ABSTRACT

A College Readiness Intervention Program's Impact on
College-going Self-efficacy and College Knowledge

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EnAbled for College functions as a model postsecondary education (PSE) transition program to assist high school students who are at risk and/or low socioeconomic status. *EnAbled for College* pairs graduate student mentors with high school students who meet weekly with students to cover a research based curriculum designed to instill strategies for persisting until high school graduation and skills for preparing for PSE attainment and success. This study analyzes the results for a three-year span of the program and includes a comparison group that is similar in gender, ethnicity, socioeconomic level, and first generation status. The participants for the comparison group were selected based on a proportional stratified sample to represent the demographics of the *EnAbled for College* participants. The study was a quasi-experimental pre- and post-intervention design with a post hoc data analysis. Pre- and post-intervention surveys were obtained from both groups and a multiple regression analysis was used to measure growth in self-efficacy attendance, self-efficacy persistence, and college knowledge. The *National Student Clearinghouse* data was used

to determine enrollment in PSE and a logistic regression was used to measure the differences in PSE enrollment between groups. The findings indicate the *EnAbled for College* participants' high school graduation, college attendance, and growth in college knowledge were statistically different from the comparison group. PSE enrollment for the *EnAbled for College* participants exceeded the comparison group as well as the national average. The analysis did not show a statistical difference between groups for self-efficacy attendance and persistence, but the difference in growth from the pre- to the post-surveys for the *EnAbled for College* participants exceeded the comparison group. The program provides interventions for students from low socioeconomic backgrounds to increase knowledge of PSE readiness. Steps to implement a transition program are presented as well as practical implications and directions for future research.

A College Readiness Intervention Program's Impact on
College-going Self-efficacy and College Knowledge

by

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A Dissertation

Approved by the Department of Educational Psychology

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DEDICATION

To the many students I have met and had the honor of being part of your lives – thank you for keeping me young.

CHAPTER ONE

Introduction

President Barack Obama set a clear goal in 2010 when he wrote *A Blueprint for Reform, The Reauthorization of the Elementary and Secondary Education Act*. President Obama's goals stated that every student should graduate from high school ready for college and a career regardless of his/her income, race, ethnic or language background, or disability status (United States Department of Education, n.d.). However, this goal has yet to be realized, with many students not enrolling in postsecondary education (PSE) or unprepared for PSE. As of 2010, only 14.5% of African American students are enrolled in PSE, 13.0% Hispanic, compared to 60.5% White non-Hispanic students (US Department of Education, 2012). Evidence of students being unprepared can be seen in the number of students who require remedial courses upon entering college. For example, in a study of students who enrolled in 4-year open admission institutions, the United States Department of Education (2013) found 26% of the students needed remediation courses prior to enrollment in a standard college-level curriculum. In addition, Shulock and Callan (2010) reported as high as 60% of students needed remediation courses in nonselective 2-year institutions. Enrollment in the PSE remediation courses increases the probability of a student not obtaining a PSE degree (Conley, 2010; National Forum on Education Statistics, 2015).

The large gap in ethnicity equity and the increasing number of students requiring remedial courses upon entry to PSE programs has prompted educators to evaluate what

can be done to ensure students are prepared for college upon graduating from high school. The *EnAbled for College* curriculum and program seeks to reduce the barriers to PSE and to increase student PSE readiness and the sustainability of PSE for students. *EnAbled for College* functions as a model transition program designed to assist at-risk high school students in accessing and persisting in PSE. *EnAbled for College* pairs graduate student mentors with at-risk high school students. The mentors and mentees meet weekly at the students' high schools and cover a research based curriculum designed to instill strategies and skills for PSE success, increase college-going self-efficacy, and increase college knowledge for the participants.

The current study had two purposes. First, this study compared the effects of the *EnAbled for College* program on college-going self-efficacy and college knowledge of students who completed the program compared to those who did not. The second purpose of this study was to compare enrollment of students in PSE for the *EnAbled for College* participants with a comparison group of students who did not participate in the program. The results of this study provide a better understanding of the impact and benefits of the *EnAbled for College* program for high-risk students who choose to participate in the program.

Postsecondary Education Readiness

What is meant by "postsecondary education ready?" Many individuals identify postsecondary readiness with college and career readiness. Conley (2010) defines college and career readiness "as the level of preparation a student needs in order to enroll and succeed- without remediation-in a credit-bearing course at a postsecondary institution that offers a baccalaureate degree or transfer to a baccalaureate program, or in a high-

quality certificate program that enables a student to enter a career pathway with the potential for future advancement" (p. 21). Others have added when defining postsecondary education ready, the need for students to have the knowledge and skills to complete a college course successfully (Tierney & Duncheon, 2015). Arnold, Lu, and Armstrong (2012) describe a college-ready student as possessing content knowledge, psychosocial skills (such as motivation and tolerance for complexity), PSE expectations, knowledge about PSE financial resources and financial aide, and the "skills and practical know-how to negotiate the complicated tasks of choosing, applying, selecting, and financing college" (p. 94).

Conley (2010) defines a model, *The Four Key Dimensions of College and Career Readiness*, for educators to assist high school students in preparing for college and a career. The four basic dimensions are key cognitive strategies, key content knowledge, academic behaviors, and contextual and awareness skills" (Conley, 2010, p. 31). The curriculum focus of the *EnAbled for College* program includes assisting high school seniors in developing cognitive strategies, academic behaviors, and college knowledge. Based on the social cognitive theory, providing students an opportunity to observe others can increases skills and provide students with the experience to increase self-efficacy and their ability to accomplish future tasks (Eggen & Kauchack, 2016). As students increase their belief in their ability, they increase self-efficacy (Bandura, 1986). Increased self-efficacy can help to increase a student's belief in his/her ability to be college ready (Arnold et al., 2012; Bandura, 1993).

Postsecondary Education Persistence

Conley's model, *The Four Key Dimensions of College and Career Readiness*, can help students be prepared for college, but persisting and graduating from PSE is a challenge for over 50% of the students who enroll in PSE. "When older census data (with different data definitions) are used, the 2010 graduation rate of 51.7 percent shows little improvement compared to the 50.2 percent reported in 1957" (Mortensen, 2012, pp. 48-49). The first study on college retention was completed in the 1930s (Berger & Lyon, 2005). As college enrollment increased during the 1950s and 1960s, enrollment demographics diversified with the Civil Rights Movement. This increase in a diverse student enrollment enlarged the number of students who did not persist in PSE and graduate. Minority students and students who were lower and middle income struggled to persist in the rigorous college courses. Many times the students' high schools had not prepared them for the coursework (Berger & Lyon). Conley and Tierney's models of college retention and persistence have risen in importance as demographics of college enrollment have become even more diverse and college and university's funding is now based on student performance and retention.

Statement of the Problem

Current college readiness programs lack consistency for all students. Students' opportunities to attain and pursue PSE are many times based on their home income. Gaps continue to grow between low-income and high-income students in college admittance, persistence, and attainment (Bailey & Dynarski, 2011). Students from low socioeconomic households lack acceptable academic preparation for PSE, knowledge on how to enroll, knowledge to attain and persist in PSE, and how to secure financial resources to afford

PSE (Conley, 2010; Reardon, 2011; Tierney & Duncheon, 2015). The lack of academic preparation coupled with low levels of environmental support and a lack of PSE content knowledge, are significant barriers for students from low socioeconomic students to be successful in attaining and pursuing PSE.

Purpose of the Study

The purpose of the current study was twofold. The first purpose was to add support to the current research on the elements needed to ensure low socioeconomic students are able to attain and persist in PSE. There is an abundance of research that includes the importance of including college knowledge, cognitive strategies, and academic behavior skills in the curriculum and preparatory program. This study not only includes research based curriculum but also includes the impact of a mentor and the presentation and discussion of a weekly college readiness curriculum. The contents of the research based curriculum are included in Chapter 3 and the results of the implementation are included in Chapter Four.

The second purpose of the study was to provide support and validation for the implementation of the *EnAbled for College* program that includes several layers of the environments that impact high school students. Providing support for students of low socioeconomic backgrounds can help to decrease the gap of PSE opportunity. The *EnAbled for College* program provides a yearlong research based curriculum as well as the support of weekly meetings with a mentor. The curriculum includes strategies to develop college knowledge, college-going self-efficacy, cognitive skills, and academic behaviors.

Research Design

The present study used a quasi-experimental pre and post-intervention design with a post hoc data analysis. Given the parameters outside the investigator's control (e.g. students recommended by the high school and students who volunteered to participate in the study), when possible, steps were taken to create homogeneous comparison groups, including comparisons among students in the same high schools.

Instruments

Students in the *EnAbled for College* program, as well as the comparison group, were given a pre-survey in September and a post-survey in May. The surveys used in the study were the *College-Going Self-Efficacy Scale* (Gibbons, 2005) and the *Texas College Knowledge Inventory* (Wisely, 2013). The surveys included questions to determine the students' perceptions on college-going self-efficacy attendance and persistence, college knowledge content, and their commitment to PSE.

The *College-Going Self-Efficacy Scale* (Gibbons, 2005) was used to measure self-efficacy beliefs as they relate to both aspects of college-going: attendance and persistence. Students' beliefs about attending college are similar to their beliefs about being able to stay in college, but the two are also unique. The college knowledge section of the survey included a partial list of the questions from the *Texas College Knowledge Inventory* (Wisely, 2012). It was designed to assess students' current knowledge about college admissions, college financial resources, college culture and norms, and the benefits of higher education. The *Texas College Knowledge Inventory* is based on the *North Carolina College Knowledge Inventory* that has been previously used with high school students (Gibbons, 2005).

The current study was designed to answer the following research questions:

1. Is there a difference in the college going self-efficacy attendance between students who participated in the *EnAbled for College* program and those who did not?
2. Is there a difference in the college going self-efficacy persistence between students who participated in the *EnAbled for College* program and those who did not?
3. Is there a difference in the college knowledge between students who participated in the *EnAbled for College* program and those who did not?
4. Is there a difference in the enrollment in PSE between students who participated in the *EnAbled for College* program and those who did not?

The upcoming chapter provides an in depth review of the literature and provides background and evidence to support the need to close the gap for students who are at risk of not enrolling and attaining a degree in PSE. An overview of the *EnAbled for College* program is included as well as a definition of postsecondary education readiness. Also include in Chapter Two is a description of college-going self-efficacy, a history and overview of postsecondary education persistence, the impact of adolescent development on PSE readiness, and the gap of attainment and persistence in PSE for low socioeconomic students.

Definition of Terms

504 student. "A student determined to: (1) have a physical or mental impairment that substantially limits one or more major life activities; or (2) have a record of such an impairment; or (3) be regarded as having such an impairment" (U.S Department of Education, 2018, p. 1).

At risk student. "A student who is likely to fail at school. In this context, school failure is typically seen as dropping out of school before high school graduation" (Kaufman, 1992, p. 2).

College and career readiness. "The level of preparation a student needs in order to enroll and succeed—without remediation—in a credit-bearing course at a postsecondary institution" (Conley, 2010, p. 21).

First generation student. A student whose parents have not received a PSE degree.

Low socioeconomic status (SES). The social standing or class of an individual or group (*American Psychological Association*, 2017).

Self-efficacy. A person's "assurance that they can exert themselves sufficiently to attain designated levels of productivity" (Bandura, 1986, p. 371).

CHAPTER TWO

Review of the Literature

The review of the literature is presented in six main sections: (a) overview of the *EnAbled for College* program; (b) postsecondary education readiness; (c) college-going self-efficacy (d) postsecondary education persistence; (e) adolescent development; and (f) low socioeconomic students.

Enabled for College

The college readiness transition program, *EnAbled for College*, was created to help reduce the gap of postsecondary attainment and persistence for students from low socioeconomic backgrounds and to provide a partnership with local school districts to help reduce this gap. The partnership between the university, a private institution with approximate enrollment of 15,000 students, and the participating high schools provides low socioeconomic students the needed interventions to improve their college readiness skills and to attain and persistence in PSE. The transition program provides services to the students in the form of mentoring, career counseling, and college preparation services.

The *Enabled for College* transition program began in the fall of 2010. The original program was served by a three-year state grant. The program employs graduate students from the university that provide the transition services and serve as mentors to the high school students. The graduate students work and interact with the students during weekly meetings and utilize a research based college and career readiness

curriculum as their guide. The university provides tuition assistance and a stipend to the graduate students for their services.

The mentors' weekly meetings also provide the participants' support in completing high school and include encouragement and practical assistance to attain and pursue a PSE. The mentors are an integral part of the program. They are the providers of the delivery of the innovative curriculum. The contents of the curriculum and the relationships built between the students and mentors provide positive dividends in the students' lives.

The *EnAbled for College* transition program includes several predictors that correlate with PSE success as reported by American Institutes for Research in *Predictors of Postsecondary Success* (Hein, Smerdon, & Sambolt, 2013) and *The Condition of College and Career Readiness 2015-Students from Low-Income Families* (ACT, 2015). The predictors that are included in the transition program are completion of the FAFSA, college-readiness lessons, completing a college application, setting college and career goals, the development of study skills and strategies to increase students' self-awareness, self-regulation, social awareness, relationship skills, and responsible decision-making.

Each of these areas of the curriculum and the support of the mentor contributes to the program's focus to increase each student's college-going self-efficacy. By increasing a student's college-going self-efficacy, a student's perception of his or her abilities increases. The student's perception increases in his or her belief they can do the classwork and homework required for a college course as well as finish college and receive a degree. The collaboration between the high school and the university creates a

partnership that can help alleviate the gap in students' college readiness (Barnett, et al. 2012; Hein et al., 2013).

Postsecondary Education Readiness

Defined

Conley (2010) defines college and career readiness as "the level of preparation a student needs in order to enroll and succeed—without remediation—in a credit-bearing course at a postsecondary institution" (p. 21). Arnold et al. (2012) describe a college-ready student as possessing content knowledge, psychosocial skills (such as motivation and tolerance for complexity), PSE expectations, knowledge about PSE financial resources and financial aid, and the "skills and practical know-how to negotiate the complicated tasks of choosing, applying, selecting, and financing college" (p. 94). The Texas College and Career Readiness Standards (2017) provide Texas high schools with an additional list of skills and techniques students should master in high school to be college and career ready. Opportunities should be provided for students to master skills such as time management, persistence, technology proficiency, and study skills. The Standards also support the need for students to have the opportunities to participate in collaboration with other students and to assume ownership of their own learning. The College and Career Readiness Standards also endorse the importance of academic behaviors. Students should be encouraged and provided opportunities to persevere, strive for accuracy and precision, and to work independently.

A broader construct of *college readiness* includes the academic skills and practices that underlie academic performance, the practical knowledge to engage in

college search activities, and the aspirations, motivation, and self-efficacy to attend college. Each of these elements serves as a resource in the development of a student's college readiness. "While relatively few students leave high school well developed in every component of college readiness, individuals' strengths in a particular area can bolster college access and success" (Arnold et al., 2012, p. 20).

Why PSE Readiness is Important

The effect of a high school student's enrollment in college remediation courses has brought attention to the need to address why high school students are not college and career ready. Studies report a range of "28% to 40% of high school students have to enroll in at least one remediation course in PSE" (as cited in National Conference of State Legislators, 2013, p. 1). In two-year colleges, "eligibility for enrollment typically requires only a high school diploma or equivalency. About one-quarter of incoming students to these institutions are fully prepared for college-level studies. The remaining 75 percent need remedial work in English, mathematics, or both" (Shulock & Callan, 2010, p. 2). Enrollment in the remediation courses highly increases the probability of a student not completing a PSE degree (Conley, 2010; National Forum on Education Statistics, 2015). The increased enrollment in PSE remediation courses has brought attention to what can educators can do to assure students are prepared for PSE.

A change in career opportunities has also forced a change in the focus of PSE attainment. For many years students learning the basics in high school, enrolled in college, graduated, and then employed in an economy focused on a manufacturing system. In the past decade employees have experienced a change in careers from a focus on manufacturing systems to an emphasis on service and knowledge careers (Conley,

2010). This change in the economy, as well as an increase in remediation courses in college, has placed pressure on educators to address these concerns.

PSE Readiness Curriculum

Conley (2010) provides a four-part model for defining college and career readiness. The model is the *Four Key Dimensions of College and Career Readiness*. The model includes four areas that high schools can employ to assist in ensuring college readiness for all students in their high school programs. The four areas include key cognitive strategies, key content knowledge, academic behaviors, and contextual skills and awareness (Conley, 2010). Tierney and Duncheon (2015) provide a similar model for college readiness that is based on a three-part model. The three parts include cognitive academic factors, non-cognitive academic factors, and campus integration factors. These factors include Conley's four areas plus the addition of mindsets in the non-cognitive factor and relationship to self and others in the campus integration factor.

