SELF-PERCEPTION OF ACADEMIC SUCCESS IN FIRST-GENERATION AND CONTINUING-GENERATION COLLEGE STUDENTS

by

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A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

Masters of Arts in Psychology

Middle Tennessee State University

May 2021

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ACKNOWLEDGEMENTS

This thesis project would not have been possible without the assistance and encouragement from my thesis committee. I would like to thank Dr. Rust for guiding me throughout the whole process. I want to express gratitude to Dr. Brinthaupt for giving me edits and providing assistance with Qualtrics and SPSS. I could not have completed this thesis with the encouragement of my family. Specifically I would like to thank my mom for pushing me to complete my thesis and my dad for his support. Lastly, I would like to acknowledge the parents and children that allowed me to practice administering assessments over the past 2 years. This degree would not have been possible without you.

ABSTRACT

The purpose of this study was to examine if first-generation students differ from continuing-generation students at Middle Tennessee State University (MTSU) in their self-perception of college adjustment. I investigated possible differences between first-generation and continuing-generation students using measures of academic self-confidence, ratings of professors' perceived levels of support, and interactions with peers outside of class. All of these perceptions were hypothesized to be predictive factors of student motivation and self-rated academic success. Participants included 94 first-generation and 116 continuing-generation college students at MTSU who were enrolled in the general psychology class. Results showed a positive relationship between academic engagement and academic success, regardless of generation status. Interestingly, measures of family support were unrelated to self-ratings of academic success.

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CHAPTER I: INTRODUCTION

Importance of Being Successful in College

Obtaining higher education has many benefits not just personally but also for society. Receiving higher education, or a college degree, can lead to a higher salary and lower unemployment (Card, 1999). Completion of a college degree can also lead to financial security and employment opportunities not available to those who do not obtain a college degree (Pratt et al., 2019). Additionally, correlates of obtaining higher education are better health, fewer crimes committed, and increased civic participation such as voting (Lochner, 2011). Other benefits of higher education include higher job satisfaction and a sense of achievement (Oreopoulos & Salvanes, 2011). The annual earnings gap between individuals who graduated from college with a bachelor's degree and those who exited education with a high school diploma (that work full-time and are 25 or older) is roughly $21,000 (Baum, 2014). There is also a discrepancy between conditions of the job environment (e.g., flexibility and stability) for participants with a college degree versus those who do not have a college degree (Goldin & Katz, 2008; Kalleberg, 2011). Studies cited above support the idea that earning a bachelor's degree has positive benefits for an individual cognitively, socially, and economically. Society can benefit from people receiving higher education as well because higher education relates to economic growth (Braxton et al., 2004).

Factors that Correlate with College Success

In order to obtain a bachelor's degree, an individual must be successful in college. Studies suggest many factors play a role in predicting whether an individual will be successful in college. Pascarella et al. (2004) found that engaging in extracurricular activities, being involved in athletics, volunteering, and interacting with peers for nonclass activities often predict college success. Theses authors supported the interactionist theory proposed by Tinto (1975). The interactionist theory can be summarized as students getting involved socially involved at their university increases their chance of staying at the university and eventually graduating. The interactionist theory would predict that a student who has a supportive family would experience more commitment to the university, which in turn would result in higher levels of academic integration. It would also predict a positive association between being highly engaged and student success. Authors refer to involvement in the numerous activities offered at colleges as student engagement (Kim, 2009).

In addition to Tinto (1975), other researchers have theorized about factors that are correlated with academic success. These have been described as protective factors because they protect against adverse impacts of stress that college students report (Hébert, 2002). Examples of protective factors include a strong work ethic; supportive teachers and professors in grade school, high school, and college; high parental expectations; involvement in extracurricular activities; self-confidence; internal locus of control; effective use of support systems; and above-average cognitive ability (Hébert, 2002; Morales, 2008, 2010; Morales & Trotman, 2004). Flynn (2014) suggested that students' backgrounds and motivations also are important in academic success. According

to a study conducted by Hepworth et al. (2018), academic preparedness was found to predict academic success. Academic preparedness was also found to be a factor that correlates with college academic success in a study by Carama (2013).

