Campus, 16*(3), 22-25. doi:10.1002/abc.20064.

Perlman, B. M. (2011). *The behavior and characteristics of students in a second-year experience program and related effects on academic development* (Doctoral dissertation). Retrieved from https://getd.libs.uga.edu/pdfs/perlman_benjamin_m_201105_phd.pdf.

Poling, K. (2015). MySci advisors: Establishing a peer-mentoring program for first year science student support. *Collected Essays on Learning and Teaching, VIII*, 181-190.

Pope-Davis, D. B., Liu, W. M., Ledesma-Jones, S., & Nevitt, J. (2000). African American acculturation and Black racial identity: A preliminary investigation. *Journal of Multicultural Counseling Development, 28*(2), 98-112.

Porterfield, W. D. (1992). Test review of Student Developmental Task and Lifestyle Inventory. In J. J. Kramer & J. C. Conoley (Eds.), *The eleventh mental measurements yearbook.* Retrieved from http://marketplace.unl.edu/buros/.

Punch, K. (2003). *Survey research: The basics*. London, England: Sage Publications, Inc.

Rendon, L. I. (1994). Validating culturally diverse students: Toward a new model of learning and student development. *Innovative Higher Education, 19*(1), 33-51.

Renn, K. A., & Reason, R. D. (2013). *College students in the United States: Characteristics, experiences, and outcomes*: San Francisco, CA: Jossey-Bass.

Rios-Ellis, B., Rascón, M., Galvez, G., Inzunza-Franco, G., Bellamy, L., & Torres, A. (2015). Creating a model of Latino peer education: Weaving cultural capital into the fabric of academic services in an urban university setting. *Education and Urban Society, 47*(1), 33-55.

Robbins, R. (2009). Utilizing institutional research in the assessment of academic advising. National Academic Advising Association (NACADA) Clearinghouse series updating the 1995 NACADA Monograph #2 “Academic Advising as a Comprehensive Campus Process." Retrieved from http://www.nacada.ksu.edu/Resources/Clearinghouse/View-Articles/Assessment-and-Institutional-Research.aspx.

Robertson, J. H. (1958). Academic advising in colleges and universities: Its present state and present problems. *North Central Association Quarterly, 32*(3), 228-239.

Rodgers, R. F. (1990). Recent theories and research underlying student development. *College student development: Theory and practice for the 1990s* (pp. 27-79). Alexandria, VA: American College Personnel Association.

Rowe, W., Bennett, S. K., & Atkinson, D. (1994). White racial identity models: A critique and alternative proposal. *The Counseling Psychologist, 22*(1), 129-146.

Sanchez-Leguelinel, C. (2008). Supporting 'slumping' sophomores: Programmatic peer initiatives designed to enhance retention in the crucial second year of college. *College Student Journal, 42*(2), 637-646.

Sanford, N. (1967). *Where colleges fail: A study of the student as a person.* San Francisco, CA: Jossey-Bass.

Schwartz, B. M., Wilson, J. H., & Goff, D. M. (2015). *An easy guide to research design & SPSS*. Thousand Oaks, CA: Sage Publications, Inc.

Sheehan, O. T. O., & Pearson, F. C. (1995). Asian international and American students' psychosocial development. *Journal of College Student Development, 36*, 522-530.

Shook, J. L. (2010). *An analysis of academic peer leaders' perceptions of academic skills and performance* (Master's thesis). Retrieved from ProQuest (1511093).

Shook, J. L., & Keup, J. R. (2012). The benefits of peer leader programs: An overview from the literature. *New Directions for Higher Education, 157*, 5-16.

Smith, R. A., & Khawaja, N. G. (2011). A review of the acculturation experiences of international students. *International Journal of Intercultural Relations, 35*(6), 699-713.

Steele, C. M., Spencer, S. J., & Aronson, J. (2002). Contending with group image: The psychology of stereotype and social identity threat. *Advances in Experimental Social Psychology*, *34*, 379-440.

Stonewater, J., Daniels, M. H., & Heischmidt, K. (1986). The reliability and validity of the Student Developmental Task Inventory: II. Pilot studies. *Journal of College Student Personnel*, *27*(1), 70-74.

Straub, C. A., & Rodgers, R. F. (1986). An exploration of Chickering's theory and women's development. *Journal of College Student Personnel*, *27*(3), 216-224.

Suskie, L. (2004). *Assessing student learning: A common sense guide*. Bolton, MA: Anker Publishing Company, Inc.

Swisher, E. (2013). Practical considerations in developing peer advisor programs. *The Mentor: An Academic Advising Journal.* Retrieved from https://dus.psu.edu/mentor/2013/03/considerations-peer-advising-programs/.

Tatum, B. A. (2003). *The impact of intercollegiate football participation on personal and social development of college upperclassmen* (Unpublished doctoral dissertation). University of Missouri-Columbia, Columbia, MO.

Thelin, J.R. (2011). *A history of American higher education*. Baltimore, MD: John Hopkins University Press.

Timmis, S. (2012). Constant companions: Instant messaging conversations as sustainable supportive study structures amongst undergraduate peers. *Computers & Education*, *59*(1), 3-18.

Tinto, V., & Pusser, B. (2006). Moving from theory to action: Building a model of institutional action for student success. *National Postsecondary Education Cooperative*, 1-51.

University of Pittsburg. (2003). *The history of women at Pitt.* Retrieved from http://www.provost.pitt.edu/whistory/space/space.html.

Upcraft, M. L. (1971). Undergraduate students as academic advisers. *Personnel & Guidance Journal, 49*(10), 827-831.

Upcraft, M. L., & Schuh, J. H. (1996). *Assessment in student affairs: A guide for practitioners*. San Francisco, CA: Jossey-Bass.

Veysey, L.R. (1965). The emergence of the American university. Chicago, IL: The University of Chicago Press.

Wachs, P. M., & Cooper, D. L. (2002). Validating the Student Developmental Task and Lifestyle Assessment: A longitudinal study. *Journal of College Student Development, 43*(1), 124-129.

Waller, B. (2015). *Examining the mature interpersonal relationship status of first-year engineering students within residential learning communities* (Doctoral dissertation). Retrieved from http://hdl.handle.net/10217/170385.

Wang, C.DC., & Mallinckrodt, B. (2006). Acculturation, attachment, and psychosocial adjustment of Chinese/Taiwanese international students. *Journal of Counseling Psychology, 53*(4), 422.

Watt, J. D., & Vodanovich, S. J. (1999). Boredom proneness and psychosocial development. *The Journal of Psychology, 133*(3), 303-314.

Wawrzynski, M. R., LoConte, C. L., & Straker, E. J. (2011). Learning outcomes for peer educators: The National Survey on Peer Education. *New Directions for Student Services, 133*, 17-27.

Wiedenhoeft, M. D. (2011). *Study abroad program design, personal development and intercultural effectiveness (Doctoral dissertation).* Retrieved from https://scholarworks.wmich.edu/dissertations/481.

Williamson, J. A. (2003). *Black power on campus: The University of Illinois, 1965-75*. Champaign, IL: University of Illinois Press.