Conley's (2010) cognitive strategies in the *Four Key Dimensions of College and Career Readiness* model are described as the need for students to reduce rote memorization in the high school curriculum and to develop thinking skills. Teachers can provide students an opportunity to develop thinking skills by providing activities that provide hands on activities. Conley appeals for content knowledge to be increased in the core academic subjects such as science, math, social studies, world language, and the arts. Increasing key academic skills, such as reading and writing, these are central to college success. Conley also suggests students increase self-management or academic behaviors in the *Four Key Dimensions of College and Career Readiness* model. Students should be provided opportunities to increase their self-monitoring skills to improve their ability to

be able to monitor their thinking about their own thinking. Examples of self-monitoring are a student's awareness of mastery or non-mastery of a subject, the ability to determine what worked or did not work when reflecting on a specific academic task, to choose a specific learning strategy, or to be able to transfer learning from one situation to a new situation. The fourth area of Conley's model is for students to develop is college and career contextual skills and awareness (Conley, 2010). The skill and awareness provides "the privilege information necessary to understand how college operates as a system and culture" (Conley, 2010, p. 40). This fourth area will be expounded on in the section described as *college knowledge*.

Research based instructional strategies are also an integral part of the PSE readiness system. Based on an inquiry-based design (Darling-Hammond, 2008), classrooms should include opportunities for students to work together and be a learner-centered environment (Donovan, Bransford, & Pellegrino, 1999). Students should be focused on clear learning goals and meaningful learning should take place. If these factors are implemented, students will be provided an opportunity to improve their cognitive skills, critical thinking skills, and problem-solving skills (Barkley, Major & Cross, 2014). Developing these skills are key for students to be college ready (Tierney & Duncheon, 2015). When teachers provide students these opportunities to think, reflect, and question, students actively participate in their own learning and develop a wide range of cognitive processes (Joseph, 2009). Providing students access to academic experiences and achievement through the classroom curriculum is vital for students who are at risk of not completing high school or enrolling in PSE (Parker, Eliot & Tart, 2013). Utilization of research based instructional practices as the framework for each classroom on the

campus creates an opportunity for students to increase the likelihood of being college ready.

College Knowledge

Along with increasing core content knowledge and developing cognitive skills, gaining college knowledge is essential for student success in PSE. College knowledge includes information about how to research college, how to apply, how to secure financial resources, test requirements, awareness of key deadlines, learning the norms of college, knowing the expectations of professors, and the differences a student can expect between high school and college (Tierney & Duncheon, 2015). Dual or concurrent enrollment in college courses can provide students opportunities to increase college knowledge. These programs assist students in obtaining important information about college and students begin to see themselves as college students. Providing students with this key information helps to reduce the financial, social, and informational barriers that sometime reduce the opportunities for students to attend PSE (Hooker & Brand, 2010).

Another skill needed is to learn to navigate the admission process. The admission process includes completing an application, determining which college admission exam to provide with the college application, securing financial aid resources, and completing the Free Application for Federal Student Aid (FAFSA). Teachers and school personnel can assist students in the selection and application process of college by providing college visits and providing opportunities for students to investigate their college of choice.

Conley (2010) also includes several elements of college knowledge that students need to be successful in attaining PSE. One of the skills needed for students is to be

aware of the norms of PSE. These norms can be learned over time, but are important to attain to provide the student with the human relation skills needed in PSE. Expectations from professors and other adults in PSE can be very different from previous expectations in high school. Students must learn to adapt and interact with a diverse group of adults as well as peers. Providing students with a mentor, who is familiar and has experience with PSE norms, can assist with removing these barriers.

Mentors

The *EnAbled for College* program provides structure for implementation for the curriculum and program through an instrumental school-based mentoring program. Karcher, Kuperminc, Portwood, Sipe, and Taylor (2006) describes an instrumental mentoring program as relying on a prescribed goal or specific skill development activities based on curriculum focused on evidence-based practices and school-based programs include programs implemented within the confines of the school building. During implementation of the curriculum the mentors are involved in regular contact with the participants, provide positive interactions, build rapport, and implement lessons on college-readiness (McQuillan, Terry, Strait, & Smith, 2013). The primary goal of the sessions is to build college knowledge and college-going self-efficacy. Findings indicate that adolescents benefit significantly from having an adult to promote positive development (Cates & Schaefle, 2011; Rhodes, 2002) and from participating in programs that provide college information (Cates & Schaefle, 2011). The *EnAbled for College* mentors follow the suggestions of Conley (2010) and Tierney and Duncheon (2015) to provide students with college information about PSE, how to access PSE, how to attain financial resources, and how the PSE system works. Providing participants access to

college information is influential in increasing students' expectations of obtaining a college degree (Cates & Schaefle, 2011).

Mentors also assist in developing social skills and norms. "Establishing relationships with people outside of class who possess college knowledge—counselor, mentors, and peers—can translate to social capital that may aid low-income students in seeking higher education" (Tierney & Duncheon, 2015, p. 94). Students who have a mentor can learn skills that they would not typically learn in their home or from their friends. It also provides them an opportunity to learn etiquette and the skills needed to interact with college personnel. These skills can assist students in being more comfortable in PSE (Conley, 2010).

The *EnAbled for College* program provides participants with access to information about the college process, which is vital to PSE readiness (Cates & Schaefle, 2011; Conley, 2010; Tierney, Corwin, & Colyar, 2005; Tierney & Duncheon, 2015). The current research could provide an examination of the impact of mentors on a college-readiness program. Currently the research on this topic is very limited.

College-Going Self-Efficacy

Bandura (1986) described self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (p. 361). A student's personal belief in his abilities to be able to take the correct course of action in attaining PSE, impacts his thoughts and beliefs on their ability to be college ready (Arnold et al., 2012; Bandura, 1993). "A student's belief in his efficacy to regulate his own learning and to master academic activities determines his aspirations, level of motivation, and academic accomplishments" (Bandura, 1993, p. 1).

Individuals' academic accomplishments are impacted by their current self-efficacy beliefs. "Students who have a low sense of efficacy to manage academic demands are especially vulnerable to achievement anxiety. Student's beliefs in their capabilities to master academic subjects predict their subsequent academic attainments" (Bandura, 1993, p. 133). Therefore, students with a perceived higher level of self-efficacy out perform their peers with the same amount of intellectual capacity (Bandura, 1993).

Bandura (1990) also supported that strong self-efficacy in an individual results in his setting higher challenges for himself and a greater commitment to achieving these challenges. In the empirical research conducted by Locke and Latham (2002), their research supports a positive relationship when a person assists an individual in setting challenging goals. The result of the challenge results in the individual's best effort and performance to meet those goals. Setting challenging goals allow students to create direction and incentives to persist until they have achieved their goals (Bandura, 1993). The college knowledge and cognitive strategies that students develop are impactful and assist in increasing self-efficacy resulting in the student engaging in more rigorous instructional activities, enrollment in advanced academic courses, and setting challenging goals for themselves. "Seeing oneself gain progressive mastery strengthens personal efficacy, fosters efficient thinking, and enhances performance attainments" (Bandura, 1990, p. 123).

The increase in self-efficacy creates a positive chain reaction and increases the student's participation in the college readiness activities that are offered, co-curricular activities, as well as seeking out the steps to enroll in college (Arnold et al., 2012). "Self-efficacy can influence choice of activities" (Schunk, 1996, p. 147). Increasing self-

efficacy increases the number of college and career options individuals are interested in and will pursue. Increasing the interest in these options results in students better preparing for them and increases the staying power and success in attaining these college and career options (Bandura, 1993).

College Persistence

College existence began in the 1600s, but concern for retention in college studies did not begin until the last 50 years. The colleges of the 1600s to mid-1800s were focused on surviving and only enrolled privileged, male students. In the mid-1800s and 1900s the colleges diversified only slightly with the addition of a few women and other non-privileged men (Morrison & Silverman, 2012). The 1940s marked the end of World War II and the beginning of the expansion and increased opportunities for individuals to enroll in PSE. Government policy opened doors for returning soldiers to attend college through the GI Bill and the economy's change of focus to a more industrial and technology-focused society provided students with an incentive to attend. As the mid 1950s approached, the Civil Rights Movement provided opportunities for African American students and other ethnic minority groups to enroll in college. The increased enrollment of the 1950s not only included minority students, but also provided greater access for middle-class and lower-class students. As the enrollment in college grew and became more diverse, the rate of student retention and persistence became a major concern.

Several of the first studies on student retention or persistence in college began in the 1930s and focused on either the demographics of the student or the personality attributes of the student such as maturity, motivation, and disposition (Berger, Ramirez, & Lyons, 2012). In the 1970s, William Spady (1970) and Vincent Tinto (1975) provided

a more systematic study of retention and in 2003 the U.S. Department of Education defined “retention” as an institutional measurement and “persistence” as a student measure.

In his seminal article in 1971, Spady explained the retention process as an interaction between the student and the college environment. To increase retention in PSE, the student’s attributes (values, interests, and skills) need to merge with the norms of the college environment (faculty, peers, administrators). Spady’s study (1971) was limited due to its focus on a single institution’s first-year students over a four-year period instead of including several institutions’ students.

Tinton (1975) was the first to address the integration of the student into the academic and social communities of the institution. Tinto urged institutions to involve students and assist them in feeling like they belong in the institutional community. The integration of the student both academically and socially in the institution was the key to student retention. In Tinto’s Interactionalist Theory of Student Departure (1993), he enhanced the model by adding the student’s entry characteristics, the student’s commitment to the institution, and the student’s commitment to graduation, as reasons for retention in post secondary education.

Braxton, Sullivan, and Johnson’s (1997) research expanded on Tinto’s theoretical framework and provided additional recommendations to increase retention in PSE. They recommended more focus on a student’s social integration on the college campus, rather than academic assimilation, as key to PSE retention. Additional research on increasing PSE retention also included the need to address student diversity, students from disadvantaged backgrounds, provide students knowledge on how to navigate the financial

burdens of paying for PSE (Berger et al., 2012; Braxton et al., 2013), and to increase student cultural capital. Cultural capital was described as mannerisms, attitudes, educational attainment of a student's parents, and involvement of cultural activities, such as reading books, and attending plays, concerts, and museums (Braxton et al).

Alexander Astin (1975) focused on the importance of the student's personal attributes impacting persistence in PSE. Astin identified strong past academic grades, educational aspirations, study habits, parent's educational level, race, ethnicity, income and marital status (married males and single females) as being predictive of a student's college academic retention. These individual traits impact PSE but occur before the student enrolls at the PSE entity.

Although there has been extensive examination of factors to increase students' persistence-to-degree attainment in PSE, there has been little change in over four decades in the rate of degree completion rates. Each year only one-third of first-year students return for year two, less than 50% of students graduate from PSE with a bachelor's degree within five years of high school graduation, and less than 40% of students who graduate from high school will ever receive a PSE degree (Braxton et al., 2014; Habley, Bloom, & Robbins, 2012). Although there has been little change in the retention rate of students, there has been a significant shift in the racial and ethnic groups assessing PSE over the last 25 years. From the fall of 1976 to the fall of 2014 "postsecondary enrollment rates have changed for college students who self-identified as Hispanic from 4% to 17% for students who self-identified as African American students rose from 10% to 14%, and for students who self-identified as White students decreased from 84% to 58%" (National Center for Education Statistics, 2015, p.1).

As student enrollment in PSE increases, enrollment diversifies, and only 50% of our students' persist to a degree, educators must provide interventions for students while they are in high school to increase student persistence in PSE. Students' with low parental incomes, students' parents with a lack of education, and/or students from minority groups are the students whose enrollment in PSE continues to increase, and these are the students in the greatest need of educators' support.

Adolescent Development

Along with the impact of students' demographics or their parents' income, multiple forces influence the development of the individual. These forces include the categories of developmental changes: historical, social and cultural (Berk, 2014). Although there are four individual categories, each work together to complete the life course for the individual. The first category developmental changes occur throughout the life of the individual and most individual's progress through these changes at approximately the same age. Because individuals progress at similar stages, society imposes many age related experiences to assure that individuals mature and travel through these events at approximately the same time. Examples of these age-related experiences are starting school around age 6, getting a driver's license at age 16, or entering college around age 18.

Historical forces also influence and change groups of individuals according to the time era of their lives. Examples include wars, technology, changes in cultural values toward women or minorities, or an emphasis on attaining a college degree or certification. These biological and historical changes tend to influence people, whereas social and cultural tend to influence individuals independently. These social and cultural

experiences vary from individual to individual and therefore enhance the multi-directionality of development (Berk, 2014). The different historical, social, and cultural experiences in a complex environment influence the development of an individual and the decisions that person makes about his future (Donovan, Bransford & Pellegrino, 1999).

Jean Piaget's *Cognitive-Developmental Theory*, Lev Vygotsky's *Sociocultural Theory*, as well as additional studies support the various level of cognitive development of adolescents and young adults and the impact cognitive development has on decisions made by the individual. Piaget depicted individuals as actively constructing their knowledge as they manipulate and explore their world. Vygotsky's *Sociocultural Theory* supports an alternative course of development for individuals. He supported that the cognitive development of children is based on the support and dialogue they receive from "experts" and the dialogue and level of support from "experts" varies from culture to culture (Berk, 2014).

Blakemore and Choudhury (2006) utilized brain images to support the changes in brain structure during adolescence and early adulthood cognitive development. The changes in the brain structure support the development and changes in cognition as an individual moves from being an adolescent to young adulthood. Not only does the change in brain structure impact cognitive development but also Lerner (2002) maintains the multiple levels of organization involved in the adolescent's developmental system create significant differences in cognitive development. Early (2009) supports these changes in adolescent brains and the impact of the environment on developing the adolescent's reasoning, self-awareness, and self-monitoring skills, which impact an individual's ability

to organize and integrate information. These theories provide the when and how an adolescent's cognitive abilities are developed and organized.

Although the brain undergoes changes in structure and impacts the cognitive development of the adolescent, the adolescent's environment also makes an impact on the individual's ability to organize and integrate information. The school, neighborhood, and family are key factors in the adolescent's cognitive development (Donovan et al., 1999) and some adolescents are provided more access to these organization skills than others. Therefore, students who receive limited academic support develop cognitively at a different pace than their well-supported peers (Early, 2009). The biological, cognitive, emotional, and behavioral influences shape an individual and can prompt the development of college readiness (Arnold et al., 2012; Donovan et al., 1999).

Low Socioeconomic Students

The *American Psychological Association* (2017) defines socioeconomic status (SES) as "the social standing or class of an individual or group. It is often measured as a combination of education, income, and occupation" (p.1). The National Center for Educational Statistics (NCES) panel recommends a broader definition of SES in the *Improving the Measurement of Socioeconomic Status* report. Its definition of SES includes one's access to financial, social, cultural, and human capital resources (NCES, 2012). White (1982) also provides a broad definition of SES as "income, education, and occupation together represent SES better than any of these (income, occupational status, and social capital) alone" (as cited in Bradley & Corwyn, 2002, p. 373). Historically, SES has also included parental education attainment, various school factors, and community and neighborhood factors (National Center for Educational Statistics, 2012).

Defining a student's socioeconomic status involves several factors and each student's socioeconomic status was unavailable for this study. To determine an approximate household income for each participant, participants were asked on the demographics survey if they had ever received free or reduced lunches at school. Determining if a student had ever received free or reduced lunch allows the investigator the opportunity to compare the household income to a socioeconomic status. Parents complete free and reduced lunch applications yearly and students are awarded the free or reduced price of their school lunch based on their annual household income. The United States Census Bureau (2016) set the poverty income level at $24,300 for a family of four (2 adults and 2 children). To determine if students qualify for free and reduced lunches, the Department of Agriculture Food and Nutrition Service multiply the 2016 Federal income poverty amount by $1.30 for free lunches and $1.85 for reduced lunch prices. For a student in 2016 to qualify for free lunches, the annual yearly income of the household was $31,590 and to qualify for reduced lunches the annual yearly income was $44,955 (United States Department of Agriculture, 2016). Determining an estimate of the participant's annual yearly household income provides reference for the current study of the educational needs of a student living near the poverty level.