Hopper (2011) reported that support services and availability of the university faculty were related to student academic success. Likewise, Tate et al. (2015) found that student support programs were helpful as students worked towards graduation. The availability of student supports plays a substantial role in college success (Gibbons et al., 2019). Results from Tinto's (1975) original study also found that a university's pledge to student success led to student persistence to graduation.

One study found that family pride was a factor that correlated with students remaining focused on reaching their academic goals (Hébert, 2018). Many successful students found support and encouragement from family, teachers, and mentors within the community. These teachers pushed students to challenge themselves in middle and high school to be successful in college (Hébert, 2018).

Another factor that has been shown to relate to academic success is a student's personality. Farsides and Woodfield (2003) suggest that openness and agreeableness, as part of the Big 5 personality traits, predict final grades in college. However, Chowdhury (2006) found openness and neuroticism personalities to be positively and significantly associated with academic achievement and more predictive of overall student grades than agreeableness and conscientiousness. Kappe and Flier (2012) and Wagerman and Funder (2007) found that conscientiousness is the leading predictor of academic success. Research is not consistent on which personality factors have stronger correlations with

final grades and academic achievement in college, but research does show that personality measures do correlate with college success.

College academic success and graduation have been predicted using variables such as high school success. High school success is based on high school grade point average (Rothstein, 2004) and performance on standardized achievement measures such as the ACT or SAT (Zwick & Sklar, 2005). High school grades have been suggested to be the best predictor of college academic success (Hoffman & Lowitzi, 2005; Livingston, 2007).

Conversely, a study conducted by Robbins et al. (2004) suggests that the most important predictor of student academic performance may be self-expectancy for high achievement. These authors found that college students who predicted that they would do well and pushed themselves to work hard, did well (Robbins et al., 2004). Another term for this is education self-efficacy. Education self-efficacy is an individual's faith in their ability to perform an educational task (Bandura, 1982).

In summary, many factors have been found that correlate with academic success in college. Likewise, students have varying degrees of these supports and characteristics. Some recent researchers have discovered that first-generation college students are a unique subgroup in that they face many additional challenges as well as some advantages compared to continuing-generation college students (Covarrubias et al., 2019).

First-generation college students are defined as college students whose parents or guardians did not graduate from a 4-year university (Soria & Stebleton, 2012). A student who has at least one parent who has obtained a bachelor's degree is considered to be a continuing-generation student (David, 2010). First-generation college students comprise

roughly 56% of the undergraduate population during the 2015-16 academic year (National Data Fact Sheets, 2019). More recently, in the 2018-19 school year, nearly a third of undergraduate students in the United States were considered first-generation college students (EAB, 2018).

Characteristics of First-Generation College Students

It is important to recognize that first-generation college students experience college differently than their peers. First-generation college students are more likely to be classified as coming from minority racial or ethnic groups (Nunez & Cuccaro-Alamin, 1998). Compared to their peers, first-generation college students are more likely to report lower socioeconomic backgrounds. First-generation college students are more likely than continuing-generation college students to live at home, commute, and work off-campus. According to Pascarella et al. (2004), these students are more likely than their peers to work more hours and more likely to have attended high schools with less challenging curricula compared to continuing-generation college students. First-generation college students are also less likely to take Advanced Placement (AP) courses in high school. Because of the lack of challenging academic high school classes, first-generation college students are often less academically prepared for college than their peers (Engle & Tinto, 2008).

In addition to academic differences, first-generation college students often differ in social skills and social experiences that correlate with successful college careers compared to continuing-generation college students. These skills and experiences are referred to as social capital (Pascarella et al., 2004). Researchers such as Bourdieu (1986) have described social capital as the personal advantages that come with a lifetime of

experiences in one particular identifiable group. Pascarella et al. (2004) expanded on Bourdieu's concept as it relates to life in American colleges by relating college success to social skills, family resources, and acquired information through privileged networks. Through these networks and contacts, individuals are able to gain social capital, which correlates with college success. Continuing-generation college students are thought to receive social capital from their parents and their parents' experiences in college. First-generation students often lack access to social capital. This lack of social capital can inhibit first-generation college students from becoming aware of activities on campus that are designed to promote success in college (Kim, 2009).