Winston, R. B., Miller, T. K., & Cooper, D. L. (1999a). Preliminary technical manual for the Student Developmental Task and Lifestyle Assessment. *Athens, GA: Student Development Associates*.

Winston, R. B., Miller, T. K., & Cooper, D. L. (1999b). Student Developmental Task and Lifestyle Assessment. Retrieved from https://sdtla.appstate.edu/.

Wolf, C., Joye, D., Smith, T. W., & Fu, Y. (2016). *The SAGE handbook of survey methodology*. London, England: SAGE Publications, Ltd.

Wood, J. L., & Robert, T. P. (2013). Understanding the personal goals of Black male community college students: Facilitating academic and psychosocial development. *Journal of African American Studies, 17*(2), 222-241.

Xiong, S., & Lee, S. E. (2011). Hmong students in higher education and academic support programs. *Hmong Studies Journal, 12*, 1-20.

Zevallos, A. L., & Washburn, M. (2014). Creating a culture of student success: The SEEK scholars peer mentoring program. *About Campus, 18*(6), 25-29.

Appendix A: IRB Approval

ILLINOIS

OFFICE OF THE VICE CHANCELLOR FOR RESEARCH

Office for the Protection of Research Subjects
805 W. Pennsylvania Ave., MC-095
Urbana, IL 61801-4822

Notice of Approval: Amendment 01

September 12, 2018

Principal Investigator	Denise Hood
CC	Nicole Turner
Protocol Title	*Peer Advisor Development*
Protocol Number	19026
Funding Source	Unfunded
Review Type	Exempt Category 2
Amendment Requested	Updating survey instrument
Status	Active
Risk Determination	No more than minimal risk
Approval Date	September 12, 2018 (amendment approval date)

This letter authorizes the use of human subjects in the above protocol. The University of Illinois at Urbana-Champaign Institutional Review Board (IRB) has reviewed and approved the research study as described.

Exempt protocols are approved for a five year period from their original approval date, after which they will be closed and archived. Researchers may contact our office if the study will continue past five years.

The Principal Investigator of this study is reponsible for:

- Conducting research in a manner consistent with the requirements of the University and federal regulations found at 45 CFR 46.
- Requesting approval from the IRB prior to implementing modifications.
- Notifying OPRS of any problems involving human subjects, including unanticipated events, participant complaints, or protocol deviations.
- Notifying OPRS of the completion of the study.

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN
IORG0000014 • FWA #00008584
217.333.2670 • irb@illinois.edu • oprs.research.illinois.edu

ILLINOIS

OFFICE OF THE VICE CHANCELLOR FOR RESEARCH

Office for the Protection of Research Subjects
805 W. Pennsylvania Ave., MC-095
Urbana, IL 61801-4822

Notice of Approval: New Submission

August 3, 2018

Principal Investigator	Denise Hood
CC	Nicole Turner
Protocol Title	*Peer Advisor Development*
Protocol Number	19026
Funding Source	Unfunded
Review Type	Exempt Category 2
Status	Active
Risk Determination	No more than minimal risk
Approval Date	August 3, 2018

This letter authorizes the use of human subjects in the above protocol. The University of Illinois at Urbana-Champaign Institutional Review Board (IRB) has reviewed and approved the research study as described.

Exempt protocols are approved for a five year period from their original approval date, after which they will be closed and archived. Researchers may contact our office if the study will continue past five years.

The Principal Investigator of this study is reponsible for:

- Conducting research in a manner consistent with the requirements of the University and federal regulations found at 45 CFR 46.
- Requesting approval from the IRB prior to implementing modifications.
- Notifying OPRS of any problems involving human subjects, including unanticipated events, participant complaints, or protocol deviations.
- Notifying OPRS of the completion of the study.

Appendix B: Recruitment Communication

Administrator E-mail

[firstName],

Do you work with undergraduate peer advisors or know of a peer advising program on your campus?

I understand that you may have a role in supporting academic advising initiatives at [Institution] [Program]. Your support in the recruitment for this dissertation study will contribute additional knowledge for practitioners and scholars about the impact serving as a peer advisor has on students' development.

Please remove the top portion of this e-mail and forward the message below to any undergraduate peer advisors or offices you may be familiar with. Let me know if you can support my research recruitment by passing the information below along. I will provide one follow-up email as a reminder if I have not heard back from you.

Thank you!

Nicole Turner, M.Ed.
Ph.D. Student, Department of Education, Policy, Organization, & Leadership
Associate Director of Undergraduate Advising, Gies College of Business
University of Illinois Urbana-Champaign

Are you interested in providing valuable feedback on how being a Peer Advisor has impacted you?

As part of a dissertation study, I am recruiting undergraduate student participants who identify as peer advisors that are trained in academic programs and have experience supporting their fellow students with class scheduling, time management, and program progression.

Student participants will complete an online survey asking about activities, feelings, attitudes, aspirations, and relationships as a college student (takes approximately 20-30 minutes). Your feedback is very valuable for informing practitioners and scholars about the impact of serving as a Peer Advisor!

http://go.illinois.edu/PeerAdvisorStudy

If you have any questions, please contact the researcher at peeradvisorstudy@gmail.com.

Student E-mail

Are you interested in providing valuable feedback on how being a Peer Advisor has impacted you?

As part of a dissertation study, I am recruiting undergraduate student participants who identify as peer advisors that are trained in academic programs and have experience supporting their fellow students with class scheduling, time management, and program progression.

Student participants will complete an online survey asking about activities, feelings, attitudes, aspirations, and relationships as a college student (takes approximately 20-30 minutes). Your feedback is very valuable for informing practitioners and scholars about the impact of serving as a Peer Advisor!

http://go.illinois.edu/PeerAdvisorStudy

If you have any questions, please contact the researcher at peeradvisorstudy@gmail.com.

Student Recruitment on Social Media

Are you interested in providing valuable feedback on how being a Peer Advisor has impacted you to support a dissertation study?

http://go.illinois.edu/PeerAdvisorStudy

Student participants will complete an online survey asking about activities, feelings, attitudes, aspirations, and relationships as a college student (takes approximately 20-30 minutes). Your feedback is very valuable for informing practitioners and scholars about the impact of serving as a Peer Advisor! If you have any questions, please contact the researcher at peeradvisorstudy@gmail.com.

Appendix C: Consent Form

Consent Form for Peer Advisor Development study

You are invited to participate in a research study on how serving as an academic peer advisor impacts your growth and development as a college student. Researchers are required to provide a consent form such as this one to tell you about the research, to explain that taking part is voluntary, to describe the risks and benefits of participation, and to help you to make an informed decision. You should feel free to ask the researchers any questions you may have.

Participants will complete an online survey about feelings, attitudes, aspirations, and relationships as a college student. This study will take approximately 20 to 30 minutes of your time.

The significance of this study is to understand the influence of peer advising programs on the college students who serve as peer advisors and how this compares to students who have not served in a peer advising role. This study may support how administrators in higher education train and support peer advisors in their programs.

Your decision to participate or decline participation in this study is completely voluntary and you have the right to terminate your participation at any time without penalty. You may skip any questions you do not wish to answer. If you do not wish to complete this survey, you are free to withdraw at any time by closing your browser.