Cognitive Development

The socioeconomic status of a student's home environment can impact the student's cognitive development (NCES, 2012). A student's cognitive development is impacted differently due to the inequalities of resources available based on SES (APA, 2017; Bradley & Corwyn, 2002; NCES, 2012). In numerous studies SES has been linked to achievement in school and on standardized tests (NCES, 2012; Sirin, 2005; White

1982). Other elements that contribute negatively to the development of low SES students, include poor nutrition, reduced access to health care, or dilapidated or overcrowded housing (Bradley & Corwyn). Students residing in low SES neighborhoods and attending the local neighborhood school, are also susceptible to a reduced availability of community resources and the opportunity to attend filed trips and experience activities that strengthen the students' cultural awareness. Elements in a student's low SES environment can contribute and have a negative impact on the student's cognitive development and educational attainment.

Lack of College Access

Although college readiness programs abound in many high schools and colleges, they are unable to eliminate the socioeconomic disparities of equal access and success for all students (Adelman, 2006; Arnold et al., 2012). Each year students from low SES families continue to face the same challenges of attaining a higher education degree. These challenges focus on a lack of acceptable academic preparation for PSE by high schools not offering advanced academic courses, dual credit, and math courses such as Trigonometry, Calculus, or Precalculus (Adelman, 2006). Low SES students are also not provided the knowledge of how to enroll, attain and persist in PSE, and how to secure financial resources to afford PSE (Reardon, 2011). Other challenges include issues associated with low family income, under-resourced communities, and social barriers (Savitz-Romer & Bouffard, 2012). These challenges are likely the barrier of college achievement and college access for many students.

Choosing a college, applying to college, and determining how to pay for college are enormous concepts to grasp for any student. Arnold et al. (2012) describes the task as

"especially challenging for students without a family history of higher education" (p. 24). Berkner and Chavez (1997) completed an analysis of low SES and Latino students and determined students who had received information from one or two sources concerning the financial resources available from colleges were more likely to enroll in college than other college-qualified individuals. On the other hand, Avery and Kane (2004) completed a study of Boston Public School seniors and their fellow peers in the wealthier suburban schools to determine the differences in obtaining an application for college by the fall of their senior year. Only half of the public-school students had obtained a college application compared to over 90% of the wealthy students.

The gap in applying for PSE is similar for persisting and graduating from PSE between the lowest SES quintile and students in the highest SES quintile. In Adelman (2004) "only 6.5% of the lowest quintile group graduated with a Bachelor's degree compared to 19.2% in the middle quintile, and 43.9% for students in the highest SES quintile" (p. 31). Increasing the support and opportunity for low SES students to increase their knowledge on the aspects of college access and providing them advanced academic courses, can help to increase the probability of low SES students enrolling and persisting in PSE (Adelman, 2006).

At-risk students and students from low socio-economic backgrounds need support and additional resources to attain and persist in PSE. Conley (2010) and Tierney and Duncheon (2015) provide the curriculum framework needed for students to be effective in attaining and persisting in PSE. The proposed area of study will contribute to reviewing the effectiveness of the *EnAbled for College* program and whether the program

increases college-going self-efficacy and college knowledge for participants and assist the participants in attaining and persisting in PSE.

The following chapter will provide a description of the *EnAbled for College* participants and the comparison group as well as the method used to determine if the *EnAbled for College* participants' college-going self-efficacy and college knowledge increased compared to the comparison group. A description of the intervention, an overview of the curriculum, and the instrumentation used to measure growth, or the lack of, in college-going self-efficacy and college knowledge is also detailed. The last section of Chapter three provides the reader a description of the data analysis completed to answer each of the four research questions.

CHAPTER THREE

Method

High school seniors' decisions are influenced and shaped by their living environment, their biological setting, and cognitive, emotional, and behavioral development (Arnold et al., 2012). Students' level of support to prepare for college readiness is different based on their environments. The students' socioeconomic environment impacts their college and career readiness (NCES, 2012; Sirin, 2005; White 1982) and the ability to attain and persist in PSE.

Purpose

The purpose of the study was to examine if there is a difference in growth for college-going self-efficacy attendance, college-going self-efficacy persistence, and college knowledge for *EnAbled for College* participants compared with non-*EnAbled for College* participants, and a greater enrollment in PSE for *EnAbled for College* participants over non-*EnAbled for College* participants.

Research Design and Questions

The current study examined the following research questions:

1. Is there a difference in the college going self-efficacy attendance between students who participated in the *EnAbled for College* program and those who did not?

2. Is there a difference in the college going self-efficacy persistence between students who participated in the *EnAbled for College* program and those who did not?
3. Is there a difference in the college knowledge between students who participated in the *EnAbled for College* program and those who did not?
4. Is there a difference in the enrollment in PSE between students who participated in the *EnAbled for College* program and those who did not?

Pre- and post-intervention surveys were obtained from two groups of high school students, an *EnAbled for College* treatment group and a non-*EnAbled for College* comparison group, during their senior year in high school.

The study was a quasi-experimental pre- and post-intervention design with a post hoc data analysis.

Participants

The study investigated two groups of high school students from six different high schools in central Texas. Each district's designee (principal or superintendent) and the researcher's University Institutional Review Board (IRB) granted permission to conduct the study. The two groups are the intervention group, *EnAbled for College* participants, and the comparison group. The participants for the *EnAbled for College* group are based on enrollment in the program during the school years of 2014-2015, 2015-2016, and 2016-2017, and the collection of the data for the comparison group was completed in 2016-2017. The comparison group was selected using proportional stratified sampling that reflected the representation of the *EnAbled for College* participants (Creswell, 2013). The *EnAbled for College* participants were divided into subgroups of race, gender, free

and reduced lunch participant, students with a disability, high school, and first generation students. First generation is defined as either a student whose parents have not attended PSE or whose parents have not obtained a PSE degree (Ward, Siegel & Davenport, 2012). For the current study, a first generation student will be considered a student whose parents have not received a PSE degree. First generation students require additional support to succeed in PSE (Ward et al.). The sample of students for the comparison group is based on the intent of the investigator to match as closely as possible the subgroups already established in the *EnAbled for College* participants on pertinent demographic characteristics.

The schools chosen to participate in the study were selected based on several factors. Factors included demographic information, cooperation between the high school and the university, the number of students on free or reduced lunch, and the ethnicity of the students. The intervention group, the *EnAbled for College* participants, was selected from high achools A-F. The comparison group was selected from high schools A, B, and C.

High School A is a small urban city of 129,000 in a county of approximately 240,000 people. The other five schools are located within 15 miles of High School A. Twenty-nine percent of High School A's city residents live below the poverty level. Demographic information for each high school was obtained from the Texas Education Agency (2017). High School A's student population is just over 1,800 and ethnicity includes 52% Hispanic, 10% White, and 36% African American. Seventy-one percent of the students receive a free or reduced lunch.

High School B is a rural school located in the same county as School A. The high school population is just over 400 students and ethnicity includes 44% Hispanic, 45% White, and 6% African American. Sixty-nine percent of the students receive a free or reduced lunch.

High School C is in the city of School A. The high school serves over 700 students and has a minority enrollment of 28%. The population consists of 68% White students, 25% Hispanic students, and 3% African American. Twenty-three percent of the students receive a free or reduced lunch.

High School D is a school located in the same county as School A. The high school population is just over 650 students and the ethnicity includes 28% Hispanic, 33% White, and 33% African American. Sixty-seven percent of the students receive a free or reduced lunch.

High School E is a rural school located in the same county as School A. The high school population is just over 750 students and ethnicity includes 78% White, 14% Hispanic, and 5% African American. Seventeen percent of the students receive a free or reduced lunch.

High School F is a school located near the same city as School A. The high school population is just over 750 students and the ethnicity includes 49% Hispanic, 32% African American, and 16% White. Eighty-five percent of the students receive a free or reduced lunch.

EnAbled for College Participants

Selection for the *EnAbled for College* program was completed in August of 2014, 2015, and 2016 and was based on the nominations from the high school principal and

counselor. Students were nominated to participate based on the following criteria: the student has a disability, and/or deemed at-risk, and/or in need of additional support to attain and persist in PSE.

A total of 107 participants were selected during the three years of implementation. Sixty-four percent (n = 68) of the participants were first generation students, 73% (n = 78) were free or reduced lunch, 49% (n = 52) were students with a disability or identified as a 504 student. Additional demographics included 31% (n = 33) were Hispanic, 20% (n = 21) were African American, 58% (n = 60) were female and 14% (n = 15) of the students participated in the program during their junior and senior year.

Once identified, participants were contacted and provided with an overview of the program and given assent forms and parent consent forms. Students voluntarily chose to participate in the program. Upon obtaining the appropriate assent and consent forms, the students began participation in the intervention.

Comparison Group Participants

The comparison group participants were petitioned and selected during year three only, 2016-2017, and were chosen from the intact groups of senior English classes or a College Preparation class from Schools A, B, and C. The participants were selected based on a proportional stratified sample to represent the demographics of the *EnAbled for College* participants (Creswell, 2013). Each classroom was given an overview of the research and students voluntarily chose to participate in completing the surveys. The pre-survey was completed during the last two weeks of September and the same participants completed the post-survey during the first two weeks of May in 2017.

A total of 88 participants volunteered to be part of the comparison group. Fifty-two percent (n = 46) of the participants were first generation students, 60% (n = 53) were free or reduced lunch, 5% (n = 4) were students with a disability or identified as a 504 student. The student sample was 41% (n = 36) Hispanic, 17% (n = 15) African American, and 48% (n = 42) female.

A series of chi-square tests were used to determine whether the *EnAbled* group demographics were similar to the comparison group. A chi-square test was performed on the basis of sex, race, free and reduced lunch, disability/504 status, and first generation. For each chi-square test, a maximum allowable Type I error rate (α) of 5% was applied.

Intervention

The program began each January with recruitment of mentors from the university Masters' program in the Department of Educational Psychology by university professors affiliated with the *EnAbled for College* program. Selection of the mentors was based on an interview exploring interest and program fit. Selected mentors began the program in August in one-hour weekly meetings for six weeks. Mentors were given weekly reading assignments along with the curriculum and a curriculum handbook. The mentor training also included a discussion of program goals and research on transition services for students with disabilities and/or at risk.

Upon completing the six-week training, mentors began meeting with their students at their schools either one on one or in pairs. Mentor and participant meetings took place in the school libraries or in small offices in the school. The goal of the initial meeting was to foster a supportive relationship and to provide an overview of the program. During the second week participants completed a pre-survey. Throughout the

remaining 20-22 weeks, mentors and participants met weekly and covered topics in the curriculum. Weekly team meetings between the mentors, principal investigator, and university professors continued throughout the school year during program implementation to discuss progress, concerns, data assessment, or important program matters.

Year one curriculum of the *EnAbled for College* program focused on self-advocacy, college applications, scholarship applications, financial aid, and independent living. Year one curriculum also included instruction in budgeting, goal setting, communication, testing readiness, and college visits. Year two included these same topics and added the additional topics of how we learn and what college is like. To be able to add the new topics, the topics of independent living and college visits were deleted from the curriculum. These changes were made due to the low number of students in the program leaving home to attend college and the difficult logistics of planning a field trip to a local college for the participants. Also in year two, college essay writing activities were deleted and activities such as budgeting, financial aid, and the FAFSA were increased. The mentors' feedback acknowledged most students were completing college essays in their senior English classes and allotted time was not needed for this activity.

Year three also included year one and year two curriculum and added lessons to discuss a new state-mandated assessment, a college syllabus, and how to locate academic resources on a college campus. To include these new topics in year three, the new topics were combined with current lessons. For example, the how to locate resources on your campus and a college syllabus were added to the lesson on what is college like and the new state-mandated assessment was included in the lesson on required college tests.

Adding time in year three to discuss and prepare for a new state-mandated assessment was implemented to better prepare seniors for college enrollment and to provide awareness for the participants of the new assessment.

Changes to Intervention Curriculum

Beginning in April of each year of implementation, the mentors, primary investigator, and the supervising university professors engaged in four months (April-June) of weekly meetings to review the original curriculum and to reflect on the progress of the participating students. Each December and July a bi-yearly report was completed and submitted to the grant provider. The bi-yearly report included descriptive statistics, PSE enrollment (year 3 only), comments from the mentors and participants, and suggestions for the next year's program. Any changes to the curriculum were made based on the needs of the participants in the program, contemporary research on best practices for a college readiness program, suggestions from the grant provider, and/or additional emphasis needed on topics due to state or federal law mandates.

Instrumentation

The survey administered to the *EnAbled* participants and the comparison group was adapted from two existing instruments by Gibbons (2005) and Wisely (2013). The adapted instrument used 12 of the 14 items of College-Going Self-Efficacy Attendance Scale, 14 of the 16 College-Going Self-Efficacy Persistence Scale (Gibbons, 2005) and 10 of the 23 questions of the Texas College Knowledge Inventory Part II (Wisely, 2013). The instrument was administered during the month of September. The first section of the survey included college-going self-efficacy attendance and persistence followed by the

college knowledge questions. The survey included five sections with a total of 65 questions. The five sections included four sections of Likert-type scale questions and one section of multiple-choice questions. The post-intervention survey was administered in week 26 (early May) of the *EnAbled for College* curriculum. The post-test survey was identical to the survey administered in September.

Demographic Items

The demographic section of the instrument contained 20 questions that ask participants to report their age, gender, ethnicity, school attending, factors they perceive that would limit their PSE attendance, mother's and father's education level, applicable accommodations, and career and college future plans. The demographic survey was completed in the fall only.

College-going Self-efficacy Scale

Gibbons (2005) created the College-going Self-efficacy Scale to measure self-efficacy beliefs related to an individual's beliefs about attending and persisting in college. The survey contains 14 items to measure a student's belief on attending college and 16 items to measure a student's belief on persisting in college. Gibbons (2005) reported a Cronbach's α of .94 in her study with 272 seventh graders and Wisely (2013) reported .94 with 323 eighth grade students.

For Gibbons' (2005) 14 College-going Self-efficacy Attendance items, the students were asked to respond to the prompts based on the answer that best fit their agreement with each statement. Items reflected financial issues, such as "I can find a way to pay for college", issues related to ability, such as "I can get good grades in my high

school math classes", family related issues, such as "I will have family support for going to college", as well as one overall item: "I can go to college after high school".

For Gibbons (2005) 16 College-going Self-efficacy Persistence items, students answered the prompts based on the hypothetical situation that they would go to college. Financial questions included "I could pay for each year of college", academic ability items such as "I could be smart enough to finish college", and individual independence stems such as "I could fit in at college". The survey used a 4-point Likert-type scale (1=don't believe at all, 2=somewhat believe, 3=believe, and 4=definitely believe).

Gibbons' (2005) College-Going Self-Efficacy Scale was initially designed and administered to middle school students. It was chosen for the current study based on its content and use of language that would be easily comprehended by the participating student population. There are a limited number of instruments available to assess these constructs in high school students. Other existing measures were deemed inappropriate for the current study based on the required reading level and validation samples (Liao & Ji, 2014; Strayhorn, 2015).

EnAbled for College-going Self-efficacy Attendance Scale

The *EnAbled for College* College-going Self-efficacy Attendance subscale included 12 items adapted from Gibbons (2005) College-going Self-efficacy Attendance scale. The *EnAbled for College* survey adapted a 6-point Likert-type response scale (1=strongly disagree, 2=disagree, 3=slightly disagree, 4=slightly agree, 5=agree, and 6=strongly agree) instead of 4 to improve the scale's utility in parametric data analysis (Carifio & Perla, 2007). The use of a 6-point Likert-type scale instead of the 4-point Likert scale was changed due to the acceptability of the 6-point scale's ability to analyze

the results as a measurement scale using parametric scales such as F-Ratio or the Pearson correlation coefficients (Carifio & Perla). Sum scores were computed to reflect college-going self-efficacy attendance with the higher sum totals reflecting greater college-going self-efficacy attendance. In addition, the term college was replaced with postsecondary education. The use of the phrase postsecondary education was used to reinforce the understanding with the participants of any education beyond high school is considered postsecondary. Before each section of the survey, instructions were written in bold and underlined referring to postsecondary education as any vocational/trade school, 2-year college, and/or 4-year college or university.

The method of selection for the 12 items for the *EnAbled for College* College-going Self-efficacy Attendance scale from the 14 items of Gibbons' College-Going Self-Efficacy Scale (2005) was based on consideration for the participants and the curriculum. The two items excluded were "I can choose a good college" and "I can choose the high school classes needed to get into a good college". The two items were removed due to the curriculum not addressing criteria for choosing a good college (see Table 3.1).