Behavioral Correlates of First-Generation College Students

Research shows that some first-generation students report feeling that they do not matter to their university and that they are generally disconnected from other students. Others report lower self-esteem compared to their peers (Aspelmeier et al., 2012). First-generation students often lack confidence in their academic preparedness for college (Duggan, 2001).

Morales (2012) looked at the characteristics of first-generation students that related to successful versus unsuccessful college careers. Morales described success as students earning a minimum of a 2.75-grade point average in their first semester at college. When successful students had questions or were confused or uncertain about assignments, they often sought help from various resources including parents, peers, professors, student handbooks, upperclassmen, other family members, and counselors. As first-generation students were unable to seek experienced help from their families, they often had to step out of their comfort zone to get the help they needed.

Early diligence was another common factor among successful first-generation students in this study. Students reported that early diligence of starting off the semester getting ahead and working hard played a role in their academic success (Morales, 2012).

Outcomes Associated with Being a First-Generation College Student

Research shows that first-generation college students are less likely to choose a major in the STEM field (science, technology, engineer, and mathematics); (Dika & D'Amico, 2016). Compared to continuing-generation college students, first-generation students are registered for fewer credit hours per semester (Pascarella et al., 2004). Academic advising, tutoring programs, and counseling programs provide a small impact on helping first-generation college students overcome their lack of academic preparedness (Pascarella & Terezini, 2005).

Ishitani (2003) found that, compared to continuing-generation college students, first-generation college students are 71% more likely to quit college in their freshman year. Previous research has shown that compared to students whose parents earned bachelor's, degrees first-generation students are twice as likely to leave a 4-year university before their sophomore year (Choy, 2001). Overall, first-generation college students were more likely to leave college before obtaining a degree and less likely to re-enroll in the future (Choy, 2001; Ishitani, 2006).

Challenges for First-Generation College Students

There are many challenges that first-generation students face. These challenges include the role of family support and their role within the family once they start college. Challenges also include the changing of their value and belief systems (Miller & Tatum,

2007). When first-generation students visit or return home, they are often teased about their new ideas and their noticeable outwards differences including clothing, hairstyles, and taste in music (Miller & Tatum, 2007).

Even though families can be a supportive factor in college success, the family can also be considered a barrier. First-generation college students in a study conducted by Gibbons et al. (2019) mentioned that their parents had difficulty letting go. Some students reported that their parents' lack of college experience created a barrier because their parents were not able to give advice or help with the transition to college (Gibbon et al., 2019). Some first-generation college students reported even though they were away at college, they often had to solve family issues (Hébert, 2018). Many first-generation college students have one or more of three identified roles within their families. London (1992) described these roles in a seminal paper. The roles or modes were: the binding mode (parents interact with children in a way that ties them to the family, the child doesn't leave), the delegating mode (the child moves away but remains tied to their parents and maintain a sense of loyalty) and the expelling mode (parents neglect and reject the child and consider the child a nuisance and hindrance to the parents personal goals). Each of these different modes of interaction was thought to play an important role in how first-generation students transition into college (London, 1992). These different modes provide a way of understanding the pressures faced by first-generation college students when they make the transition to college.

Some parents of first-generation college students reported wanting to help their child but were unsure how to help because of their limited college experience. Parents of

first-generation college students will often leave academic decisions such as dropping classes or changing majors up to their children (Hamilton et al., 2018).

Achievement or opportunity guilt can also be recognized as a challenge or disadvantage that first-generation college students face. First-generation students may feel guilty about their opportunity to further their education while their parents and other family members were not able to have those opportunities. When achievement guilt is paired with doubts about leaving their family, there is a greater risk of depression (Covarrubias et al., 2015; London, 1989; Whitten, 1992).

Collier and Morgan (2007) found that first-generation students often fail to understand the college culture. College students from affluent families have parents who were able to offer advice on many different topics like academic subjects and career choices. These parents were also able to help navigate their children through college.