Investigator: Nicole Turner, Doctoral Student
Department and Institution: Education Policy, Organization and Leadership; College of Education; University of Illinois at Urbana-Champaign
Contact Information: College of Education, 1310 South 6th Street, Champaign, IL 61820; nicturn@illinois.edu; (217) 300-2602

Responsible Principal Investigator (RPI): Dr. Denice Hood, Teaching Associate Professor
Department and Institution: Education Policy, Organization and Leadership; College of Education; University of Illinois at Urbana-Champaign
Contact Information: College of Education, 1310 South 6th Street, Champaign, IL 61820; dwhood@illinois.edu; 217-244-1886

Although your participation in this research may not benefit you personally, it will help us understand how the experience as a peer advisor impacts your growth and development as a college student. It is hoped that Nicole Turner (Investigator) will benefit from this project by completing her Ph.D. Dissertation, as well as publications and conference presentations. You will not be paid for your participation in this research project, nor is it expected that your participation will bring you any direct benefits, tangible or otherwise.

There are no risks to individuals participating in this survey beyond those that exist in daily life. Your decision to participate, decline, or withdraw from participation will have no effect on your current status or future relations with the University of Illinois.

Will my study-related information be kept confidential?
This research study will not collect personally identifiable information, such as name or e-mail address. Demographic information will be requested (age, sex, race/ethnicity, international student status, academic class standing, and institution), but no single result will be presented with demographic information. Results will be combined anonymously with the responses of other participants. Researchers who may see your results will maintain confidentiality to the extent of laws and university policies.

If you have questions about this project, you may contact the Responsible Project Investigator (RPI) or the Investigator listed at the top of this form. If you have any questions about your rights as a participant in this study or any concerns or complaints, please contact the University of Illinois Office for the Protection of Research Subjects at 217-333-2670 or via email at irb@illinois.edu.

Please print a copy of this consent form for your records, if you so desire.

Participant Criteria:
All participants certify they meet the following criteria:

- I have participated in a role of peer advisor while in college that meets the following definition: “peer advisors are undergraduate students who are trained in a variety of academic programs and who assist fellow students with class scheduling, time management, and program progression issues." (Diambra & Cole-Zakrzewski, 2002, p. 56)
- I have served in my role as a peer advisor for at least one, full, term, not including any terms spent training for my position.
- I am at least 18 years of age or older.

Clicking 'Yes' below indicates that I have read the description of the study, I fit the participant criteria outlined above, I have read and understood the above consent form, and I agree to voluntarily participate in the study.

- Yes
- No

Appendix D: Instrument

Do you agree that you have participated in a role of peer advisor while in college that meets the following definition? “peer advisors are undergraduate students who are trained in a variety of academic programs and who assist fellow students with class scheduling, time management, and program progression issues" (Diambra & Cole-Zakrewski, 2002, p. 56).

- I agree
- I disagree as I have not served in the role of peer advisor that meets the definition above

Have you served in your role as a peer advisor for at least one, full, term, not including any semesters spent training for your position?

- No, I have not been a peer advisor for at least one, full term
- Yes, I have been a peer advisor for ONE, full term
- Yes, I have been a peer advisor for TWO terms
- Yes, I have been a peer advisor for THREE terms
- Yes, I have been a peer advisor for FOUR terms
- Yes, I have been a peer advisor for FIVE terms
- Yes, I have been a peer advisor for SIX terms
- Yes, I have been a peer advisor for SEVEN OR MORE terms

What is your racial or cultural background? (Select one best response.)

- Black or African American
- Hispanic, Latino/a, or Mexican American
- Asian American or Pacific Islander
- Native American/People
- White or Caucasian/European
- Bi-racial or multiracial
- Other

What is your sex?

- Male
- Female
- Other

What is your academic class standing?

- Freshman (first-year)
- Sophomore (second-year)
- Junior (third-year)
- Senior (fourth-year)
- Other

Are you an international student?

- No
- Yes

What institution did you serve as a peer advisor at? _____

Student Developmental Task and Lifestyle Assessment

This instrument is composed of statements shown to be typical of some students and is designed to collect information concerning college students' activities, feelings, attitudes, aspirations, and relationships. The Assessment is designed to help students learn more about themselves and for colleges to learn how to assist students more effectively. The SDTLA's usefulness depends entirely on the care, honesty, and candor with which students answer the questions.

It will require 20 to 30 minutes for you to complete this questionnaire.

DIRECTIONS For each question choose the one response that most closely reflects your beliefs, feelings, attitudes, experiences, or interests. Record your responses as directed. • Consider each statement carefully, but do not spend a great deal of time deliberating on a single statement.

Work quickly, but carefully.

-In this questionnaire, "college" is used in a general sense to apply to both two and four year colleges, as well as universities; it refers to all kinds of post-secondary educational institutions.

- If you have no parent, substitute guardian or parent equivalent when responding to items about parent(s).

Part 1: Respond to the following items by marking: A =True, B =False

I never regret anything I have done.

I am currently involved in one or more activities that I have identified as being of help in determining what I will do with the rest of my life.

I followed a systematic plan in making an important decision within the past thirty days.

I like everyone I know.

It's important to me that I be liked by everyone.

I would prefer not to room with someone who is from a culture or race different from mine.

I never get angry.

Within the past six months, I have experienced unfamiliar artistic media or performances.

During the past 12 months, I have acquired a better understanding of what it feels like to be a member of another race.

Since beginning college, my friends have become more frequent sources of support than my parents.

I never say things I shouldn't.

Within the past six months, I have learned about or experienced a culture different from my own through artistic expression.

I never lie.

Within the past 12 months, I have undertaken an activity intended to improve my understanding of culturally/racially different people.

I never get sad.

Within the past 12 months, I had a conversation or discussion about the arts outside of class.

I avoid discussing religion with people who challenge my beliefs, because there is nothing that can change my mind about my beliefs.

Part 2 Respond to the following statements by selecting the appropriate choice.
A = Never (almost never) true of me

B = Seldom true of me

C = Usually true of me

D = Always (almost always) true of me

I satisfactorily accomplish all important daily tasks (e.g., class assignments, test preparation, room/apartment cleaning, eating, and sleeping).

I seek out opportunities to learn about cultural/artistic forms that are new to me.

It bothers me if my friends don't share the same leisure interests as I have.

I'm annoyed when I hear people speaking in a language I don't understand.

I have made conscious efforts to make the college a better place to attend.

I have a difficult time in courses when the instructor doesn't regularly check up on completion of assignments.

I seek to broaden my understanding of culture (e.g., art, music, or literature).

When I wish to be alone, I have difficulty communicating my desire to others in a way that doesn't hurt their feelings.

I avoid groups where I would be of the minority race.

My classmates can depend upon me to help them master class materials.

I don't perform as well in class as I could because I fall short of requirements.

Because of my friends' urgings, I get involved in things that are not in my best interest.

A person's sexual orientation is a crucial factor in determining whether I will attempt to develop a friendship with her/him.

It's more important for me to make my own decisions than to have my parent's approval.

I conceal some of my talents or skills so I will not be asked to contribute to group efforts.

It's more important to me that my friends approve of what I do than it is for me to do what I want.

It's hard for me to work intensely on assignments for more than a short time.