To test whether the *EnAbled for College* college-going self-efficacy attendance items are consistent with the expected construct, a confirmatory factor analysis using a robust estimator was used to ensure unidimensionality. Multiple measures of model-data fit were assessed, including comparative fit index (CFI), Tucker-Lewis Index (TLI), root mean square error of approximation (RMSEA), and standardized root mean residual (SRMR). Acceptable model fit was determined as a cutoff of .95 for a CFI & TLI indices. The cutoff for SRMR and RMSEA was set at .08 and .05, respectively. The researcher reported alpha and omega and the sum score if acceptable model-data fit was established.

Table 3.1

Selection of College-going Self-efficacy Attendance Items

	Item	Curriculum section
1	I will attend postsecondary education after high school.	Goal setting
2	I can find a way to pay for postsecondary education.	Financial literacy
3	I can get accepted to postsecondary education.	College application and requirements
4	I can get a scholarship or grant to pay for postsecondary education.	Financial literacy
5	I can make an educational plan that will prepare me for postsecondary education.	Self-awareness and Goal Setting
6	I can choose postsecondary education courses that best fit my interests.	Self-awareness and Goal Setting
7	I will have my family's support to attend postsecondary education.	Self-advocacy and Goal Setting
8	I will make my family proud with my choices after high school.	Self-advocacy and Goal Setting
9	I can pay for postsecondary education even if my family cannot help me.	Financial literacy
10	I can get good grades in my high school math classes.	Study skills
11	I can get good grades in my high school English classes.	Study skills
12	I know enough about computers to be able to access them while in postsecondary education.	Weekly activities provided participants opportunities to use computers to access information

EnAbled for College-going Self-efficacy Persistence Scale

The *EnAbled for College* College-going Self-efficacy Persistence section included 14 of the 16 items of the Gibbons (2005) College-going Self-efficacy survey. The 14 items selected related to items encompassing the college persistence. Items were adapted and assessed on a 6-point Likert-type response scale (1=strongly disagree, 2=disagree, 3=slightly disagree, 4=slightly agree, 5=agree, and 6=strongly agree). Sum scores were

computed to reflect college-going self-efficacy persistence with the higher sum totals reflecting greater college-going self-efficacy persistence.

The selection method for the 14 items for the EnAbled for College College-going Self-efficacy Persistence section from the 16 items of Gibbons' College-going Self-efficacy Persistence Scale (2005) was based on consideration for the participants and the curriculum. The two items not included were the prompts "I could pay for each year of college" and "I could care for my family responsibilities while in college". The first item was removed due to the redundancy of an attendance section prompt. The attendance section prompt read, "I can find a way to pay for college". The second question was removed due to the curriculum not addressing family responsibilities while in college. The removal of the prompts from Gibbons (2005) original survey also helped to reduce the number of questions for the *EnAbled* survey. Reducing the number of survey prompts decreased the cognitive load needed for the young participants and the amount of stamina needed to complete the survey. Table 3.2 provides the curriculum unit to support the 14 items selected to measure the college-going self-efficacy persistence for the *EnAbled for College* participants.

A confirmatory factor analysis was completed to ensure unidimensionality for the *EnAbled for College* college-going self-efficacy persistence items. The same measures of model-data fit was used as the *EnAbled for College* college-going self-efficacy attendance items (i.e. CFI, TLI, RMSEA, and SRMR).

Texas College Knowledge Inventory

The Texas College Knowledge Inventory Part II (Wisely, 2013) is the Texas version of the North Carolina College Knowledge Inventory (2008). The original North

Table 3.2

Selection of College-going Self-efficacy Persistence Items

	Item	Curriculum section
1	I could get A's and B's in postsecondary education	Study skills
2	I could get my family to support my wish of finishing postsecondary education	Self-awareness
3	I could take care of myself at postsecondary education	College knowledge
4	I could fit in with others in postsecondary education	Self-awareness and self-advocacy
5	I could get good enough grades to get or keep a scholarship	Study skills
6	I could finish postsecondary education and receive a degree or certification	Self-awareness
7	I could set my own schedule while in postsecondary education	College knowledge
8	I could make friends with others at postsecondary education	College knowledge
9	I could get the education I need for my choice of career	College knowledge
10	I could get a job after I graduate from postsecondary education	Self-awareness and self-advocacy
11	I would like being in postsecondary education	Self-awareness and college knowledge
12	I could be smart enough to finish postsecondary education	Study skills and self-advocacy
13	I could pick the right things to study to lead to my chosen career path	Study skills and self-awareness
14	I could do the classwork and homework assignments in postsecondary education	Self-advocacy and study skills

(2013) Texas College Knowledge Inventory Part II was administered to 303 eighth students and McDonald's ω (McDonald, 1999) measure of reliability was applied. Reliability for the scale was .77 (Wisely, 2013). Although initially the Texas College Knowledge Inventory scales were administered to middle school students, it was

suggested that the survey should be administered to high school seniors to "analyze their scores relative to their college application process and ultimate college choice" (Wiseley, 2013, p.108).

The *EnAbled for College* Texas College Knowledge Inventory included ten of the 23 questions from Wisely's (2013) Texas College Knowledge Inv*entory* and follows the same format as the original scale, utilizing a four-response multiple-choice format. Each question was scored as either correct or incorrect. The selection of questions was based on the *EnAbled* curriculum, removing obsolete questions, and limiting the length of the survey of unnecessary questions to help reduce fatigue and unnecessary cognitive load.

Items not selected due to obsolete material were "Which option below is the recommendation of core courses to take in High School in order to be prepared to enroll in college?", and "What is the 2011-2012 average cost per year at a private four-year college/university in Texas for tuition and fees, books/supplies, room and board, transportation and personal expenses?" Examples of questions that did not follow the *EnAbled* curriculum included, "In Texas, students who rank in the top 10% of their high school when they apply to college can get:", "What is a needs-based scholarship?", "What is the difference between SAT and the PSAT?", "Which of the following careers require more education than a four-year college degree?", "Which of the following are considered advanced degrees?", and "Which is the best time to take the SAT or ACT, college admissions tests, in high school?". A few questions were also eliminated to reduce the length of the survey. Questions chosen to be removed were "If I go to college, I will:", "What is a SAT fee waiver?", and "What is an example of a private

university in the state of Texas?" One question, "The average college graduate earns how much more than the average high school graduate over his/her entire working career?", was reworded from "entire working career" to "yearly salary." Table 3.3 provides the curriculum unit used to support the ten items selected to measure the college knowledge for the *EnAbled for College* participants.

Table 3.3

Selection of College Knowledge Items

	Item	Curriculum section
1	Define general college core requirement	College knowledge
2	A student who goes to a community college and then transfers to a four-year college/university to receive a degree would most likely experience which of the following?	College tests and applications
3	The best definition of a bachelor's degree is	Self-awareness - degrees
4	The best definition of an associate's degree is	Self-awareness - degrees
5	What expenses are not included in college tuition?	Budgeting-college tuition
6	Why is important to fill out the FAFSA if you plan to attend college?	Financial literacy-FAFSA
7	Which of the following types of financial aid to you have to repay?	Financial aid-types of financial aid
8	What can be done at the applytexas.org website?	College tests and applications
9	After assessing the FAFSA, the federal government decides how much money a family should be able to give toward their child's college education. This figure is called:	Financial literacy-FAFSA
10	If you get a college degree you are likely to earn approximately $50,000 per year; however, with only a high school diploma you will likely earn per year.	Self-awareness-degrees and major exploration

To test whether the *EnAbled for College* college knowledge questions are consistent with the expectation of the researcher, a confirmatory factor analysis was completed to ensure unidimensionality. The same measures of model-data fit were used as the *EnAbled for College* college-going self-efficacy attendance and persistence items (i.e. CFI, TLI, RMSEA, and SRMR).

Other Data Sources

The National Student Clearinghouse (NSC) StudentTracker was utilized to track the postsecondary enrollment of the participants and the comparison group after high school graduation. The NSC is a nonprofit organization organized in 1993. TheStudentTracker is the only nationwide source of college enrollment and degree data. The NSC provides information on when and where students enroll in PSE, whether or not they earn a degree, and the major and type of degree earned (Dynarski, Hemelt, & Hyman, 2015). Over 3,600 national colleges and universities are included in the database, 178 of the 196 Texas colleges and universities are included, and all of the universities, colleges, and technical institutions within a 50-mile radius of the participant's high schools participate in the database (National Student Clearinghouse, 2017). The colleges and universities included in the StudentTracker data enroll 98% of all students in public and private U. S. Institutions (National Student Clearinghouse, 2016), but only 48% of for-profit schools (Dynarski et al.). Although the NSC includes less than 50% of for-profit schools, this institute type accounts for only 9% of U.S. undergraduate enrollment in PSE (Ackerman, Cronin, Turner, & Bershadker, 2011).

To verify PSE enrollment, the *EnAbled for College* participants for years 1, 2, and 3, and the comparison group were submitted to the NSC StudentTracker in

November following high school graduation of year 3. Students' names, date-of-birth, and high school graduation date were submitted to verify PSE enrollment. Although the StudentTracker data includes 98% of students enrolled in public and private U. S. Institutions, there is a possibility that some students' PSE enrollment is not correct.

Data Analysis

Missing Data Analysis

The attrition rates within each group were examined to determine the possible effect attrition might have on the outcome measures. The means of the pre-intervention scores were compared between the participants who dropped out of the study against those who did not. Standardized mean differences of less than 0.2 were taken as evidence that attrition did not likely bias the outcome measures.

Research Questions 1-3

A multiple regression model was used and the self-efficacy attendance, self-efficacy persistence, or college knowledge post intervention score was the outcome measure. The predictors were pre-intervention scores, sex, race, school, and the year of participation status in *EnAbled*. The participation year status was used in order to take into account the slight differences in the intervention across time and determine whether the minor revisions made to the curriculum affected changes in the post intervention scores. The model is expressed as:

$$Y_{ij} = b_0 + \sum_{j=1}^{J} b_j X_{ij} + e_{ij,}$$

where Y_{ij} is the outcome measure for person *i,* b_0 is the intercept, b_j is the regression coefficient for predictor *j,* X_{ij} is the value of predictor *j* for person *i,* and e_{ij} is the error term. This model is used for all outcomes (i.e., self-efficacy attendance, self-efficacy persistence, and college knowledge). For each model, the tenability of model assumptions (i.e., normality, homoscedasticity, and multicollinearity) is examined. All regression coefficients are reported. The model R^2 is presented as a measure of the overall model effect size. The squared semi-partial correlation is provided as the measure of effect size for each predictor.

Research Question 4

The multiple logistic regression model included enrollment in PSE status as the outcome measure. The predictors were pre-intervention score, sex, race, school, and the participation year in *EnAbled*. The model is expressed as:

$$\log\left(\frac{P_{ij}}{1-P_{ij}}\right) = b_0 + \sum_{j=1}^{J} b_j X_{ij} + e_{ij,}$$

where P_{ij} is the probability of being enrolled in PSE for person *i,* b_0 is the intercept, b_j is the regression coefficient for predictor *j,* X_{ij} is the value of predictor *j* for person *i,* and e_{ij} is the error term. This model includes self-efficacy attendance, self-efficacy persistence, and college knowledge as outcomes measures. All regression coefficients are reported on logit scale along with the odds ratio to aid in interpretability. The model pseudo-R^2 is presented as a measure of the overall model effect size. The odds ratios are provided as the measure of effect size for each predictor.

Chapter 4 provides several analyses to answer the research questions of the study. The first is a series of chi-square tests to compare the *EnAbled for College*

participants and the comparison group. The second analysis is a confirmatory factor analysis to examine the college-going self-efficacy attendance, college-going self-efficacy persistence, and college knowledge items on each of the surveys. Multiple regression models provide answers to research questions 1-3 and a logistic regression model provides the answer to research question 4.

CHAPTER FOUR

Results

Several statistical analyses were completed to answer the research questions of the study. The first was a series of chi-square tests conducted to compare the demographic characteristics between the *EnAbled for College* participants and the comparison group. The chi-square tests were performed on the basis of gender, ethnicity, free and reduced lunch, special education or 504 designation, and first generation status. The second analysis was a confirmatory factor analysis to examine the unidimensionality of the *EnAbled for College* college-going self-efficacy attendance, college-going self-efficacy persistence, and college knowledge items. A third analysis was used to analyze the impact of missing data and attrition of students in the program. Next a series of multiple regression models were computed to answer research questions 1-3 and last a multiple logistic regression model was estimated to answer research question 4. The logistic regression model was utilized to predict the impact of the variables on PSE enrollment for the *EnAbled for College* participants and the comparison group. These analyses are used to answer the following research questions:

1. Is there a difference in the college going self-efficacy attendance between students who participated in the *EnAbled for College* program and those who did not?

2. Is there a difference in the college going self-efficacy persistence between students who participated in the *EnAbled for College* program and those who did not?
3. Is there a difference in the college knowledge between students who participated in the *EnAbled for College* program and those who did not?
4. Is there a difference in the enrollment in PSE between students who participated in the *EnAbled for College* program and those who did not?

Group Comparisons

The study included the investigation of two groups of high school students from six different high schools in central Texas. The two groups were the *EnAbled for College* participants and the comparison group. The participants for the *EnAbled for College* group were based on enrollment in the program during three consecutive school years, (2014-2015, 2015-2016, 2016-2017). The comparison group was selected from a pool of available students in the third year (2016-2017), using proportional stratified sampling that reflected the representation of the *EnAbled for College* participants. The *EnAbled for College* participants are divided into subgroups of race, gender, free and reduced lunch participants, students with a disability, high school, and first generation students. There was a total of 107 *EnAbled for College* participants during the three years of implementation. Sixty-four percent (n = 68) of the participants were first generation students, 73% (n = 78) were free or reduced lunch, 49% (n = 52) were students with a disability or identified as a 504 student, 31% (n = 33) were Hispanic, 20% (n = 21) were African American, and 58% (n = 60) were female (see Table 4.1). A total of 88 participants volunteered to be part of the comparison group. Fifty-two percent

(n = 46) of the comparison participants were first generation students, 60% (n = 53) were free or reduced lunch, 5% (n = 4) were students with a disability or identified as a 504 student, 41% (n = 36) were Hispanic, 17% (n = 15) were African American, and 48% (n = 42) were female (see Table 4.1).

Table 4.1

Participants' Demographics

Group	Male	Fe	Afr Amer	Hisp	White	Other	Low SES	First Gen	Stud. with a Disab	Total # of stud.
EnAbled 2014-2015	25 (50%)	25 (50%)	10 (20%)	16 (32%)	19 (38%)	5 (10%)	41 (82%)	36 (72%)	23 (46%)	50
EnAbled 2015-2016	10 (39%)	16 (61%)	1 (4%)	11 (42%)	12 (46%)	2 (8%)	14 (54%)	14 (54%)	10 (39%)	26
EnAbled 2016-2017	12 (39%)	19 (61%)	10 (32%)	6 (20%)	14 (45%)	1 (3%)	23 (74%)	18 (58%)	19 (61%)	31
Comparison Group	46 (52%)	42 (48%)	15 (17%)	36 (41%)	35 (40%)	2 (2%)	53 (60%)	46 (52%)	4 (5%)	88

Note: Fe = Female; Afr Amer = African American; Hisp = Hispanic; SES = Socioeconomic Status; Gen = Generation; Stud. With a Disab = Student with a Disability; stud. = Students

A series of chi-square tests were completed to determine if the *EnAbled* group demographics were similar to the comparison group. A chi-square test was performed on the following: gender, ethnicity, free and reduced lunch, disability or 504 student, and first generation. Two additional measures, phi *(φ)* and Cramer's V, were used to measure the strength/magnitude of the association as appropriate. Phi (φ) was calculated to determine the effect size for the relationship between dichotomous variables. Cramer's V was used to determine the effect size for the relationship between *EnAbled* participants and the categorical ethnicity variable.

Chi-square analysis revealed no significant differences between the two groups among any demographic variables except student with a disability or a 504 student. There was a statistically significant association between student with a disability or a 504 student and group membership, χ^2 (1) = 45.17, φ = -.480, $p < .01$ (Table 4.2). The *EnAbled* group demographics included 52 students with a disability or 504 designation and the comparison group only four students of the disability/504 classification.

Table 4.2

Chi-square Tests between EnAbled Participants and Comparison Group

Variable	χ^2	φ	*Cramer's V*	*p*
Gender	1.49	.09		.22
Ethnicity	4.49		.15	.34
Low SES	3.68	.14		.06
Special Educ. and 504	45.17*	-.48		<.01
First generation	2.28	.11		.13

Note: χ^2 = *Chi-square;* φ = Phi; *V* = Cramer's V; **p* < .01.