In addition to the previous studies that focus on how the first-generation students feel about college, some researchers have used behavior-rating scales to compare first-generation students to continuing-generation students. First-generation students are less likely to ask questions in class and meet with professors for extra help (Jenkins et al., 2009). Research also supports the idea that first-generation students have more difficulty in understanding professors' expectations on assignments (Collier & Morgan, 2008). Soria and Stebleton (2012) found first-generation college students were less likely than continuing-generation students to participate in discussions and ask questions in class.

Lowery-Hart and Pacheco (2011) found first-generation college participants reported they were less involved in many different aspects of the college lifestyle. First-generation college students are often disconnected from the typical college social

structure and sometimes they express fear that being involved in the common social structure will isolate themselves from preexisting social systems like their families (Covarrubias & Fryberg, 2015).

Lack of information regarding the different aspects of college is also another disadvantage that first-generation college students may face. Lack of information involves inadequate knowledge about financial aid to activities available on campus (Gibbon et al., 2019). Hébert (2018) found that participants reported that a challenge they faced was their family's absence of knowledge about the process of applying to college including deadlines, finding scholarships, and applying for financial aid. Although participants' parents were proud of their children's willingness to apply to college, they did not have sufficient knowledge of application and funding details to help with the admissions process.

Studies suggest that first-generation college students have a harder time with the transition to college (Clark, 2005; Gardner & Karri, 2011). Rabb & Adam (2005) noted a major issue for colleges that have underprepared and underrepresented students is focusing on transitional issues during students' first year of college. First-generation students are often underprepared for college and have to take more remedial classes once they begin college. Those extra classes hinder their progression towards graduation when compared to continuing-generation college students (Gibbons & Woodside, 2014). Likewise, first-generation students often report struggling with time-management (Reid & Moore, 2008). Compared to continuing-generation college students, first-generation students tend to have more fears of failure (Bui, 2002). In summary, reasons that make the transition difficult include language barriers related to college terminology, lack of

cultural and social capital, unequal school funding opportunities, and parents' lack of experience with higher education (Gardner, 2007).

Advantages of Being a First-Generation College Student

Although, there are a host of challenges associated with being a first-generation college student, there are also some potential advantages. In a study investigating decision to attend college, many first-generation college students spoke of potential scholarships as one of the factors that they considered. Financial supports from scholarships may turn students' dreams of going to college into a reality. When students experience some doubts about attending college, the potential for an increase in lifetime earnings was seen as a motivation to attend (Gibbons et al., 2019). Studies have found that first-generation students from low-income families receive more assistance from state and federal programs when compared to continuing-generation students. That extra support allows first-generation students access to higher education opportunities (Miller & Tatum, 2007).

Typically, families with college students provide important emotional support. Even though parents of first-generation college students did not attend college, they have been reported to encourage their children to be successful in college. First-generation college students reported that their parents and families provided the emotional foundation for them to navigate through all the unknowns and uncertainties (Gibbons et al., 2019).

Mentors with college experience, such as former teachers, school counselors, and friends provide support about the college experience to first-generation students. Mentors are able to provide support that families may be unable to give (Gibbons et al., 2019).

Several studies suggest that first-generation college students who reported experiences with helpful and supportive mentors tend to have increased college success (e.g., Bryan, & Simmons, 2009; Stephens et al., 2014).

Besides receiving support from family and mentors, first-generation college students reported obtaining guidance from student services, faith leaders, and friends (Gibbons et al., 2019). Students mentioned that knowing what supports they needed and how to access the supports played an important role in their success at college (Gibbons et al., 2019).

Middle Tennessee State University's Support for Student Success

The administration and faculty at Middle Tennessee State University (MTSU) believe that when students become involved in campus activities, it gives students the ability to learn outside of the classroom (Our Mission, 2019). MTSU offers over 300 undergraduate programs that range from Accounting to Plant and Soil Science (Programs of Study, 2019) and the university provides many extracurricular opportunities for students. The Student Organizations and Service office helps students to get involved in many different areas. For example, they encourage and support students' efforts to create student organizations that match their interests, to volunteer their time to help those organizations assist the community, and to attend leadership conferences to help those organizations thrive (Our Mission, 2019).

The Office of Student Success at MTSU was created to implement programs to enhance campus engagement for all students. The Office of Student Success focuses on five ways to improve student success. They offer services in advising enhancement,

communication plans and systems, redesign of courses to promote student understanding, tutoring, and supplemental instruction (Our Mission, 2019).