I feel uncomfortable when I'm around persons whose sexual orientation is different from mine.

When in groups, I present my ideas and ·views in a way that it's clear I have given them serious thought.

It's very important to me that I am successful both inside and outside the classroom.

My personal habits (e.g., procrastination, time management, assertiveness) get in the way of accomplishing my goals or meeting my responsibilities.

I try to avoid people who act in unconventional ways.

I accept criticism from friends without getting upset.

I get bored and quit studying after working on an assignment for a short time.

I find it difficult to accept some of the ways my close friends have changed over the past year.

I have difficulty following through with decisions I have made when I discover others (e.g., parents or friends) disagree with these decisions.

I have difficulty disciplining myself to study when I should.

I don't socialize with people of whom my friends don't approve.

My study time seems rushed because I fail to realistically estimate the amount of time required.

I feel confident in my ability to accomplish my goals.

I try to dress so that I will fit in with my friends.

It's essential that those important to me approve of everything I do.

Even when I'm not particularly interested in a subject, I'm able to complete course requirements satisfactorily.

It's important to me that I achieve to the limits of my abilities.

I use library materials, resources, and facilities effectively.

Part 3 Respond to the items below by selecting one of the following:

A = Strongly Agree, B = Agree, C = Disagree, D = Strongly Disagree

I have arranged my living quarters in a way that makes it easy for me to study, sleep, and relax.

I have become more culturally sophisticated since beginning college.

Learning to live with students from cultural or racial background different from mine is an important part of a college education.

Society has a responsibility to assist people who cannot sustain themselves.

As a citizen, I have the responsibility to keep myself well-informed about current issues.

Part 4: Respond to the statements below by selecting one of the following:

A = Never, B = Seldom, C = Sometimes, D = Often

I wonder what my friends say about me behind my back.

I dislike working in groups when there are a significant number of people who are from a race or culture that is different from mine.

Within the past year, I have participated in activities that directly benefited my fellow students.

I have used my time in college to experiment with different ways of living or looking at the world.

I am confident in my ability to make good decisions on my own.

I participate in community service activities.

I trust the validity of my values and opinions, even when they aren't shared by my parent(s). I express my disapproval when I hear others use racial or ethnic slurs or put-downs.

I have an inner sense of direction that keeps me on track, even when I am criticized.

In the past 6 months, I have gone out of my way to meet students who are culturally or racially different from me because I thought there were things I could learn from them.

I feel anxious when confronted with making decisions or taking actions for which I am responsible.

I meet my responsibilities to my parent(s) as well as I should.

Within the past 12 months, I have taken a public stand on issues or beliefs when many friends and acquaintances didn't agree.

Part 5: Select the one best response from the alternatives provided.

After a friend and I have a heated argument, I will

A. Never (almost never) speak to him/her.
B. Seldom speak to him/her.
C. Usually speak to him/her.
D. Always speak to him/her.
E. I never have disagreements with friends.

In terms of an academic major or concentration,

A. I am uncertain about possible majors and am a long way from a decision.
B. I have thought about several majors, but haven't done anything about it yet.
C. I have made a tentative decision about what I major in.
D. I have made a firm decision about a major, but I still have doubts about whether I have made the right decision.
E. I have made a firm decision about a major in which I am confident that I will be successful.

Thinking about employment after college,

A. I do not know how to find out about the prospects for employment in a variety of fields.
B. I have a vague idea about how to find out about future employment prospects in a variety of fields.
C. I know one source that could provide information about future employment prospects in a variety of fields.
D. I know several sources that can provide information about future employment prospects in a variety of fields.

When thinking about the kind of life I want 5 years after college, I have ...

A. not come up with a very clear picture.
B. a vague picture, but have been unable to identify the specific steps I need to take now.
C. a clear enough picture that I can identify the step necessary for me to take now in order to realize my dream, even though I haven't done very much about it yet.
D. a clear enough picture and identified the steps.

During this academic year,

A. I have organized my time well enough for me to get everything completed.
B. I sometimes had difficulty organizing my time well enough to get everything done.
C. I often had difficulty organizing my time well enough to get everything done.
D. I seldom seem able to organize my time well enough to do everything.

I participate in the arts (e.g., draw, write, play musical instrument, or sing) just for my own enjoyment.

A. I never (almost never) do this.
B. I seldom do this.
C. I occasionally do this.
D. I frequently do this.

When faced with important decisions this year, I have ...

A. relied on others-such as parent(s), friend(s), or teacher(s)-to tell me what to do.
B. sought information and opinions, but made the final decisions on my own.
C. relied on myself alone in making the decisions.
D. attempted to avoid making decisions as much as possible.

I have identified, and can list, at least 3 ways I can be an asset to the community.

A. No, I haven't thought about that much.
B. No, I don't know what I can contribute.
C. No, that's not important to me.
D. Yes.

During this academic year,

A. I have tended to put off most school work, and assignments to the last minute and, as a result, don't do as well as I could.
B. I have often forgotten about assignments or put them off so long that I was unable to turn them in on time.
C. I have established a study routine that has enabled me to get most school work and assignments completed on time and to my own satisfaction.
D. I have established a study routine that has enabled me to get all work and assignments completed on time and to my own satisfaction.

In terms of the array of possible academic majors at this college, I have ...

A. not spent much time investigating the possibilities.
B. talked to some students about their majors, but have not done any systematic investigation.
C. read the catalog and talked to some students and/or faculty/staff members about possible majors.
D. made a systematic effort to learn about possible majors and what they entail.
E. made a systematic effort to learn about possible majors and have carefully looked at my abilities and interests and how they fit different majors.

Within the past 6 months,

A. I haven't seriously thought about possible post-college jobs or careers.
B. I have thought about possible post-college jobs or career, but haven't done much about exploring the possibilities.
C. I have asked relatives, faculty members, or others to describe positions in the fields in which they are working.
D. I have taken definite steps to decide about a career, such as visiting a counselor, placement center, or persons who hold the kinds of positions in which I am interested.

If something were to prevent me from realizing my present educational plans, I have ...

A. no idea what else I might pursue.
B. a vague notion about acceptable alternatives.
C. several acceptable alternatives in mind, but I haven't explored them very much.
D. several acceptable alternatives in mind, which I have explored in some detail.

When I have heated disagreements with friends about matters such as religion, politics, or philosophy, I ...

A. am likely to terminate the friendship.
B. am bothered by their failure to see my point of view but hide my feelings.

C. will express my disagreement, but will not discuss the issue.
D. will express my disagreement and am willing to discuss the issue. E. don't talk about controversial matters.

I have made a positive contribution to my community (residence hall, campus, neighborhood, or hometown) within the past 3 months.

A. No, that isn't important to me.
B. No, I don't know what I could do to make a positive contribution.
C. No, but 1 have tried to find ways.
D. Yes.

In terms of an academic major/concentration, I have...

A. determined what all the requirements are and the deadlines by which things must be done, for the major I have chosen.
B. investigated the basic requirements for graduating with a degree in my academic major.
C. a general idea about the courses and other requirements needed in my major.
D. not paid much attention to the requirements for my major; I depend on my advisor or others to tell me what to take.
E. yet to decide on an academic major.