Instrumentation Analysis

The instrumentation selected for the research was adapted from two existing instruments by Gibbons (2005) and Wisely (2013). The adapted instrument used 12 of the 14 items of College-Going Self-Efficacy Attendance (SEA) Scale, 14 of the 16 College-Going Self-Efficacy Persistence (SEP) Scale (Gibbons) and 10 of the 23 questions of the Texas College Knowledge Inventory (CK) Part II (Wisely). Due to the changes in the original survey, factor analysis was utilized to evaluate the internal validity and consistency for each survey. Factor analysis provides "insights as to the common constructs measured by a set of scales or items" (Keith, 2015, p. 333). Crocker and Algina (2008) describe factor analysis as having three purposes. The first purpose is

to “determine the number of common factors required to account for the pattern of correlations between all pairs of tests in a set of tests” (p. 305). The second purpose is to “determine the nature of the common factors that account for the test intercorrelations”, (p. 305) and the third purpose is to “determine the proportion of the variance for an observed variable that is associated with common factors variance” (p. 306). CFA was used to determine the factor structure, reliability and validity evidence of the adapted measures. Fit, reliability and validity evidence were assessed for each scale (Browne & Cudeck, 1993; Keith, 2015).

In the CFA model, accepted global goodness of fit indices were based on the ratio of chi-square to degree of freedom (χ^2/df), comparative fit index (CFI), Tucker-Lewis Index (TLI), root mean square error of approximation (RMSEA), and standardized root mean residual (SRMR). CFI provides a population estimate of the improvement in fit over the null model. TLI provides a modification for parsimony and is somewhat independent of sample size (Keith, 2015). RMSEA is designed to “assess the *approximate* fit of a model and provide a more reasonable standard for evaluating models” (Keith, 2015, p. 297). SRMR is the standardized version of the root mean square residual. It is “the average difference between the actual correlations among measured variables and those predicted by the model” (Keith, 2015, p. 297). The fit indices were reported to provide a more conservative and reliable evaluation of the fit of the model for the researcher (Browne & Cudeck, 1993; Keith).

Reliability of the scales was estimated using McDonald’s ω (McDonald, 1999). The reliability of the SEA scale across measurement times ranged from ω = .86 - .92. SEP reliability across measurement points ranged from ω = .95 - .96. The CK reliability

was ω = .65 - .77 over the range of measurement points. All reliability coefficients fell within acceptable limits.

Construct Validity Evidence for the Fall Scales for SEA, SEP, and CK

Confirmatory factor analysis was conducted to exam the structure of the fall surveys. For the Fall SEA scale (χ^2/df =3.46, RMSEA = .097, SRMR = .095, TLI = .943, and CFI = .953). The RMSEA value of .097 exceeded the cutoff score of .06 for determining good model fit, but TLI (.943) and CFI (.953) values were (i.e., .950) indicative of acceptable model fit. For the Fall SEP scale (χ^2/df =2.20, RMSEA = .061, SRMR = .057, TLI = .992, and CFI = .994 (Table 4.3). Each of the indices met the criteria for an acceptable fit of the model. The fall and spring CK scale goodness of fit was determined by an item factor analysis. The CK scale is 10 multiple-choice questions including the curriculum covered during the intervention. The RMSEA value for the fall CK scale was .148 and the CFI, TLI, and SRMR indices are not available for the item factor analysis because the variables are dichotomous. Although there is evidence of model misfit for the fall CK scales, this could be expected due to the fall scales are pretest and issues could be expected because construct has not developed yet. Also the CK scale model misfit could be due to the multiple-choice questions were based on the curriculum that was covered in the intervention during the school year.

Construct Validity Evidence for the Spring Scales for SEA, SEP, and CK

Confirmatory factor analysis was conducted to exam the structure of the spring surveys. For the Spring SEA scale (χ^2/df = 3.38, RMSEA = .094, SRMR = .081,

Table 4.3

Standard Fit Criteria and Fit Values of CFA for the Fall Scales

Values	Good Fit Values	Acceptable Fit Values	Fall SEA	Fall SEP	Fall CK
χ^2/df	.00< χ^2/df<3	3.01< χ^2/df<4.00[1]	3.46	2.20	
RMSEA	.00<RMSEA<.04	.04<RMSEA<.06	.10	.06	.15
SRMR	.00<SRMR<.05	.05<SRMR<.08	.10	.06	
TLI	.97<TLI<1.00	.95<TLI<.97	.94	.99	
CFI	.97<CFI<1.00	.95<CFI<.97[2]	.95	.99	

Note: [1]Bollen (1989); [2]Hu & Bentler (1999).

TLI = .976, and CFI = .981. For the Spring SEP scale (χ^2/df = 1.51, RMSEA = .027, SRMR = .042, TLI = .999, and CFI = .998. For the Spring CK scale the RMSEA = .136 (Table 4.4).

Table 4.4

Standard Fit Criteria and Fit Values of CFA for the Spring Scales

Values	Good Fit Values	Acceptable Fit Values	Spring SEA	Spring SEP	Spring CK
χ^2/df	.00< χ^2/df<3	3.01< χ^2/df<4.00[1]	3.38	1.51	
RMSEA	.00<RMSEA<.04	.04<RMSEA<.06	.09	.03	.14
SRMR	.00<SRMR<.05	.05<SRMR<.08	.08	.04	
TLI	.97<TLI<1.00	.95<TLI<.97	.98	1.00	
CFI	.97<CFI<1.00	.95<CFI<.97[2]	.98	1.00	

Note: [1]Bollen (1989); [2]Hu & Bentler (1999).

For the SEA scale, all indices improved from fall to spring. Although the estimate of RMSEA extended beyond the boundary of typically acceptable model fit, CFI, TLI, and SRMR indicated that the spring SEA model adequately fit the data. For the spring SEP scale, the model met the minimum cutoff values of good fit values for χ^2/df, RMSEA, SRMR, TLI, and CFI. The SEP spring scale indicates a model of good

fit. For the spring CK, although RMSEA does not met the acceptable "good fit value" the fit improved overall for the model.

Overall the model fit improved from fall to spring for each of the scales and provided a minimum of adequate to good measure for each. The scales provide an adequate measure of the intervention provided to the students by the covered curriculum during the school year.

Missing Data and Attrition

Due to a few participants not completing the 22-week program, the attrition rate within each group was examined to determine the possible effect attrition might have on the outcome measures. During the three years of the program, 122 high school senior students completed consent forms, demographic surveys, and the pre-intervention surveys. Of the 122 participants, 88% (n = 107) completed the 22-week intervention program and post-intervention survey. The mean of the pre-intervention scores were determined for the participants who completed the *EnAbled for College* program (n = 107) and for the participants who did not complete the 22-week program (n = 15). The mean scores for the comparison group were not included in this calculation since the participants were not exposed to the intervention.

The standardized mean differences for the between group data are presented in Table 4.5. The difference between the participants who completed the program and students not completing the program in self-efficacy attendance was small (d = 0.33), and the difference between the two groups for self-efficacy persistence and college knowledge are negligible (d = 0.06; d = 0.16, respectively) (Cohen, 1992).

Table 4.5

Mean Differences Between Group Score Differences for Completers and Non-Completers of the EnAbled for College Program

Variable	*M1*	*M2*	*n1*	*n2*	*d*
Fall Self-efficacy attendance	4.87	4.67	120	15	0.33
Fall Self-efficacy persistence	5.07	4.98	122	15	0.16
Fall College knowledge	0.57	0.58	122	15	0.06

Note: M1 = Mean score for completers of the program; *M2* = Mean score for non-completers of the program; *n1* = completers of the program; *n2* = non-completers of the program *d* = Cohen's *d*.

Descriptive Statistics and Correlations

Descriptive statistics and correlations for the fall and spring scores for the continuous variables self-efficacy attendance, self-efficacy persistence, and college knowledge are presented in Table 4.6 for the *EnAbled for College* participants and the comparison group. The fall self-efficacy attendance score ($M = 4.87$, $SD = .56$) and the spring self-efficacy attendance score ($M = 5.08$, $SD = .66$) for the *EnAbled for College* participants disclosed a larger increase in growth in self-efficacy attendance compared to the comparison group fall self-efficacy attendance score ($M = 4.71$, $SD = .64$) and the spring score ($M = 4.76$, $SD = .74$). These results provide evidence of possible increased growth for the intervention group than the comparison group from fall to spring for self-efficacy attendance. Another large difference in the mean score for each group was for fall college knowledge and spring college knowledge. The fall college knowledge score ($M = .57$, $SD = .19$) for the *EnAbled for College* participants was lower than the comparison group ($M = .63$, $SD = .19$), but the spring college knowledge score ($M = .72$, $SD = .19$) for the *EnAbled for College* participants was higher than the comparison group ($M = .62$, $SD = .21$).

Skewness and kurtosis are also reported for the continuous variables in Table 4.6. Distributions can be skewed and the scores clustered at one end or the other of the scale. Several variables in the current data have negative skew values. Negatively skewed scores are frequently clustered at the higher end and the tail points toward the lower scores. Kurtosis refers to the degree to which scores cluster at the ends of the distribution. Several variables in the table have positive kurtosis values. A distribution with positive kurtosis has many scores in the tails and appears in the shape of a point. Normal distribution values for skew and kurtosis are 0 and values above or below 0 indicate a deviation from normal (Field, 2013). Non-normal distributions results for this data could be the result of one group receiving the intervention and the other group does not or the error of self-reporting positive scores. Self-report measures produce larger measurement error because other factors influence how participants respond to the measures (Field, 2013).

The pattern of correlations is presented in Table 4.7 and suggests a strong positive correlation for several variables. The fall self-efficacy attendance and fall self-efficacy persistence were strongly positively correlated, r (190) = .72, p = .000. Spring self-efficacy attendance had a strong positive correlation with spring self-efficacy persistence, r (193) = .82, p = .000. There was also a strong positive correlation for fall self-efficacy attendance with spring self-efficacy attendance, r (190) = .59, p = .000, and spring self-efficacy persistence, r (189) = .57, p = .000. Also fall self-efficacy persistence had a strong positive correlation with spring self-efficacy persistence, r (191) = .64, p = .000.

Table 4.6

Descriptive Statistics for Continuous Variables

	All students					*EnAbled for College* Participants					Comparison Group				
Variable	*n*	*M*	*SD*	Skew	Kur	*n*	*M*	*SD*	Skew	Kur	*n*	*M*	*SD*	Skew	Kur
Fall SEA	190	4.80	.60	-.78	1.38	104	4.87	.56	-.32	-.42	86	4.71	.64	-1.11	2.31
Spring SEA	195	4.94	.71	-.74	.02	107	5.08	.66	-.64	-.47	88	4.76	.74	-.78	.03
Fall SEP	192	5.01	.68	-1.05	2.37	106	5.06	.68	-1.01	2.60	86	4.94	.68	-1.15	2.31
Spring SEP	193	5.12	.72	-.95	.81	106	5.24	.64	-.60	-.67	87	4.98	.78	-1.08	1.02
Fall CK	189	.60	.19	-.30	-.66	106	.57	.19	-.07	-.76	83	.63	.19	-.62	-.17
Spring CK	193	.68	.21	-.76	.03	107	.72	.19	-.99	.88	86	.62	.21	-.57	-.47

Note: SEA = Self-efficacy attendance; SEP = Self-efficacy persistence; CK = College knowledge; Skew = Skewness; Kur = Kurtosis

Table 4.7

Correlations for Continuous Variables

Variable	Correlation, *r*					
	1	2	3	4	5	6
1. Fall self-efficacy attendance	-					
2. Spring self-efficacy attendance	.59**	-				
3. Fall self-efficacy persistence	.72**	.49**	-			
4. Spring self-efficacy persistence	.57**	.82**	.64**	-		
5. Fall college knowledge	.24*	.17*	.30**	.23*	-	
6. Spring college knowledge	.20*	.42**	.26**	.41**	.30**	-

Note: *$p < .05$; **$p < .01$

Data Analysis

Assumptions – Multiple Regression Models

For each of the multiple regression models, Self-Efficacy Attendance (SEA), Self-Efficacy Persistence (SEP), and College Knowledge (CK), the following assumptions were examined: (1) independence of observations, (2) linearity between the dependent variables and each of the independent continuous variables, (3) homoscedasticity, (4) multicollinearity, (5) the inclusion of no significant outliers or high leverage points in each of the multiple regression models, and (6) the normal distribution of residuals.

The independence of observations is measured to assure that for any two observations the residual terms are uncorrelated. Violation of this assumption could result in invalid confidence intervals and significance tests (Field, 2013). The independence of observations was checked for each model using the Durbin-Watson statistic. The Durbin-Watson tests whether adjacent residuals are correlated. Field provides results can vary between zero and four, with a value of two meaning the residuals are uncorrelated. The conservative acceptable rule is “values less than 1 or greater than 3 are definitely cause

for concern" (p. 311). The Durbin-Watson value for the SEA model was 1.981, SEP model was 2.106, and CK was 2.564.

The second and third assumption examined the linearity between the dependent variables and each of the independent continuous variables. If linearity is violated, the R^2 values, the regression coefficients, standard errors, and test of significance, could be influenced (Keith, 2015). Linearity is measured in a scatterplot and measures the values of the residuals against the values of the model's predicted outcome. If linearity exists in the model, then there should be no systematic relationship between the errors in the model and what the model predicts (Field, 2013). For each model, SEA, SEP, and CK, linearity was met by visualization of a partial regression plot and a plot of studentized residuals against the predicted values. Homoscedasticity, the third assumption, was also assessed by the visual inspection of the plot of studentized residuals versus unstandardized predicted values. All models met homoscedasticity.

The multicollinearity assumption was studied to assure there that no two variables in the prediction overlap or measure the same. Multicollinearity occurs when several independent variables correlation coefficient are above .70 (Field, 2013). In addition to reviewing the correlation coefficient values for each model, the variance inflation factors (VIF) were reviewed for all variables of each model. There was no evidence of multicollinearity in each of the models, as assessed by no correlation coefficient values above .70 or VIF values greater than 10 (Keith, 2015). For the SEA model the VIF values ranged from 1.086-2.366, for SEP values ranged from 1.102-2.360, and for CK the values ranged from 1.066-2.41.

To examine the data for outliers, high leverage points, or high influential points, casewise diagnostics were utilized, data was examined for high leverage and influential points, and each models' results of Cook's distance was evaluated. To examine outliers, the standard residual value in the casewise diagnostics chart was reviewed for each model. Residuals are the differences between the outcome predicted by the model and the values of the observed in the sample (Field, 2013). Any case with a standard residual value above 3 was further examined to determine if it met the criteria of an outlier. One case, ACWH42 had a studentized deleted residual value of -4.262. Upon investigation of the case, it was determined the student entered a "4" (scale of 1-6) as the answer on each of the Likert questions on the spring survey. The case was removed due to the value exceeding the recommended cut-off value of 3 (Field) and the student's lack of authentic responses to the survey. For examining the leverage value for each of the models, Keith (2015) suggests a value of 2 (k + 1) / n (k = number of independent variables) as a rule for high values of leverage and Stevens (2002) suggests three times the average as the cutoff for leverage. Keith's value for the current models was 0.147 [2 (13 + 1) / 191] and Steven's value was 0.220 [3 (13 + 1) / 191]. Six cases in the SEA model had the highest leverage values. The values ranged from .15003 to .20519. The SEP model highest leverage values ranged from .15449 to .19534 and the CK highest values range from .15434 to .20300. Although six cases exhibit concern based on Keith's rule for leverage, they do not meet Stevens' rule. Cook's distance was also used as a measure of leverage and no values exceeded 1 for any of the models. Cook and Weisberg (1982) suggest values greater than 1 may be a cause for concern. Therefore since no values exceeded 1, analysis was conducted including the cases except for the one outlier, ACWH42.

The assumption of normality was also verified for each model by the visual examination of a histogram with superimposed normal curve for each model, a P-P plot of the studentized residuals, and a Q-Q plot of the quantiles for SEA, SEP, and CK. The histogram provides a visual of the distribution for the current variable. The values of the variable are compared to the line representing a normal distribution, or bell-shaped curve. The P-P plot is also used to check for normality. If the values fall on the line, the variable is normally distributed. If the data sags consistently above or below the line this shows that kurtosis differs from a normal distribution. If the data points are S-shaped, the problem is skewness. The Q-Q plot is interpreted in similar ways with the exception that Q-Q plots the scores as quantiles instead of individual scores (Field, 2013).