Middle Tennessee State University's Support for First-Generation Students

Currently at MTSU, out of the 21,803 total students enrolled, 25% are first-generation college students (Board of Trustees, 2020). MTSU has become one of the leading universities in Tennessee for first-generation college students (Middle Tennessee State University, 2020). MTSU has a federally funded program (TRiO Student Support Services, 2019) that is specific to first-generation college students and/or low-income students. TRiO Student Support Services offers free assistance to students in the following areas: tutoring, financial advising, academic and career counseling, personal support and encouragement, grants/scholarship awards, cultural and campus events, success workshops, and computer/resource lab. The mission of the TRiO Student Support Services is to encourage students to achieve personal and academic success (TRiO Student Support Services, 2019).

TRiO Student Support Services provide free one-on-one tutoring programs for participants in all general education courses. The program also offers members one-on-one advising and counseling services in the following areas: academic, major and career, financial aid, personal support and encouragement, and referrals to appropriate departments. It offers grants that are only available to first-generation college students. For their members, TRiO Student Support Services provides many workshops on topics such as time management, and they encourage first-generation college students to explore graduate schools that are of interest to them (TRiO Student Support Services, 2019).

Summary

Broadly speaking, graduation from a university is an important goal for many high school students and their families. First-generation students face numerous challenges and some advantages in reaching that goal. Universities such as Middle Tennessee State University are investing in programs specifically designed to assist first-generation students.

Purpose of Present Study

The purpose of the present study was to determine if first-generation students at Middle Tennessee State University differ from continuing-generation students in their expectations of perceived academic success. Further, my goal was to compare the relationship of academic engagement and expected success among first-generation students to the relationship of academic engagement and academic success among continuing-generation students. Additionally I was eager to see if there are measures of family or peer support that distinguish first-generation students from continuing-generation students.

The literature review suggests that many factors are predictive of college success, but I chose to look specifically at supportive professors, self-confidence related to academic preparedness, and interacting with peers outside of the class setting as predictive factors of student motivation and success. I chose supportive professors because Hopper (2011) and Hébert (2002) found that supportive faculty and staff are related to student success. Hepworth et al. (2018) along with Morales and Trotman (2004) found self-confidence related to academic preparedness as a predictive factor of

student success. Tinto's (1975) interactionist theory supports the notion of student involvement in campus activities relating to academic success. I wanted to see if these factors (supportive professors, self-confidence related to academic preparedness, and interactions with peers outside of classroom) were predictive of student motivation and success at MTSU and then to consider group differences based on first-generation and continuing-generation status. I chose to use the Academic Success Inventory for College Students and the Student Engagement Instrument-College Version to assess those areas mentioned above in first-generation and continuing-generation college students.

Hypotheses

The current study was designed to address the following questions based on previous research:

1. Students who are more academically engaged will show greater self-perception of academic success, compared to students who are not academically engaged with their professors. This hypothesis is supported by Hopper (2011), who reported that the openness of university faculty and professors was related to student academic success. This hypothesis will be tested by a Pearson's *r* correlation.

2. Continuing-generation college students should have higher expected confidence than first-generation college students. This is suggested based on the idea that first-generation students are less prepared for college and lack confidence in their academic preparedness (Duggan, 2001). This will be tested by an independent sample *t*-test.

3. First-generation college students who are more academically engaged with their professors will show greater self-perception of academic success, compared to first-

generation college students who were not academically engaged with their professors. This hypothesis is supported by Hopper (2011), who reported that the openness of university faculty and professors was related to student academic success. This hypothesis will be tested by a Pearson's *r* correlation.

4. The correlation of family support and motivation to succeed will differ between continuing-generation college students compared to first-generation college students. This is supported by Tinto's (1975) interactionist theory. This hypothesis will be tested by a Pearson's *r* correlation.

Supplemental Hypotheses/Analyses

1. First-generation college students of nontraditional age (older than 20) are more aware of the relevance of their academic work compared to those of traditional age (18 and 19). This will be tested by a Pearson's *r* correlation.