I have decided the place (if any) that marriage has in my future.

A. No, I will just wait to see what develops.
B. No, I don't think about it.
C. No, but I know what I would like to have happen.
D. Yes, I have made a definite decision.

I am familiar with sources of help on campus (e.g., tutoring, counseling, academic information, library research tools and procedures, and computers).

A. I really don't know much about these things.
B. I know about a few.
C. I know about most of them.
D. I know about all of them.

When I don't agree with someone in authority (e.g., professor, administrator), I ...

A. never express my opinion.
B. express my opinion only when I am angry.
C. express my opinion when asked.
D. express my opinion if given a chance.
E. avoid dealing with persons in position of authority if possible.

Within the past 3 months, I have taken an active part in a recycling activity/program.

A. No, recycling is too much trouble.
B. No, I don't know where to dispose of materials.
C. Yes, I have participated occasionally.
D. Yes, I have participated regularly.
E. Yes, I have participated and promoted recycling activities to others.

In terms of the labor market demand for people with a degree in my major, in the career area in which I am most interested,

A. I have yet to decide on a career area and/or academic major.
B. I don't have much of an idea of what I will face upon graduation.

C. I have a general, although somewhat vague, picture of what I will face upon graduation.
D. I have investigated things enough to be pretty clear about what I will face upon graduation.

I can clearly state my plan for achieving the goals I have established for the next 10 years.

A. No, because I have no specific goals for the next 10 years.
B. No, because I don't like making detailed plans for long-range goals.
C. No, because I haven't worked out my plan completely.
D. Yes.

Within the past month,

A. I took the initiative to bring several people together to resolve a mutual problem.
B. I joined with several people to resolve a mutual problem.
C. I have not encountered a problem that needed a group effort to solve.
D. I have avoided situations that required me to work with other people in solving problems.

Within the last 12 months, I have attended a play or classical music concert when not required for a class.

A. Yes
B. No, I don't like those kinds of things.
C. No, 1just haven't gotten around to it.
D. No, there aren't such things available here.

If I thought my friends would disapprove of a decision I made, I would most likely ..

A. try to keep them from finding out (keep it a secret).
B. tell them and pretend I didn't care what they thought.
C. tell them and explain my reasoning for this decision.
D. make up something to mislead them from knowing the truth.

In the past 12 months, I have taken an active part in activities or projects designed to improve the community, such as a charity drive, clean up campaign, or blood drive:

A. Never
B. Once
C. Twice
D. Three times
E. Four or more times

Over the past 12 months at this college, I have ...

A. taken the initiative to set up conferences with an academic advisor.
B. kept appointments with an academic advisor when she/he scheduled them.
C. avoided dealing with my academic advisor.
D. not investigated how obtain academic advising.
E. not been at this college long enough to get involved in academic advising.

In the past year,

A. I have discussed my career goals with at least 2 professionals in the field that interests me most.
B. I have had minimal exposure to people in the career field that interests me most.
C. I know several professionals in the career field in which I am most interested, but I haven't talked to them about entering the field.
D. I have yet to decide on a career area.

My plans for the future are consistent with my personal values (for example, importance of service to others, religious beliefs, importance of luxuries, desire for public recognition).

A. No, my future plans are unclear and 1am undecided about my personal values.
B. No, my future plans are clear, but I am undecided about my personal values.
C. No, my future plans are unclear, but I am clear about my personal values.
D. Yes, I have recently begun to think about how my values will shape my future.
E. Yes, I thought about this a lot and have a clear plan.

Each day,

A. I depend on my memory to make sure that I get done what needs to be done, and that works for me.
B. I keep a calendar or make a "To Do" list of what needs to be done each day and that works for me.
C. I dislike planning what I need to do; I just let things happen and that works for me.
D. I don't make detailed plans about what I need to do each day, and as a result I forget important things.

Within the past 12 months, I have visited a museum or an art exhibit when not required for a class.

A. Yes
B. No, I don't like those kinds of things.
C. No, I just haven't gotten around to it.
D. No, there aren't such things available here.

In regard to social issues (e.g., homelessness, environmental pollution, or AIDS),

A. I don't think much about them.
B. I am concerned, but haven't taken any specific actions.
C. I contribute money to organizations that address the issue(s), but that is the extent of my involvement.
D. I am actively involved in organizations that address the issues(s).

I have a mature working relationship with one or more members of the academic community (faculty member, student affairs/services staff member, administrator).

A. Yes
B. No, I don't like dealing with them.
C. No, I have tried to form relationships, but haven't been successful yet.
D. No, I don't know any.
E. No, I don't have time for that kind of thing.

When thinking about occupations I am considering entering,

A. I don't know what is required in order to be competitive for a job.
B. I haven't decided which occupations interest me most.
C. I have a general idea of what is required.
D. I can list at least 5 requirements.

I have developed strategies to maximize my strengths and to minimize my weaknesses in order to accomplish my goals in life.

A. No, I don't know myself that well.
B. No, I haven't figure out how to do that.
C. No, I don't have a clear picture of my life goals.

D. Yes, I have done this, but I'm not very confident about my strategies.
E. Yes, I have done this, and I am confident that my strategies will be effective.

I have one or more goals that I am committed to accomplishing and have been working on for over a year.

A. No, I don't like making definite goals.
B. No, I have tried, but have been unable to follow through.
C. No, I have difficulty making realistic long range plans.
D. Yes.

Over the past year, I have frequently participated in cultural activities.

A. No, that isn't something that I enjoy or consider important.
B. No, there haven't been any cultural activities available in which I could participate.
C. I have attended when others have encouraged or invited me.
D. Yes, I have taken advantage of as many opportunities as I could manage.
E. Yes, only when required by the college.

Within the past 12 months, I contributed my time to a worthy cause in my community (campus or town/city).

A. No
B. 1-10 hours
C. 11-20 hours
D. 21-30 hours
E. 31 or more hours

Within the past 12 months,

A. I haven't attended any non-required lectures, programs, or activities dealing with serious intellectual subjects.
B. I have attended 1 or 2 non-required lectures or programs dealing with serious intellectual subjects.
C. I have attended 3 or 4 lectures or programs dealing with serious intellectual subjects that were not required for any of my courses.
D. I have attended 5 or more lectures or programs dealing with serious intellectual subjects that were not required for any of my courses.

In terms of practical experience in the career area I plan to pursue after college, I have ...

A. yet to decide on a post-college career area.
B. had no experience.
C. had very little experience.
D. had some experience.
E. had a great deal of experience.

I am involved in hobbies or leisure activities today that I see myself continuing to pursue 10 years from now.

A. Yes
B. No
C. I don't know

In addition to my academic studies,

A. I spend much of my free time involved in organized activities on campus or in the community.

B. I spend most of my free time "goofing off" or watching television.
C. I spend most of my free time with friends doing things we enjoy.
D. I spend most of my time working to support myself and/or caring for my family.

In regards to college organizations specifically related to my chosen occupational field, I have ...

A. yet to decide on a post-college occupational field.
B. investigated joining one or more, but have not actually joined.
C. joined one or more, but am not very involved.
D. joined one or more and am actively involved.