For SEA, Figure 4.1 provides visuals of the frequency distributions. The visuals show a slight negative distribution of scores with a cluster of scores slightly toward the higher end and kurtosis near normal distribution. For SEP, the distribution in Figure 4.2 is leptokurtic, or has a positive kurtosis distribution. The distribution has a large collection of scores near 5.0 on the 1-6 scale. For CK, Figure 4.3 shows a slight negative distribution of scores and kurtosis near normal distribution. It was determined that the normality assumption was maintained.

Model 1 - Self-Efficacy Attendance (SEA)

A multiple regression analysis was used to determine if there was a difference between the college going self-efficacy for the students who participated in the *EnAbled for College* program and those who did not. The multiple regression was run to predict the spring self-efficacy attendance score from the fall self-efficacy attendance score,

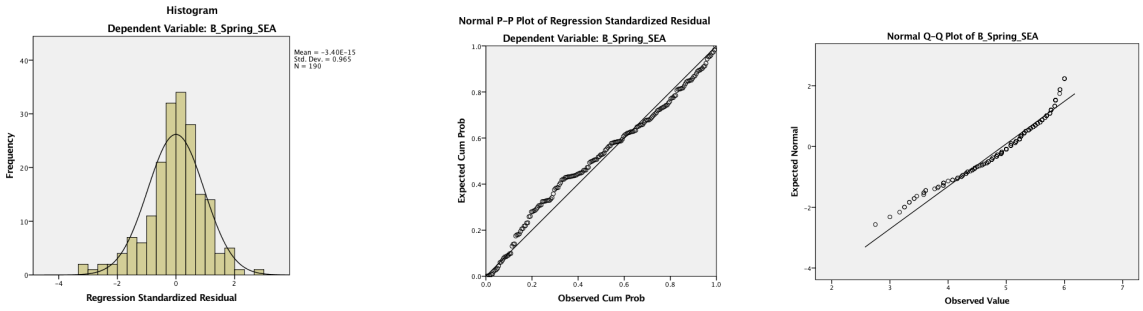

Figure 4.1. Histogram, P-P Plot of Regression, and Q-Q Plot diagrams for Spring Self-efficacy Attendance (SEA).

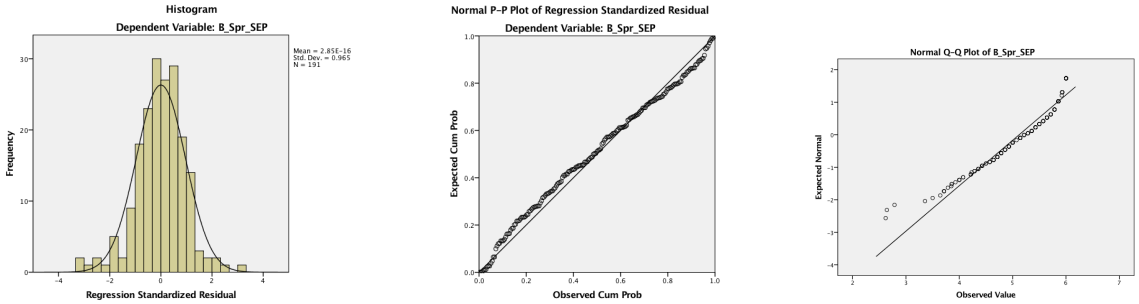

Figure 4.2. Histogram, P-P Plot of Regression, and Q-Q Plot diagrams for Spring Self-Efficacy Persistence (SEP).

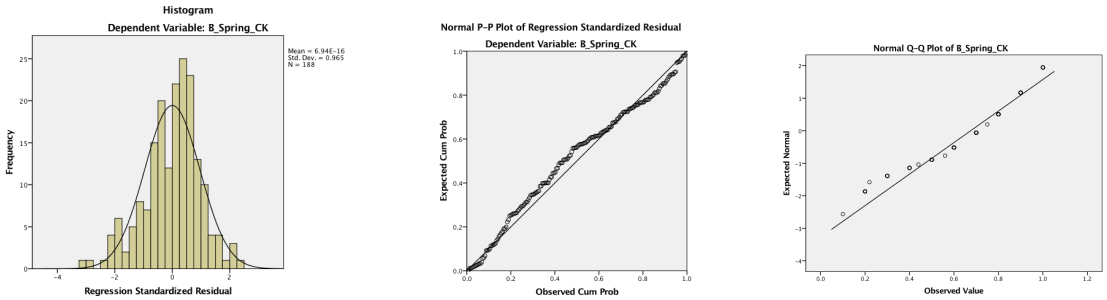

Figure 4.3. Histogram, P-P Plot of Regression, and Q-Q Plot diagrams for Spring College Knowledge (CK).

each of the *EnAbled for College* program years (2014-2015, 2015-2016, 2016-2017), the comparison group, each ethnicity group (Caucasian, Hispanic, African American, and Other), and each high school (A-F). The model, $F(13, 176) = 10.902$, $p < .001$, explained approximately 45% of the total variation in the spring self-efficacy attendance score.

Three variables (fall self-efficacy attendance, High School B, and Program year 2014-2015) were statistically significant predictors ($p < .05$) of the spring self-efficacy attendance score (Table 4.8). Regression coefficients, standard errors, standardized coefficients, p-values, and confidence intervals are reported in Table 4.8.

Table 4.8

Summary of Multiple Regression Analysis – Model 1 (Self-Efficacy Attendance)

Variable	*B*	SE_B	β	*p*	95% CI B
Intercept	1.62	.35		.00	
Fall Self-Efficacy Attend.	.65	.07	.55	.00	[0.51, 0.78]
Gender – Male[a]	.06	.08	.04	.48	[-0.10, 0.22]
Ethnicity					
African American[b]	.14	.13	.08	.27	[-0.11, 0.39]
Hispanic[b]	.02	.10	.02	.82	[-0.17, 0.22]
Ethnicity-Other[b]	.05	.19	.02	.81	[-0.34, 0.43]
High School					
High School B[c]	.27	.13	.18	.04	[0.14, 0.52]
High School C[c]	-.09	.14	-.06	.51	[-0.36, 0.18]
High School D[c]	-.31	.22	-.11	.16	[-0.74, 0.12]
High School E[c]	.15	.21	.06	.46	[-0.25, 0.56]
High School F[c]	-.08	.22	-.03	.74	[-0.52, 0.37]
Program					
Program year 2014-2015[d]	.31	.14	.19	.02	[0.47, 0.58]
Program year 2015-2016[d]	-.02	.14	-.01	.87	[-0.30, 0.25]
Program year 2016-2017[d]	.24	.13	.12	.07	[-0.02, 0.46]

Note: $R^2 = .45$; $\Delta R^2 = .41$; B = unstandardized regression coefficient; SE_B = Standard error of the coefficient; β = standardized coefficient and effect size; CI = Confidence Interval; dependent variable: Spring Self-Efficacy Attendance; [a] reference group female; [b] reference group Caucasian; [c] reference group High School A; [d] reference group Comparison Group

The fall self-efficacy attendance score has a positive relationship with the spring self-efficacy score, $t(176) = 9.467$, $p = .000$. As the fall self-efficacy attendance score ($b = 0.65$, $p = .000$) increased one unit, the students' spring self-efficacy attendance scores increased (0.65). Students in the *EnAbled* Program in years 2014-2015, $t(176) = 2.318$, *p*

= .02 spring self-efficacy scores also increased significantly compared to the comparison group. The 2014-2015 *EnAbled* students realized a 31% ($b = 0.31$, $p = .02$) unit increase on the spring self-efficacy attendance score in relation to the comparison group. High School B's spring self-efficacy attendance score increased significantly ($b = 0.27$, $p = .04$) compared to a student at High School A, the reference group. There were no significant differences found for gender or ethnicity on spring self-efficacy attendance scores controlling for the other variables in the model.

The effect size for each variable is also listed in Table 4.8. Effect sizes are measured by the regression coefficients, β, and range between +/-1. Cohen (1988) states .02 represents a small effect, .15 a moderate effect, and .35 a large effect. Keith (2015) focuses his research on the influences on learning outcomes and has adjusted the levels for effect sizes for β's as above .05 are small, above .10 moderate, and above .25 considered large. Using Keith's levels for effect sizes for the current variables in the self-efficacy attendance model, the β associated with the score for fall self-efficacy attendance has a large effect ($d = .55$). The *EnAbled* for College 2014-2015 ($d = .19$) and High School B ($d = .18$) have moderate effects in comparison with the reference groups. The *EnAbled* groups in comparison with the reference group, the Comparison group, and High School B with their reference group, High School A.

Model 2 - Self-Efficacy Persistence

To answer research question 2, the fall self-efficacy persistence score, *EnAbled for College* program years (2014-2015, 2015-2016, 2016-2017), comparison group, ethnicity (Caucasian, Hispanic, African American, and Other), and high schools (A-F) were entered into a multiple regression model to assess their predictive ability of spring

self-efficacy persistence scores. The model, $F(13, 177) = 13.157$, $p < .001$, explained approximately 49% of the total variation in the spring self-efficacy persistence score. Two variables, fall self-efficacy persistence and High School B, added statistically significantly ($p < .05$) to the prediction of the spring self-efficacy persistence score (Table 4.9).

Table 4.9

Summary of Multiple Regression Analysis – Model 2 (Self-Efficacy Persistence)

Variable	*B*	SE_B	β	*p*	95% CI *B*
Intercept	1.58	.31		.00	[.98, 2.28]
Fall Self-Efficacy Persis.	.68	.06	.65	.00	[0.55, 0.78]
Gender – Male[a]	.03	.08	.02	.72	[-0.13, -0.18]
Ethnicity					
African American[b]	.22	.12	.12	.08	[-0.03, 0.46]
Hispanic[b]	-.03	.09	-.02	.73	[-0.22, 0.15]
Ethnicity-Other[b]	.02	.18	.01	.93	[-0.35, 0.38]
High School					
High School B[c]	.29	.12	.20	.02	[0.05, 0.53]
High School C[c]	.07	.13	.04	.62	[-0.20, 0.33]
High School D[c]	-.18	.21	-.06	.39	[-0.59, 0.23]
High School E[c]	.10	.20	.04	.60	[-0.28, 0.49]
High School F[c]	.24	.21	.08	.26	[-0.18, 0.66]
Program					
Program year 2014-2015[d]	.16	.13	.10	.23	[-0.10, 0.41]
Program year 2015-2016[d]	-.08	.13	-.04	.53	[-0.34, 0.18]
Program year 2016-2017[d]	.20	.12	.10	.11	[-0.05, 0.44]

Note: $R^2 = .49$; $\Delta R^2 = .45$; B = unstandardized regression coefficient; SE_B = Standard error of the coefficient; β = standardized coefficient and effect size; CI = Confidence Interval; dependent variable: Spring Self-Efficacy Persistence; [a] reference group female; [b] reference group Caucasian; [c] reference group High School A; [d] reference group Comparison Group

The fall self-efficacy persistence score has a positive relationship with the spring self-efficacy persistence score $t(177) = 11.658$, $p = .000$. As the fall self-efficacy persistence score ($b = 0.67$, $p = .000$) increased one unit, the students' spring self-efficacy persistence scores increased (0.67). High School B's spring self-efficacy persistence

score increased significantly ($b = 0.29$, $p = .02$) compared to a student at High School A, the reference group. There were no significant differences found for gender, ethnicity, the *EnAbled for College* students, or any other high school groups on spring self-efficacy attendance scores controlling for the other variables in the model.

Effect sizes are also identified in the regression coefficients, β, column (Table 4.9). Variable with a large effect was fall self-efficacy persistence ($d = .65$) and with a moderate effect was High School B ($d = .20$) in comparison with the reference group, High School A.

Model 3 - College Knowledge

A Multiple Regression Analysis was also used to determine if there was a difference in the spring college knowledge score for the students who participated in the *EnAbled for College* program and those who did not. The multiple regression was run to predict the college knowledge score from the fall college knowledge score, each of the *EnAbled for College* program years, the comparison group, each ethnicity group, and each high school. The model, $F(13, 174) = 4.328$, $p < .001$, explained approximately 24% of the total variation in the spring college knowledge score. Four variables (fall college knowledge and *EnAbled for College* Program years 2014-2015, 2015-2016, and 2016-2017) were statistically significant predictors ($p < .05$) of the spring college knowledge score (Table 4.10).

The fall college knowledge score has a positive relationship with the spring college knowledge score $t(174) = 5.181$, $p < .001$. As the fall college knowledge score ($b = 0.37$, $p = .000$) increased one unit, the students' spring college knowledge scores increase (0.37). Students in each of the *EnAbled for College* groups college knowledge

Table 4.10

Summary of Multiple Regression Analysis –Model 3 (College Knowledge)

Variable	*B*	SE_B	*β*	*p*	95% CI *B*
Intercept	.38	.06			[0.25, 0.50]
Fall College Knowledge	.37	.07	.35	.00	[0.23, 0.51]
Gender – Male[a]	-.04	.03	-.10	.13	[-0.10, 0.01]
Ethnicity					
African American[b]	-.01	.04	-.02	.84	[-0.10, 0.08]
Hispanic[b]	.01	.03	.03	.74	[-0.06, 0.08]
Ethnicity-Other[b]	-.05	.07	-.06	.45	[-0.18, 0.08]
High School					
High School B[c]	.08	.04	.19	.07	[0.01, 0.17]
High School C[c]	.04	.05	.08	.39	[-0.05, 0.13]
High School D[c]	-.07	.07	-.09	.33	[-0.22, 0.07]
High School E[c]	.07	.07	.09	.33	[-0.07, 0.21]
High School F[c]	.10	.08	.12	.19	[-0.05, 0.25]
Program					
Program year 2014-2015[d]	.11	.05	.24	.02	[0.02, 0.20]
Program year 2015-2016[d]	.11	.05	.19	.02	[0.02, 0.20]
Program year 2016-2017[d]	.11	.04	.19	.02	[0.23, 0.51]

Note: $R^2 = .24$; $\Delta R^2 = .19$; *B* = unstandardized regression coefficient; SE_B = Standard error of the coefficient; *β* = standardized coefficient and effect size; CI = Confidence Interval; dependent variable: College Knowledge; [a] reference group female; [b] reference group Caucasian; [c] reference group High School A; [d] reference group Comparison Group

scores also increased significantly compared to the comparison group. In relation to the comparison group, each of the *EnAbled for College* groups realized a 11% unit increase. Students in the *EnAbled* 2014-2015 program, $t(174) = 2.382$, $p < .05$ realized a 11% ($b = 0.11$, $p = .02$) unit increase, students in the *EnAbled* 2015-2016 program, $t(174) = 2.432$, $p = .02$ realized a 11% ($b = 0.11$, $p = .02$) unit increase, and students in the *EnAbled* 2016-2017 program, $t(174) = 2.434$, $p = .02$ realized a 11% ($b = 0.11$, $p = .02$) unit increase. There were no significant differences found for gender, ethnicity, or any of the high schools on spring college knowledge scores controlling for the other variables in the model.

The effect size for each variable is also listed in Table 4.10. According to Keith (2015) and Cohen (1988), fall college knowledge has a large effect on the model. Each of the *EnAbled for College* groups was a moderate effect size in comparison with the reference group.

Model 4 – Enrollment In Postsecondary Education (PSE)

A logistic regression analysis was completed to answer the final research question, *is there a difference in the enrollment in PSE between students who participated in the EnAbled for College program and those who did not*. The predictors were pre-intervention score and post-intervention score for SEA, SEP, and CK; sex, ethnicity, high school, and enrollment in the *EnAbled for College* program for years 2014-2015, 2015-2016, and 2016-2017.

The outcome variable is enrollment in PSE. The data includes college enrollment and participation or non-participation in the EnAbled *for College* program, the intervention. Of the students who received the intervention, 63% (n = 107) enrolled in PSE compared to 39% (n = 88) of the comparison group, students who did not receive the intervention, enrolled in PSE (Table 4.11)

The results of the logistic regression model are presented in Table 4.12. The table shows the coefficients (in logits) and the results for the self-efficacy attendance (SEA) outcomes, the self-efficacy persistence (SEP) outcomes, the college knowledge outcomes, the ethnicity groups, gender, each high school, and each of the *EnAbled for College* groups. The odds ratio is also provided as the measure of effect size for each predictor.