2. The correlation of peer support and motivation to succeed will differ between continuing-generation college students compared to first-generation college students.

3. The complete correlation of variables will be examined for exploratory purposes.

CHAPTER II: METHOD

Participants

After receiving institutional review board (IRB) approval (See Appendix A), undergraduates attending Middle Tennessee State University (MTSU) and enrolled in General Psychology 1410 were recruited to complete the survey (See Appendix B), using Qualtrics. Recruitment was voluntary and participants received class credit for participating in the study.

For the sample of respondents (N = 210), 44.8% (n = 94) were first-generation college students, those whose parent/guardian(s) did not earn a bachelor's degree and 55.2% (n = 116) were continuing-generation college students. Of the total number of participants, 23.3% (n = 49) were male, 76.2% (n = 160) were female, and 0.5% (n = 1) identified their gender as other. Only 1% (n = 2) of participants had participated in the TRiO program at MTSU. Table 1 contains the demographic information for participants. Participant's ages ranged from 18 to 44 years with a mean of 19.57 years old (SD = 3.46). The average self-reported high school GPA of participants was 3.63 (SD = .42), while their current self-reported GPA average was 3.41 (SD = .60).

Table 1

Demographic Information of Participants

Variables	n	%
Gender		
Male	49	23.3
Female	160	76.2
Other	1	.5
Participated in TRiO		
Yes	2	1
No	207	98.6
No response	1	.4
Older Sibling or Step-Sibling Attended College		
Yes	95	45.2
No	115	54.8
Highest Educational Attainment Obtained by Other Sibling or Step-Sibling		
Less than High School Graduate	5	2.4
High School Graduate or GED	36	17.1
Some College or Associate Degree	39	18.6
Bachelor's Degree	46	21.9
Graduate or Professional Degree	8	3.8
Only Child or Oldest Sibling	76	36.2
Highest Educational Attainment Obtained by Parent/ Guardian		
Less than High School Graduate	8	3.8
High School Graduate or GED	44	21.0
Some College or Associate Degree	42	20.0
Bachelor's Degree	65	31.0
Graduate or Professional Degree	51	24.3
Highest Educational Attainment Obtained by Grandparent(s)		
Less than High School Graduate	25	11.9
High School Graduate or GED	83	39.5
Some College or Associate Degree	41	19.5
Bachelor's Degree	34	16.2
Graduate or Professional Degree	26	12.4
No Response	1	.5

Measures

Personal Data Form

Each participant completed a personal data form created by the researcher to collect additional background information. I asked participants to provide their age, gender, high school grade point average, current grade point average, as well as their parents'/guardians' education attainment status. Questions also asked participants if their older siblings had attended college and if they are currently participating or have participated in the TRiO program. I included additional questions to address participants' sense of belongingness at MTSU and the supportiveness of staff from their high school. Questions on the personal data form included, I feel a sense of belongingness/connected to MTSU, my high school staff (advisor, counselor, school psychologist, teachers, etc.) were helpful in my transition to college, the guidance I received from my high school staff (advisor, counselor, school psychologist, teacher, etc.) was very helpful, and prior to starting college, I talked to or got useful information from any immediate or extended family members who had attended (or graduated from) college.

All demographic information was reported by the participants. Age, high school grade point average, and current grade point average were reported numerically. The same is true for questions related to other siblings (1 = *yes*, 2 = *no*), participation in TRiO (1 = *yes*, 2 = *no*), and educational attainment status for family members (1 = *Less than High School Graduate*, 2 = *High School Graduate or GED*, 3 = *Some College or Associate Degree*, 4 = *Bachelor's Degree*, 5 = *Graduate or Professional Degree*, 6 = *Not Applicable*). Statements on the personal data form that asking participants about

supportive staff and sense of belongingness to MTSU were reported on a 5-point Likert scale (1 = *Strongly Disagree*, 5 = *Strongly Agree*).