I have investigated what I must do in order to satisfy my need or desire for material goods, such as cars, clothes, and a home once I complete my education.

A. No, I'm unsure about how important material goods are to me.
B. No, I haven't thought much about what I will need to do.
C. No, I have given some thought to this, but things are still unclear.
D. Yes, I'm somewhat sure that I will be able to satisfy my needs/desires.
E. Yes, my current plans are likely to meet my needs or desires.

I have formed a personal relationship (friendly acquaintanceship) with one or more professors.

A. Yes, but I find it difficult to talk to him/her (them).
B. Yes, we often enjoy interacting with each other.
C. No, 1would like to but haven't taken any action.
D. No, I would like to and have tried unsuccessfully.
E. No, because that isn't important to me.

Considering beginning-level positions in business, industry, government, or education for which I would be eligible when I complete my education, I ...

A. can name 3 or more.
B. can name only 2.
C. can name only 1.
D. cannot name any.
E. haven't made a decision about my academic major/concentration; therefore, I don't know for what I might be qualified.

I have considered the kinds of trade offs (in areas such as family time, leisure time, job status, income, or time with friends) I will need to make in order to have the kind of lifestyle I want to have 5 years after completing my education.

A. I haven't thought about this at all.
B. I have thought about this in general.
C. I have a fairly clear idea of the tradeoffs required.
D. I have a very clear idea of the trade offs required.

I have been actively engaged in a student organization or college committee in the past 6 months.

A. Yes
B. No, I don't have time because of my job(s) and/or family responsibilities.
C. No, I am not interested.
D. No, 1haven't been in college long enough.
E. No, but 1plan to do so soon.

When thinking about narrowing the number of career areas I wish to explore,

A. I have identified specific personal abilities and limitations which I can use to guide my thinking.
B. I have some general ideas about what I would be successful in.
C. I have only a vague sense of where I can best use my skills or minimize my shortcomings.
D. I have never thought about careers in this way.

I am purposefully developing intellectual skills and personal habits that will assure that I continue to learn after completing my formal education.

A. I haven't thought about this.
B. I rely completely on course requirements to do this.
C. I think about this some times.
D. I do this systematically.

Within the past 3 months, I have had a serious discussion with a faculty member concerning something of importance to me.

A. No, I don't like talking to faculty members.
B. No, I have tried, but was unsuccessful.
C. No, I haven't found one who seemed willing to interact in that way.
D. Yes, I initiated such a discussion.
E. Yes, I responded to a faculty member's initiative.

Within the past 3 months,

A. I haven't thought seriously about my career.
B. I have read about a career I am considering.
C. I have been involved in activities directly related to my future career.
D. I have thought about my career, but things are still too unsettled for me to take any action yet.

I have weighed the relative importance of establishing a family in relation to other life goals.

A. No, my desire to establish a family is too uncertain.
B. No, my life goals are too uncertain.
C. Yes, but my priorities tend to change.
D. Yes, my priorities about these goals are clear.

While in college I have acquired practical experience directly related to my educational goals through an internship, part-time work, summer job, or similar employment.

A. No, I haven't been enrolled long enough.
B. No, I haven't thought about it very much.
C. No, I have yet to establish any specific educational goals.
D. Yes, I did it to satisfy program requirements.
E. Yes, I did it on my own initiative.

I have established a specific plan for gaining practical experience in the career area I plan to pursue after college.

A. No, I have yet to decide on a career area.
B. No, but that is something I should be doing.
C. No, that isn't something I want to do.
D. Yes, but I haven't actually acted on my plan.
E. Yes, and I have begun implementing my plan.

I have considered how my present course of study will impact my goals for the future.

A. No, I haven't thought about this at all.
B. Yes, I have thought about this, but it's unclear how my studies will shape my future.
C. Yes, I have a fairly clear idea bout how my studies will shape my future.
D. Yes, I have a very clear picture of how my studies will shape my future.

I have developed a financial plan for achieving my educational goals.

A. No, my parent(s) are taking take of it.
B. Yes, I have a plan which depends on the continuation of the present level of funding.
C. No, I haven't thought much beyond the current term.

I carefully investigated the intellectual abilities and necessary academic background needed to be successful in my chosen academic major.

A. No, I have yet to make a definite decision about an academic major/concentration.
B. No, I chose my major/concentration solely on the basis of what I enjoyed most.
C. No, I have narrowed the choice down to a few areas, but haven't really investigated majors in that way.
D. No, I never thought about it in that way.
E. Yes.

Within the past 3 months, I have read a non-required publication related to my major field of study.

A. No, I have yet to decide on an academic major/field of study.
B. No, I don't have time to read such things.
C. No, that would be too boring.
D. Yes.

I am acquainted with at least 3 persons who are actively involved in the kind of work I visualize for myself in the future.

A. Yes.
B. No, I haven't met many people doing the work I visualize for myself.
C. No, I have yet to decide on a post-college occupational area.
D. No, I don't think that is very important.

I often have trouble visualizing day-to-day work in the career area I have selected.

A. Yes, because I have yet to decide on a career area.
B. Yes, because I don't know what routine work in my career area is really like.
C. Yes, because I don't like to think about that.
D. No, I can visualize work in that area, but I'm not sure that it's realistic.
E. No, I have a clear and realistic picture of work in my career area.

Within the past 12 months, I have had a serious conversation about my long-term educational objectives with an academic advisor or other college official.

A. No, I don't know to whom to talk.
B. No, I have tried, but no one will help me.
C. No, but I want to do that.
D. No, I don't want my options limited.
E. Yes.

While in college, I have visited a career center or library to obtain information about a chosen career.

A. No, but I will do that when I find time.
B. No, I don't need career information.
C. No, there is no place or person that deals with careers on my campus.
D. Yes.

What is your college major? _____

Please list one or two of your college involvement activities, other than peer advising:
_____

Do you intend to serve as a peer advisor in future terms?

- o Yes
- o No, I am graduating/studying abroad.
- o No, I have other commitments.
- o No, I decided not to.

Thank you for participating in this research study!
Please click submit below to finish.

Appendix E: Instrument Score Key

SDTLA SCORE KEY
(Form 1.99)

* Do not score item followed by asterisk when using with entering freshmen, that is, students who have not been in the collegiate environment for at least 4 weeks.