Table 4.11

Model 4 (Enrollment in PSE)

Status	2014-2015 *EnAbled for College* (*n*)	2015-2016 *EnAbled for College* (*n*)	2016-2017 *EnAbled for College* (*n*)	Total *EnAbled for College* (*N*)	2016-2017 Compari-son Group (*n*)
Enrolled in PSE	30	20	17	67	34
Never enrolled in PSE	20	6	14	40	54
Total	50	26	31	107	88

The logistic regression model was statistically significant, $\chi^2(18) = 40.27$ $p = .002$. The Nagelkerke, a pseudo R^2 estimate, is 26.2% and the model correctly classified 73.9% of the cases. This represents a moderate relationship and should be interpreted with caution. Of the 18-predictor variables four were statistically significant: Other ethnicity group ($p = .03$):, program year 2014-2015 ($p = .01$):, program year 2015-2016 ($p = .01$):, and fall CK ($p = .003$): (Table 4.12). The odds of enrolling in PSE for the *Other* ethnicity student is 86% (0.14-1 x 100) lower compared to White students. The *EnAbled for College* Program year 2014-2015 students has a 357% (4.57-1 x 100) times higher odds to enroll in PSE than the comparison group and the *EnAbled for College* Program year 2015-2016 had higher odds of enrolling in PSE of 842% (9.42-1 x 100) times the odds than the comparison group. Even though the *EnAbled for College* Program year 2014-2015 had more participants, the odds of enrolling were lower than the 2015-2016 *EnAbled* group. The lower odds ratio for the larger 2014-2015 group could be contributed to the number of low socioeconomic students in this group. The 2014-2015

Table 4.12

Logistic Regression – Model 4 (Enrollment in PSE)

Variable	*B*	SE	Wald χ^2	*df*	*p*	Odds Ratio	95% CI for Odds Ratio	
						Exp (B)	Lower	Upper
Gender – Male[a]	-.58	.36	2.69	1	.10	.56	.28	1.12
Ethnicity								
African Amer.[b]	-.05	.54	.01	1	.93	.95	.33	2.76
Hispanic[b]	-.28	.42	.43	1	.51	.76	.33	1.73
Ethnicity-Other[b]	-1.98	.90	4.79	1	.03	.14	.02	.81
High School								
High School B[c]	.21	.55	.14	1	.71	1.23	.42	3.65
High School C[c]	.18	.59	.10	1	.76	1.20	.38	3.82
High School D[c]	-.44	.91	.23	1	.63	.65	.11	3.83
High School E[c]	.72	.94	.58	1	.45	2.05	.32	13.05
High School F[c]	-.98	.94	1.09	1	.30	.37	.06	2.37
Program								
2014-2015[d]	1.52	.60	6.44	1	.01	4.57	1.41	14.77
2015-2016[d]	2.24	.68	11.00	1	.00	9.42	2.50	35.46
2016-2017[d]	.63	.55	1.30	1	.26	1.87	.64	5.50
Fall SEA	-.04	.46	.01	1	.93	.96	.39	2.36
Fall SEP	-.21	.43	.25	1	.62	.81	.35	1.86
Fall CK	3.14	1.06	8.72	1	.00	23.11	2.87	185.86
Spring SEA	.75	.46	2.66	1	.10	2.11	.86	5.16
Spring SEP	-.29	.47	.38	1	.54	.75	.30	1.89
Spring CK	-1.76	1.04	2.85	1	.09	.17	.02	1.33

Note: B = unstandardized regression coefficient; SE_B = Standard error of the coefficient; CI = Confidence Interval; [a] reference group female; [b] reference group Caucasian; [c] reference group High School A; [d] reference group Comparison Group

included 41 (82%) low socioeconomic students compared to only 14 (54%) low socioeconomic students in the 2015-2016 *EnAbled* group. Low socioeconomic students enroll in PSE at a lower rate than middle and high economic students. For the fall college knowledge (pre-intervention score), as the score increases one unit the student has over a 2000% (23.11-1 x 100) times higher chance of enrolling in PSE.

Assumptions. Assumptions for the logistic regression model were completed using a combination of visuals and equations. Studentized and deviance residuals were plotted and evaluated for residual values. No values were plotted above or below 2 or -2. Cohen, Cohen, West, and Aiken (2003) suggest a cutoff of $\pm$2.0 when examining cases for high discrepancy values. The lack of cases at $\pm$2.0 provides information for the lack of an outlier that could have influenced the results.

The influence and multicollinearity diagnostics were also completed for the logistic regression model. The *Cook's* measure of influence was used to evaluate the model. Cohen et al. (2003) suggest a cutoff value of 1.0 for *Cook's* and no cases were identified as influential (> 1). Multicollinearity was assessed using the *Variance Inflation Factor (VIF)*. No variables *VIF* values exceed 10. The value of 10 or more provides evidence of serious multicollinearity involving the corresponding independent variable" (p. 423).

Chapter Five provides a summary and discussion of the results in Chapter Four. Growth, or lack of, in self-efficacy college-going attendance, self-efficacy college-going persistence, and college knowledge were analyzed. Each model's results are reported and statistically significant predictors are identified. PSE enrollment is compared between the *EnAbled for College* participants and the comparison group participants. Implications, strengths, limitations, and future research are also discussed.

CHAPTER FIVE

Discussion

The study's purpose was to provide support and validation for the implementation of the *EnAbled for College* program. This included analysis of the *EnAbled for College* participants' growth in self-efficacy college-going attendance, self-efficacy college-going persistence, and college knowledge, and their enrollment in PSE (postsecondary education) compared to a group of students who did not participate in the program.

The *EnAbled for College* program was created to add support to the current research on the elements needed to close the gap for low socioeconomic students to pursue and attain PSE (Adelman, 2006; Arnold et al., 2012; Barnett et al. 2012; Hein et al., 2013). In the current study 72% (n = 78) of the program participants were on free or reduced lunch and 60% (n = 53) of the comparison group was students on free or reduced lunch.

The *EnAbled for College* program consisted of a research based curriculum presented by mentors that met weekly with high school participants. The curriculum included the incorporation of interventions that positively correlate with PSE success as reported by Conley's (2010) *Model of College Readiness*, American Institutes for Research in *Predictors of Postsecondary Success* (Hein et al., 2013) and *The Condition of College and Career Readiness 2015-Students from Low-Income Families* (ACT, 2015). The interventions included in the program included completion of the FAFSA, college-readiness lessons, completing a college application, setting college and career goals, the

development of study skills and strategies to increase students' self-awareness, self-regulation, social awareness, relationship skills, and responsible decision-making. These interventions support the literature of Conley, Tierney and Duncheon (2015), and Barnett et al. (2012) for best practice on how to intervene for low socioeconomic students to be able to attain and persist in PSE. The instrument used to evaluate the effectiveness of the interventions presented in the curriculum was based on two existing instruments by Gibbons (2005) and Wisely (2013). Although the current instruments were adapted versions of the originals, the factor analysis results provided support of the instruments' internal validity and consistency.

It was hypothesized that the *EnAbled for College* participants would exceed the comparison group in growth in self-efficacy college-going attendance, self-efficacy college-going persistence, and college knowledge, and would have a higher enrollment in PSE. Self-efficacy college-going attendance was significantly different for program year 2014-2015 from the comparison group, however analyses failed to determine a significant difference for program years 2015-2016 and 2016-2017. Self-efficacy college-going persistence analyses did not demonstrate any significant differences between the *EnAbled for College* participants and the comparison group. For the final two research questions, the intervention for gaining college knowledge was significantly different for each of the program years from the comparison group and the program's effect on enrollment in PSE was significantly different for program years 2014-2015 and 2015-2016 compared to the comparison group. Further discussion of the findings of this study, how these results relate to other research, and implications for future research and practice follows.

Research Question One

The first research question sought to answer what the difference was, if any, between the college going self-efficacy attendance for the students who participated in the *EnAbled for College* program and those who did not. Although the variables explained 45% of the total variation in the spring self-efficacy attendance score, three variables (fall self-efficacy attendance, High School B, and Program year 2014-2015) were statistically significant predictors ($p < .05$) of the spring self-efficacy attendance score.

Program Year 2014-2015 Impact on College Going Self-efficacy Attendance.

Program year 2014-2015 had a statistically significant effect on college going self-efficacy attendance. Program Year 2014-2015 participants ($n = 50$) exceeded the number of participants in Program Year 2015-2016 ($n = 26$) and Program Year 2016-2017 ($n = 31$). The larger group size of participants for the *EnAbled for College* Program Year 2014-2015 provides more power for Program Year 2014-2015 results to detect effects (Field, 2013).

The 2014-2015 program's focus of the curriculum was on increasing participant's knowledge of the college process and to reduce any barriers for enrollment and completing the financial aid documents. Increasing participants' self-efficacy attendance and their belief that they could attain PSE, could result in an increase in the students' enrollment in PSE. The current study supports Berger, Ramirez, and Lyon (2012) and Braxton et al.'s (2013) studies of the need to provide students from disadvantaged backgrounds with college knowledge and assistance navigating the financial burdens of paying for PSE to increase students' beliefs that they can attain PSE.

The *EnAbled for College* 2014-2015 participants were also provided the opportunity to be part of a college readiness community that increased their access to information about PSE (Coleman, 1988). Because children from low income communities typically have fewer PSE educated individuals in their networks, creating this network for the participants provided the participants association with college-educated individuals and conferred access to information about PSE (Tierney & Duncheon, 2015). Increasing the number of college and career options individuals can investigate and pursue provides for an opportunity for participants to increase their self-efficacy. A stronger self-efficacy strengthens students' desire to prepare for PSE and increases the staying power and success in college and career options (Bandura, 1993).

High School B's Impact on the Spring College Going Self-Efficacy Attendance.

High School B was the only campus to be statistically significant in predicting the spring college going self-efficacy attendance as compared to the reference campus, High School A. Although High School B has an enrollment of just over 400 students, the campus included 69% of their students receiving free or reduced lunch and 51% of their population identified as Hispanic. Thirty-seven percent (n = 40) of the *EnAbled for College* participants were from High School B. This larger group size of participants for High School B in the *EnAbled for College* program provides more power for High School B's results to detect effects (Field, 2013).

Research Question Two

The second research question sought to answer whether there was a difference between the college going self-efficacy persistence for the students who participated in

the *EnAbled for College* program and those who did not. Two variables in the model, fall self-efficacy persistence and High School B, added statistically significantly ($p < .05$) to the prediction of the spring self-efficacy persistence. Although none of the *EnAbled for College* groups significantly influenced the spring self-efficacy persistence score, the fall self-efficacy persistence score and the spring self-efficacy persistence score for the *EnAbled for College* participants recorded an increase in growth in self-efficacy attendance compared to the comparison group. These results provide evidence of possible increased growth for the intervention group compared to the comparison group from fall to spring for self-efficacy persistence.

For each successive year of the *EnAbled for College* implementation there was an increase in focus in the curriculum on increasing self-efficacy persistence. Year two of the *EnAbled for College* curriculum added the additional topics of *how we learn* and *what college is like*. Curriculum in the third year added an intervention lesson on *understanding a college syllabus* and *how to locate academic resources on a college campus*. Each of the additions was included due to the need to increase participants' college going self-efficacy persistence as evidenced by the yearly program reports. The goal of the curriculum additions was to increase students' thoughts and beliefs on how they see themselves as being able to persist in college. The students' past thoughts and beliefs can influence them individually on the decisions they make about their future (Arnold et al., 2012; Bandura 1993; Donovan, Bransford & Pellegrino, 1999).

Although increasing self-efficacy increases the number of college and career options an individual will be interested in and will pursue, the institution is instrumental in the student persisting in PSE. As supported by Astin (1975) the student's personal

attributes impact persistence in PSE, but increasing the student's interest and the integration of the student in the PSE community is also instrumental in persistence in PSE (Spady, 1971; Tinto, 1975).

High School B's Impact on the Spring College Going Self-Efficacy Persistence.

High School B had worked to eliminate the socioeconomic disparities of equal access for their students to PSE. High School B provided a large group of their senior students the opportunity to participate in the *EnAbled for College* program. This experience allowed students to build social capital and create a positive college going culture (Tierney & Duncheon, 2015). The skill and awareness provides "the privileged information necessary to understand how college operates as a system and culture" (Conley, 2010, p. 40). Perhaps the encouragement from the administration and the large sample size from High School B positively impacted the college going culture of the school.

Research Question Three

A Multiple Regression Analysis was also used to determine if there was a difference in the spring college knowledge for the students who participated in the *EnAbled for College* program and those who did not. Four variables, fall college knowledge and *EnAbled for College* Program years 2014-2015, 2015-2016, and 2016-2017, were statistically significant predictors ($p < .05$) of spring college knowledge.

The EnAbled for College Programs Impact on Spring College Knowledge.

Each year the *EnAbled for College* curriculum focused on providing the participants with information and awareness about college. The *EnAbled for College*

transition program included completion of the FAFSA, college-readiness lessons, completing a college application, setting college and career goals, and the development of study skills. These predictors positively correlate with the PSE success items as reported in American Institutes for Research in *Predictors of Postsecondary Success* (Hein et al., 2013) and *The Condition of College and Career Readiness 2015-Students from Low-Income Families* (ACT, 2015). Arnold et al. (2012) describe a college-ready student as knowledgeable about PSE financial resources and financial aide and has the "skills and practical know-how to negotiate the complicated tasks of choosing, applying, selecting, and financing college" (p. 94).

"Establishing relationships with people outside of class who possess college knowledge—counselor, mentors, and peers—can translate to social capital that may aid low-income students in seeking higher education" (Tierney & Duncheon, 2015, p. 94). Participants of the *EnAbled for College* program were provided this same opportunity to increase their college knowledge and their knowledge of PSE norms. Results of the statistical significance for each of the participant groups influencing the college knowledge spring score provides speculation that the intervention was successful in increasing college knowledge.

The *EnAbled for College* curriculum also included information and discussion on the norms of college and how to communicate with college professors. Expectations from professors and other adults in PSE can be very different from previous expectations in high school. Students must learn to adapt and interact with a diverse group of adults as

well as peers in PSE (Conley, 2010; Hooker & Brand, 2010). In following the suggestion of Conley (2010), providing these skills can assist students in feeling more comfortable in PSE.

Another key component of the *EnAbled for College* program was the weekly meeting with the mentors. Mentors and participants met weekly and covered topics in the curriculum designed to build college-going self-efficacy, college knowledge, and self-advocacy. Additional areas addressed included study tips, paying for college, goal setting, budgeting, and college expectations. During several meetings, participants role-played scenarios to provide an opportunity to experience these situations and to determine appropriate and inappropriate responses. Participants also completed college applications, explored financial aid resources and scholarship options. The curriculum followed the PSE readiness suggestions of Conley (2010) and Tierney and Duncheon (2015) to provide students with PSE knowledge, how to access PSE, how to attain financial resources, and how the PSE system works. As suggested by Hooker and Brand (2010), the participants were also provided with key information to help reduce the financial, social, and informational barriers that sometimes reduce the opportunities for students to attend PSE. Providing participants access to college information is influential in increasing student's expectations of obtaining a college degree (Cates & Schaefle, 2011).

Research Question Four

A logistic regression analysis was completed to answer the final research question, *is there a difference in the enrollment in PSE between students who participated in the EnAbled for College program and those who did not?* Four of the

variables were statistically significant: Other ethnicity group, program year 2014-2015, program year 2015-2016, and fall college knowledge.

Enabled for College

The *EnAbled for College* Program provided students with higher odds of enrolling in PSE in comparison to the comparison group. Sixty-three percent of the *EnAbled for College* participants enrolled in PSE compared to 39% for the comparison group. The *EnAbled for College* program provided participants with access to information about the college process, which is vital to PSE readiness (Cates & Schaefle, 2011; Conley, 2010; Tierney, Corwin, & Colyar, 2005; Tierney & Duncheon, 2015) and assisted in creating a college-going culture that provides students the know-how to attend PSE (Tierney & Duncheon).

Although both program year 2014-2015 and 2015-2016 were significant in enrollment in PSE, a participant in program year 2015-2016 had a much higher odds of enrolling in PSE. The higher odds ratio for year 2015-2016 could be contributed to the higher number of low SES students in year 2014-2015 compared to 2015-2016 (2014-2015 program year: low SES = 82%; 2015-2016 program year: low SES = 54%). These results supports previous literature on the need for students from low SES backgrounds to be provided acceptable academic preparation for PSE to achieve the knowledge to attain and persist in PSE and to reduce the barriers for students from low socioeconomic backgrounds to be successful in attaining and pursuing PSE (Bailey & Dynarski, 2011; Conley, 2010; Reardon, 2011; Tierney & Duncheon, 2015).