Career Planning (14 items)

90.	A 1	B 2	C 3	D 4	
99.	A 1	B 1	C 3	D 5	
109.	A 1	B 1	C 2	D 3	
117.	A 3	B 1	C 2	D 1	
123.	A 1	B 1	C 2	D 5	
129.	A 1	B 1	C 2	D 3	E 5
132.*	A 1	B 2	C 3	D 5	
135.	A 4	B 3	C 2	D 1	E 1
138.	A 5	B 3	C 3	D 1	
141.	A 1	B 2	C 3	D 1	
144.	A 1	B 2	C 1	D 3	E 5
150.	A 5	B 2	C 1	D 1	
151.	A 1	B 1	C 1	D 3	E 5
153.*	A 2	B 1	C 1	D 5	

Lifestyle Planning (13 items)

2.	A 5	B 1			
91.	A 1	B 2	C 3	D 5	
100.	A 1	B 2	C 3	D 5	
104.	A 1	B 1	C 3	D 5	
110.	A 1	B 1	C 2	D 5	
118.	A 1	B 1	C 1	D 4	E 5
124.	A 1	B 1	C 1	D 3	E 5
130.	A 5	B 1	C 2		
133.	A 1	B 1	C 2	D 3	E 2
136.	A 1	B 2	C 4	D 5	
139.	A 1	B 2	C 3	D 5	
142.	A 1	B 1	C 2	D 5	
145.	A 1	B 2	C 4	D 5	

Cultural Participation (10 items)

9.	A 5	B 1			
14.	A 5	B 1			
19.	A 5	B 1			
23.	A 1	B 2	C 4	D 5	
31.	A 1	B 2	C 4	D 5	
70.	A 5	B 4	C 2	D 1	
93.	A 1	B 2	C 4	D 5	
112.	A 5	B 1	C 1	D 1	
120.	A 5	B 1	C 1	D 1	
126.	A 1	B 1	C 3	D 5	E 2

Peer Relationships (10 items)

6.	A 1	B 5			
32.	A 5	B 4	C 2	D 1	
37.	A 5	B 4	C 2	D 1	
42.	A 5	B 4	C 2	D 1	
54.	A 5	B 4	C 2	D 1	
58.	A 5	B 4	C 2	D 1	
64.	A 5	B 4	C 2	D 1	
74.	A 5	B 4	C 2	D 1	
88.	A 1	B 2	C 3	D 5	E 1
101.	A 1	B 1	C 2	D 5	E 1

Tolerance (14 items)

7.	A 1	B 5			
10.	A 5	B 1			
17.	A 5	B 1			
20.	A 1	B 3			
25.	A 5	B 4	C 2	D 1	
33.	A 5	B 4	C 2	D 1	
38.	A 5	B 4	C 2	D 1	
45.	A 5	B 4	C 2	D 1	
50.	A 5	B 4	C 2	D 1	
71.	A 5	B 4	C 2	D 1	
75.	A 5	B 4	C 2	D 1	
78.*	A 1	B 2	C 4	D 5	
82.	A 1	B 2	C 4	D 5	
84.	A 1	B 2	C 4	D 5	

Emotional Autonomy (17 items)

11.*	A 3	B 1			
24.	A 5	B 4	C 2	D 1	
39.	A 1	B 2	C 4	D 5	
46.	A 1	B 2	C 4	D 5	
51.	A 1	B 2	C 4	D 5	
55.	A 5	B 4	C 2	D 1	
61.	A 1	B 2	C 4	D 5	
65.	A 5	B 3	C 2	D 1	
79.	A 1	B 2	C 4	D 5	
81.	A 1	B 2	C 4	D 5	
83.	A 1	B 2	C 4	D 5	
85.	A 5	B 4	C 2	D 1	
86.	A 1	B 2	C 4	D 5	
87.	A 1	B 2	C 4	D 5	
94.	A 1	B 5	C 2	D 1	
106.	A 1	B 1	C 2	D 5	
113.	A 1	B 1	C 5	D 1	E 1

Salubrious Lifestyle (17 items)

4.	A 1	B 3			
12.	A 1	B 3			
16.	A 5	B 1			
28.	A 1	B 2	C 4	D 5	
30.	A 1	B 2	C 4	D 5	
36.	A 1	B 2	C 4	D 5	
41.	A 1	B 2	C 4	D 5	
44.	A 1	B 2	C 4	D 5	
48.	A 1	B 2	C 4	D 5	
53.	A 1	B 2	C 4	D 5	
57.	A 1	B 2	C 4	D 5	
60.	A 1	B 2	C 4	D 5	
63.	A 5	B 4	C 2	D 1	
77.	A 5	B 4	C 2	D 1	
97.	A 4	B 1	C 4	D 1	E 1
108.	A 5	B 4	C 3	D 1	E 1
115.	A 5	B 4	C 3	D 1	E 1

Academic Autonomy (11 items)

27.	A 5	B 4	C 2	D 1	
35.	A 5	B 4	C 2	D 1	
43.	A 5	B 4	C 2	D 1	
47.	A 1	B 2	C 4	D 5	
52.	A 5	B 4	C 2	D 1	
56.	A 5	B 4	C 2	D 1	
59.	A 5	B 4	C 2	D 1	
66.	A 1	B 2	C 4	D 5	
67.	A 1	B 2	C 4	D 5	
68.	A 1	B 2	C 4	D 5	
96.	A 1	B 1	C 4	D 5	

Social Desirability (6 items)

1.	A 1	B 0			
5.	A 1	B 0			
8.	A 1	B 0			
13.	A 1	B 0			
15.	A 1	B 0			
18.	A 1	B 0			

Instrumental Autonomy (9 items)

3.	A 5	B 1			
22.	A 1	B 2	C 4	D 5	
49.	A 5	B 4	C 2	D 1	
69.	A 4	B 3	C 2	D 1	
92.	A 5	B 3	C 2	D 1	
105.	A 1	B 2	C 4	D 5	
119.	A 4	B 4	C 1	D 1	
125.	A 1	B 2	C 1	D 5	
146.	A 1	B 3	C 1		

Educational Involvement (14 items)

89.	A 1	B 1	C 3	D 3	E 5
98.	A 1	B 2	C 3	D 4	E 5
103.	A 5	B 3	C 2	D 1	E 1
116.*	A 5	B 4	C 1	D 1	E 1
122.	A 5	B 1	C 2	D 1	E 1
128.	A 1	B 2	C 4	D 5	
131.	A 5	B 1	C 2	D 5	
134.	A 3	B 5	C 1	D 2	E 1
137.*	A 5	B 1	C 1	D 1	E 2
140.*	A 1	B 2	C 1	D 5	E 3
143.*	A 1	B 1	C 1	D 3	E 5
147.	A 1	B 1	C 3	D 1	E 5
149.	A 1	B 1	C 1	D 3	
152.	A 1	B 2	C 1	D 1	E 5

Interdependence (14 items)

26.*	A 1	B 2	C 4	D 5	
34.	A 1	B 2	C 4	D 5	
40.	A 5	B 4	C 2	D 1	
72.	A 5	B 4	C 2	D 1	
73.	A 5	B 4	C 2	D 1	
76.	A 1	B 2	C 4	D 5	
80.	A 1	B 2	C 4	D 5	
95.	A 1	B 1	C 1	D 3	
102.	A 1	B 1	C 2	D 5	
107.	A 1	B 1	C 2	D 4	E 5
111.	A 5	B 4	C 1	D 1	
114.	A 1	B 2	C 3	D 4	E 5
121.	A 1	B 2	C 3	D 5	
127.	A 1	B 2	C 3	D 4	E 5

Experimental Items (do not score)

21.
29.
62.
148.

Appendix F: Secondary Data Charts

SDTLA National Norms 2007 to 2011

	Female Freshmen		Female Sophomores		Female Juniors		Female Senior	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Career Planning Raw Score	2.62	.75	2.84	.71	2.96	.86	3.30	.77
Lifestyle Planning Raw Score	3.32	.71	3.32	.73	3.40	.81	3.55	.74
Instrumental Autonomy Raw Score	3.46	.59	3.51	.63	3.52	.65	3.62	.56
Cultural Participation Raw Score	3.44	.91	3.54	.85	3.26	.96	3.51	.92
Peer Relationships Raw Score	3.71	.61	3.61	.58	3.67	.63	3.79	.50
Tolerance Raw Score	3.82	.54	3.77	.68	3.71	.56	3.83	.63
Emotional Autonomy Raw Score	3.74	.44	3.59	.51	3.67	.42	3.71	.43
Salubrious Lifestyle Raw Score	3.45	.46	3.58	.52	3.49	.48	3.37	.58
Academic Autonomy Raw Score	3.76	.63	3.75	.73	3.78	.64	3.89	.61
Interdependence Raw Score	3.23	.48	3.27	.59	3.10	.61	3.28	.68
Educational Involvement Raw Score	2.65	.80	3.15	.80	3.30	.84	3.65	.70
Establishing and Clarifying Purpose Task Raw Score	2.97	.58	3.19	.60	3.22	.66	3.50	.63
Developing Autonomy Task Raw Score	3.56	.39	3.52	.48	3.51	.41	3.61	.38
Mature Interpersonal Relationships Task Raw Score	3.78	.46	3.72	.54	3.71	.46	3.82	.47

(continued)

SDTLA National Norms 2007 to 2011 (continued)

	Male Freshmen		Male Sophomores		Male Juniors		Male Seniors	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Career Planning Raw Score	2.50	.78	2.58	.69	2.93	.73	2.97	.81
Lifestyle Planning Raw Score	3.03	.82	3.14	.79	3.37	.75	3.33	.75
Instrumental Autonomy Raw Score	3.35	.66	3.25	.63	3.49	.59	3.42	.60
Cultural Participation Raw Score	3.29	.92	3.05	.90	3.16	1.00	3.23	1.05
Peer Relationships Raw Score	3.82	.50	3.61	.66	3.83	.55	3.78	.56
Tolerance Raw Score	3.63	.65	3.47	.68	3.71	.59	3.56	.59
Emotional Autonomy Raw Score	3.65	.48	3.55	.48	3.75	.48	3.64	.51
Salubrious Lifestyle Raw Score	3.36	.48	3.30	.62	3.45	.50	3.20	.58
Academic Autonomy Raw Score	3.61	.59	3.49	.62	3.73	.68	3.60	.65
Interdependence Raw Score	3.03	.64	3.02	.67	3.17	.61	3.08	.62
Educational Involvement Raw Score	2.54	.85	2.91	.83	3.30	.79	3.33	.85
Establishing and Clarifying Purpose Task Raw Score	2.80	.68	2.91	.64	3.19	.61	3.21	.70
Developing Autonomy Task Raw Score	3.42	.44	3.34	.46	3.55	.44	3.44	.46
Mature Interpersonal Relationships Task Raw Score	3.72	.48	3.54	.50	3.75	.46	3.65	.45

Mean scores of 100 randomly selected Males and 100 randomly selected females for each classification (Fr, So, Jr, Sr, 800 total) from those who completed the SDTLA from 2007 to 2011.

Appendix G: Institutions of Participants

Institution	*n*	State	Region	Designation
Appalachian State University	2	North Carolina	East	Public, 4 year
Auburn University	1	Alabama	South	Public, 4 year
Biola University	3	California	West	Private, 4 year
Brandeis University	2	Massachusetts	East	Private, 4 year
Brigham Young University	2	Utah	West	Private, 4 year
Brown University	3	Rhode Island	East	Private, 4 year
Caldwell University	1	New Jersey	East	Private, 4 year
California State Polytechnic University, Pomona	1	California	West	Public, 4 year
City University of New York: John Jay College of Criminal Justice	1	New York	East	Public, 2 year
City University of New York: LaGuardia Community College	5	New York	East	Public, 2 year
Colorado School of Mines	1	Colorado	West	Public, 4 year
Columbia University	3	New York	East	Private, 4 year
Cornell University	1	New York	East	Private, 4 year
Duke University	1	North Carolina	East	Private, 4 year
Georgia Southern University	1	Georgia	South	Public, 4 year
Idaho State University - Idaho Falls	1	Idaho	West	Public, 4 year
Illinois State University	2	Illinois	Midwest	Public, 4 year
Indiana University Kokomo	1	Indiana	Midwest	Public, 4 year
Indiana University–Purdue University Indianapolis	1	Indiana	Midwest	Public, 4 year
James Madison University	1	Virginia	East	Public, 4 year
Kansas State University	1	Kansas	Midwest	Public, 4 year
None Listed	4			
North Carolina State University	2	North Carolina	East	Public, 4 year
Princeton University	1	New Jersey	East	Private, 4 year
Rice University	6	Texas	South	Private, 4 year
San Francisco State University	1	California	West	Public, 4 year
Skidmore College	4	New York	East	Private, 4 year
Syracuse University	1	New York	East	Private, 4 year
Temple University	3	Pennsylvania	East	Public, 4 year
The Evergreen State College	2	Washington	West	Public, 4 year
The Ohio State University	2	Ohio	Midwest	Public, 4 year
University of Alabama	3	Alabama	South	Public, 4 year
University of Arkansas	4	Arkansas	South	Public, 4 year
University of California, Berkeley	9	California	West	Public, 4 year
University of California, Davis	1	California	West	Public, 4 year
University of California, Irvine	4	California	West	Public, 4 year
University of California, San Diego	1	California	West	Public, 4 year

Institution	*n*	State	Region	Designation
University of Central Florida	7	Florida	South	Public, 4 year
University of Chicago	2	Illinois	Midwest	Private, 4 year
University of Colorado Boulder	5	Colorado	West	Public, 4 year
University of Connecticut	1	Connecticut	East	Public, 4 year
University of Florida	6	Florida	South	Public, 4 year
University of Illinois at Urbana-Champaign	17	Illinois	Midwest	Public, 4 year
University of Iowa	2	Iowa	Midwest	Public, 4 year
University of Massachusetts Amherst	1	Massachusetts	East	Public, 4 year
University of Michigan	3	Michigan	Midwest	Public, 4 year
University of Michigan - Dearborn	2	Michigan	Midwest	Public, 4 year
University of Michigan - Ann Arbor	1	Michigan	Midwest	Public, 4 year
University of Minnesota	1	Minnesota	Midwest	Public, 4 year
University of Missouri	2	Missouri	Midwest	Public, 4 year
University of North Carolina at Chapel Hill	1	North Carolina	East	Public, 4 year
University of Pittsburgh	2	Pennsylvania	East	Public, 4 year
University of Portland	2	Oregon	West	Private, 4 year
University of Rochester	4	New York	East	Private, 4 year
University of Wisconsin - La Crosse	1	Wisconsin	Midwest	Public, 4 year
University of Wisconsin - Stevens Point	5	Wisconsin	Midwest	Public, 4 year
Viterbo University	1	Wisconsin	Midwest	Private, 4 year
Wesleyan University	1	Connecticut	East	Private, 4 year
Williams College	2	Massachusetts	East	Private, 4 year
York College of Pennsylvania	1	Pennsylvania	East	Private, 4 year
Total	153			