The *EnAbled for College* at-risk, low socioeconomic students needed support and additional resources to attain and persist in PSE (Reardon, 2011). Conley (2010) and

Tierney and Duncheon (2015) provide the curriculum framework needed for students to be effective in attaining and persisting in PSE. The *EnAbled for College* program provides support for increasing self-efficacy attendance and college knowledge for the participants. Additionally, the *EnAbled for College* participants exceeded the national average for enrollment in PSE as reported by the National Student Clearinghouse. The proposed area of study contributes to the effectiveness of the *EnAbled for College* program to increase participants' college-going self-efficacy, college knowledge, and assistance in attaining and persisting in PSE.

Implications

Based on results, it appears the *EnAbled for College* participants were significantly different from the comparison group in some areas. The goal of the *EnAbled for College* program was to increase college-going self-efficacy and college knowledge and to provide access to PSE for low socioeconomic students. Although the *EnAbled for College* program did not show significance in all measures, there is some indication that the program likely has a general effect on the two broad areas, college knowledge and enrollment in PSE.

The program provides interventions to increase knowledge of PSE readiness for students from low socioeconomic backgrounds. Providing participants with access to PSE, how to afford PSE, and what to expect in PSE, are interventions to increase a student's belief he can attain and persist in PSE (Braxton et al., 2013; Cates & Schaefle, 2011; Conley, 2010; Reardon, 2011; Tierney & Duncheon, 2015). The *EnAbled for College* program also provides the mentor the opportunity to adjust the implementation of the program to meet the individual needs of the student. With a growing demand on

schools to provide all students access to PSE, the role of mentors providing weekly, detailed transition services is evolving and important for students to attain the knowledge of how to attain and persist in college (McQuillan, Terry, Strait, & Smith, 2013). The *EnAbled for College* serves as a model that universities can offer local schools to provide services in the area of transition to PSE for students who are at risk.

As transition programs provided by campuses become more visible and college-going rates increase (Venezia & Jaeger, 2013), the *EnAbled for College* program provides additional support for campuses. It is the goal of the program to be an integral part of the participating school districts' components that have been established to prepare students to attain and persist in PSE. The program provides additional PSE readiness support for campuses with a large population of low socioeconomic students or first generation students. The program builds on the culture of the campus and adds additional support for PSE readiness by increasing the number of networking opportunities with people who have succeeded in college. This network is essential for low socioeconomic students who are seeking to attain and persist in PSE. *EnAbled for College* reduced the barriers and increased awareness of PSE for their participants.

Recommendations

The *EnAbled for College* study also provides an evaluation of a college readiness intervention program. Numerous college readiness programs offer extensive services to students, but evaluations of the programs are limited (Venezia & Jaeger, 2013). Based on the results of this study, there are several recommendations for future implementation of the *EnAbled for College* program. First the college knowledge survey needs to be re-evaluated and consideration given to increase the number of college knowledge

questions. There should also be an increase in the control of the training for mentors and the number of evaluations for mentors implementing the curriculum. The two removed questions from the original essays for self-efficacy attendance and self-efficacy persistence should also be included in the pre and post surveys to increase the reliability and validity of the research. The *EnAbled for College* program directors and mentors should also withhold from making additional changes to the curriculum except to provide for legislative or major literature PSE attainment and readiness changes. Limiting these changes could result in additional power of the research due to increasing the number of participants for the current curriculum.

The current study provides low socioeconomic students with knowledge on how to attain and persist in PSE. Barriers to PSE are removed and students are empowered to change their future. The *EnAbled for College* program provides equitable access to PSE and the benefits of PSE and provides students a network to increase their social capital to attain PSE.

Limitations

Despite the relative success of the *Enabled for College* program there is room for improvement. First, there is a need to increase the sample size. Logistics and resources prevent the recruitment of a larger sample. The *EnAbled for College* participants was limited to the individuals nominated by the school counselor and the comparison group was limited to the students enrolled in the classes made available by the campus principal. Participants were not randomly assigned which limits the validity of the study. Increasing the sample of participants in both the intervention group and the comparison group could increase statistical power and generalizability.

A second category of limitations comprises the fidelity of the program's implementation by mentors. School-based models are challenging because of the amount of supervision and training required (McQuillan, Terry, Strait, & Smith, 2013). Although the mentors were well trained and implemented the program in a faithful manner, there is a need to promote fidelity by requiring specific training and appropriate supervision. To do so, quality control observations of the mentors on multiple occasions could be implemented along with a detailed training log to determine if these elements play a role in the program effects.

A third category of limitations includes the fidelity of the curriculum and the construct validity for the pre- and post surveys. Although the curriculum is based on contemporary research on best practices for a college readiness program and the additional emphasis needed on topics due to state or federal law mandates, yearly changes to the curriculum present issues with validity and reliability. These changes, although they decrease a study's reliability, are instrumental in providing students with the "best practices" needed to attain and persist in PSE. To reduce questions of construct validity and consistency for the current study's surveys, utilizing the original surveys of Gibbons (2005) and Wisely (2013) would be beneficial. Although including the additional questions could increase participants' mental fatigue, it would reduce questions concerning the construction of the surveys.

A fourth limitation is the current study was unable to measure the student's pre-existing college going self-efficacy. Self-efficacy is developed over a lifetime and is impacted by several variables that include the home, the parents, the environment, and the school. Some of the variables that contribute to the student's college going self-

efficacy scales are not analyzed in the current study. The current study is unable to account for the various preexisting characteristics of the participants. As supported by Arnold et al. (2012) and Bandura (1993) these past thoughts and beliefs impact students' ability to see themselves as college ready. Being able to predict the spring scores from the fall scores supports the impact a student's past personal experiences have on attaining and persisting in PSE.

The current study is also limited by other extraneous variables that could have contributed to whether or not participants actually enrolled in PSE after the program's conclusion. Variables left uncontrolled and unanalyzed included previous high school grades, study habits, rising PSE tuition costs, and student's previous self-efficacy beliefs and college knowledge. Each of these factors could be an important contributor to whether a student enrolls in PSE or not (Astin & Oseguera, 2002; Bailey & Dynarski, 2011). The most conventional way to control the spurious effects of these variables is to use randomization during participant selection and assignment to groups as well as the statistical study of these variables' effects.

Future Research

Future research should include beginning the program in earlier grades and continuing the program until PSE is completed. Beginning the program earlier (e.g., 8th or 9th grade)(Conley, 2010; Tierney & Duncheon, 2015) and continuing dialogue with participants during PSE enrollment to determine which factors (e.g., self-advocacy, self-efficacy, and/or college knowledge) impede or advance PSE persistence, could possibly allow intervention programs to be better prepared to assist at-risk students to attain and persist in PSE (Knight, 2003).

As the *EnAbled for College* program continues to implement the program and to collect data each November from the National Student Clearinghouse on participants' attainment, persistence, and graduation from PSE, it will provide future investigators the matriculation and persistence to determine if the program is a successful intervention for at-risk students.

Conclusion

The goal of *Enabled for College* was to increase the odds of success for at-risk students in *getting to* and *persisting in* PSE. The program was designed to accomplish this goal by increasing their college-going self-efficacy and college knowledge, by reducing the complexity of college, and by providing participants the skills to attain and persist in PSE. This research determined that: (a) an intervention program can increase PSE enrollment for at risk students; (b) an intervention program can increase college knowledge, and (c) high schools and institutional intervention programs can work together to strengthen high school students' PSE readiness and attainment. Although the study does not provide adequate support for the program's ability to increase college-going self-efficacy, the research does support the need to begin the program in earlier grades to allow more time to influence a student's self-efficacy. While preliminary, the data from the pre- and post surveys and the National Clearinghouse does suggest that research based programs, such as *Enabled for College*, can assist at-risk students to take steps to attain and persist in PSE.

APPENDIX

APPENDIX A

Instrument

EnAbled for College: Senior Survey
Fall and Spring

The following questions relate to your knowledge about post-secondary education, your plans after high school, and how you feel about requesting accommodations. Post-secondary education (PSE) refers to education after high school such as vocational/technical school, 2-year colleges, military, or four-year universities. Accommodations refer to extra help such as extended time on tests, alternative forms of a test, alternative locations for testing, audio recordings of the textbook, or the assistance of note takers in class**.**

Section I: Place an "X" in the space(s) next to answer(s) that apply to you.

1. My plans AFTER high school:
___ Leave high school before graduating and get a job
___ Graduate from high school and get a job
___ Enter the military
___ Attend a vocational/technical school (e.g., TSTC, ITT)
___ Attend community college (2-yr)
___ Attend four-year college/university
___ Other plans: _____

If your plans after high school include post-secondary education (e.g., vocational/technical school, military, 2-year college, 4-year university), answer questions 2 and 3 below. Otherwise, go to question 4 in the next section.

2. In the spaces below, rank order from 1 to 4 (1 is the highest rank, 4 the lowest) your reasons for wanting to attend post-secondary education:

___ To get certifications for a certain job

___ Better pay in the workforce

___ The experience

___ It is expected of me.

3. In the spaces below, rank order from 1 to 4 (1 is the highest rank, 4 the lowest) how you plan to pay for post-secondary education (PSE):

___ Scholarships/grants

___ My own money from jobs

___ Loans

___ Money from family

Section II: This section is about accommodations. Accommodations refer to extra help such as extended time on tests, alternative forms of a test, alternative locations for testing, audio recordings of the textbook, or the assistance of note takers in class. Remember, post-secondary education (PSE) refers to vocational/trade school, 2-year colleges, military, or four-year universities.

4. I have a specific need (or a disability) that will allow me to receive accommodations.
Yes No

5. I receive accommodations in high school.
Yes No

If yes, list the accommodations you receive:
_____

6. I plan to ask for the same accommodations in post-secondary education that I receive in high school.
Yes No Not applicable to me.

Indicate your agreement with each statement by circling a number.

	Strongly Agree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
7. Students who need help should try to get along without accommodations.	1	2	3	4	5	6
8. Discussing and getting the help I need isn't worth the trouble it will cause.	1	2	3	4	5	6
9. I think I struggle in school enough to need accommodations.	1	2	3	4	5	6
10. Asking college professors for accommodations will be awkward for me.	1	2	3	4	5	6

11. I do not know how to go about requesting accommodations in college.	1	2	3	4	5	6

Section III: Circle the number that best fits your agreement with each statement. Post-secondary education refers to vocational/trade school, 2-year colleges, and 4-year colleges and universities.

	Strongly Agree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
12. I will attend post-secondary education after high school.	1	2	3	4	5	6
13. I will complete my post-secondary education within five years after high school.	1	2	3	4	5	6
14. I am committed to learning more about my abilities and interests.	1	2	3	4	5	6
15. I plan to talk to advisers or counselors in my school about post-secondary education opportunities.	1	2	3	4	5	6
16. I can find a way to pay for post-secondary education.	1	2	3	4	5	6
17. I can get accepted to post-secondary education.	1	2	3	4	5	6
18. I can get a scholarship or grant to pay for post-secondary education	1	2	3	4	5	6
19. I can make an educational plan that will prepare me for post-secondary education.	1	2	3	4	5	6
20. I can choose post-secondary education courses that best fit my interests.	1	2	3	4	5	6

	Strongly Agree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
21. I will have my family's support to attend post-secondary education	1	2	3	4	5	6
22. I will make my family proud with my choices after high school.	1	2	3	4	5	6
23. I can pay for post-secondary education even if my family cannot help me.	1	2	3	4	5	6
24. I can get good grades in my high school math classes.	1	2	3	4	5	6
25. I can get good grades in my high school English classes.	1	2	3	4	5	6
26. I know enough about computers to be able to access them while in post-secondary education.	1	2	3	4	5	6
27. I can go to post-secondary education after high school	1	2	3	4	5	6

Circle the number that best indicates your agreement regarding your ability to do the following in post-secondary education:

	Strongly Agree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
28. I could take care of myself at post-secondary education.	1	2	3	4	5	6
29. I could get As and Bs in post-secondary education	1	2	3	4	5	6
30. I could get my family to support my wish of finishing post-secondary education	1	2	3	4	5	6

	Strongly Agree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
31. I could fit in with others in post-secondary education.	1	2	3	4	5	6
32. I could get good enough grades to get or keep a scholarship	1	2	3	4	5	6
33. I could finish post-secondary education and receive a degree or certification.	1	2	3	4	5	6
34. I could set my own schedule while in post-secondary education.	1	2	3	4	5	6
35. I could make friends with others at post-secondary education.	1	2	3	4	5	6
36. I could get the education I need for my choice of career.	1	2	3	4	5	6
37. I could get a job after I graduate from post-secondary education.	1	2	3	4	5	6
38. I would like being in post-secondary education.	1	2	3	4	5	6
39. I could be smart enough to finish post-secondary education	1	2	3	4	5	6
40. I could pick the right things to study to lead to my chosen career path.	1	2	3	4	5	6
41. I could do the classwork and assignments in post-secondary education.	1	2	3	4	5	6

Section IV. For each statement below, circle one number showing how likely you believe the statement to be. There are no right/wrong answers. Reminder, post-secondary education refers to military, vocational/trade schools, 2-year colleges, or 4-year universities.

	Very Unlikely	Unlikely	Somewhat Unlikely	Somewhat Likely	Likely	Very Likely
42. I will impress my family.	1	2	3	4	5	6
43. I will have better opportunities in life.	1	2	3	4	5	6
44. I will have the same friends as I do now.	1	2	3	4	5	6
45. I will contribute more to society as a result of post-secondary education.	1	2	3	4	5	6
46. I will make new friends.	1	2	3	4	5	6
47. I will make other people's lives better because of my continued education.	1	2	3	4	5	6
48. I will gain respect from others.	1	2	3	4	5	6
49. I will be proud of myself.	1	2	3	4	5	6
50. I will be prepared academically.	1	2	3	4	5	6
51. My parents will support my decision.	1	2	3	4	5	6
52. I will be successful in post-secondary education.	1	2	3	4	5	6
53. My parents will approve of me.	1	2	3	4	5	6
54. My friends will be happy My friends will be happy for me.	1	2	3	4	5	6
55. I will make a lot of money after I graduate.	1	2	3	4	5	6

Section V. In this section you will answer questions about post-secondary education and different requirements. Choose the answer you think is best.

56. What are *general college requirements*?
    a. AP classes and concurrent credit obtained in high school
    b. Basic writing, literature, math, history, and science courses
    c. Specialized, advanced classes taken during the final years of college to complete a certain major
    d. Note-taking and study skills required to excel in college

57. What is most likely to occur if a student attends a community college and then transfers to a four-year university to receive a degree?
    a. The community college will not assist the student if he or she tries to transfer.
    b. There will be less cost in obtaining the 4-year degree
    c. Most of the community college courses will not transfer to the 4-year university.
    d. The 4-year university will not accept a community college transfer student.

58. What is the best definition of a *bachelor's degree*?
    a. A 2-year degree that is usually earned at a community or technical college.
    b. A 4-year degree that is usually earned at a private or public university
    c. An advanced degree that usually requires at least six years to complete
    d. A term for that status of a male college student who is unmarried by graduation day

59. What is the best definition of an associate's degree?
    a. A 2-year degree that is usually earned at a community or technical college
    b. A 4-year degree that is usually earned at a public or private university
    c. An advanced degree that usually requires at least six years to complete
    d. A term for the status of any student who held associate-level positions in extracurricular activities while in college.

60. What expenses are included in college tuition?
    a. Cost of registering for and attending classes
    b. Books and other supplies
    c. Living expenses such as renting a dorm room or an apartment and the cost of food
    d. All of the above are included in college tuition.

61. Which of the following types of financial aid do you have to repay?
    a. Grants
    b. Scholarships
    c. Loans
    d. All of the above

62. What can be done at the applytexas.org website?
    a. Researching public colleges/universities in Texas
    b. Applying for scholarships
    c. Applying to public and some private Texas colleges and universities.
    d. All of the above

63. Why is it important to fill out the FAFSA (Free Application for Federal Student Aid) if you plan to attend college?
    a. It will reduce the cost of applying to college.
    b. It will determine eligibility for federal and state student financial aid.
    c. It is important for government census data.
    d. It will guarantee you scholarship if you fill it out.

64. After assessing the FAFSA (Free Application for Federal Student Aid), the federal government decides how much money a family should be able to give toward their child's college education. What is this figure is called?
    a. Grant
    b. Loan
    c. Expected Family Contribution (EFC)
    d. Cost of Attendance (COA)

65. If you get a college degree you are likely to earn approximately $50,000 per year; however, with only a high school diploma you will likely earn _____ per year.
    a. $48,000
    b. $38,000
    c. $28,000
    d. $18,000

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