Student Engagement Instrument- College Version (SEI-C)

Waldrop et al. (2018) adapted the middle and high school version of the Student Engagement Instrument (SEI) into the college version. Some of the wording was changed (e.g., school replaced with university, teachers replaced with professors). Waldrop et al. then conducted a study to evaluate the psychometric properties of the Student Engagement Instrument-College (SEI-C) version using college students from a large public university located in the southeastern United States. Correlational analyses between the SEI-C five factors and the Motivation and Engagement Scale- University/ College (MES-UC) four factors supported evidence of convergent and divergent validity. Overall, the results of the study suggest that extending the SEI for use with college students is appropriate (Waldrop et al., 2018).

The Student Engagement Instrument (SEI) has a total of 33 items that measure cognitive engagement and feelings of engagement for students in school (Appleton et al., 2008). Items on the SEI are recorded on a 4-point Likert scale (1 = *Strongly Agree*, 4 = *Strongly Disagree*). A low score demonstrates a high level of student engagement and a high score indicates a low level of student engagement. The SEI was originally designed for students in middle and high school and was normed on a diverse group of 1,931 ninth graders (Appleton et al., 2006). Reliably and validity of the SEI have been supported for five factors using middle and high school. The five factors of the SEI measure different aspects of student engagement: Family Support for Learning (FSL); (e.g., My family/guardians are there for me when I need them.), Future Aspirations and Goals

(FG); (e.g., A college degree is important for achieving my future goal.), Peer Support at University (PSS); (e.g., I have some friends at my university.), Control and Relevance of University Work (CRWS); (e.g., What I'm learning in my classes will be important in my future.), and Professors-Student Relationships (PSR); (e.g., At my university, professors care about students.); (Betts et al., 2010). The SEI has been correlated with reading and math achievement, grade point average, and other measures of academic performance (Appleton et al., 2006). On the high school sample, internal consistency reliability ranged from .76 to .88 (Appleton et al., 2006).

Participants' rated all SEI-C items using a 4-point Likert scale (1 = *Strongly Agree*, 4 = *Strongly Disagree*). The items related to subscales were added together and divided by the total number of items in the scale to get the adjusted raw subscale total. For SEI-C Total, all items were added together and divided by 35 to provide the SEI-C adjusted total raw score.

Academic Success Inventory for College Students

The Academic Success Inventory for College Students (ASICS) has a total of 50 items that measure areas related to academic success (Prevatt, et al., 2011). Students are asked to identify their hardest or most difficult class they took during the last year and answer all the items based on the class they identified. There are 10 subscales:

- General Academic Skills (e.g., I was good at setting specific homework goals.)
- Internal Motivation/ Confidence (e.g., I felt pretty confident in my skills and abilities in this class.)

- Perceived Instructor Efficacy (e.g., The instructor in this class really motivated me to do well.)
- Concentration (e.g., I got easily distracted in this class.)
- External Motivation/ Future (e.g., This class is important to my future success.)
- Socializing (e.g., My grades suffered because of my active social life.)
- Career Decidedness (e.g., I know what I want to do after I graduate.)
- Lack of Anxiety (e.g., I got anxious when taking tests in this class.)
- Personal Adjustment (e.g., Personal problems kept me from doing well in this class.)
- External Motivation/ Current (e.g., I worked hard in this class because I wanted others to think I was smart.)

The ASICS items are rated with a 7-point Likert scale (1 = *Strongly Disagree*, 7 = *Strongly Agree*). The ASICS' pilot study took place at a large public university in the southeastern United States with 315 students. A follow up study (Prevatt et al., 2011) had 930 students with most of the students in their first year at a large public university. Results found that the10 subscales explained 64% of the variance. Internal consistency was measured using Cronbach alphas. Cronbach coefficient alphas for the 10 subscales range from .96 (General Academic Skills) to .62 (External Motivation/Current). Although no validity information is included, these authors concluded that the ASICS could be used to identify first-year students who are at risk, or those students who may need remediation (Prevatt et al., 2011). For the current study, the items related to subscales were added together and divided by the total number of items in the scale then multiplied

by 14.28 to get the adjusted raw subscale totals. There are 10 subscales on the ASICS and there is no total score.

Procedures

The study took place from August to November 2020. Participants were recruited from the MTSU general psychology research pool, but were excluded if they were younger than 18 years of age. Before the participants began the study, they gave consent by completing the IRB approved consent form.

Next, participants completed the SEI-C and ASICS. The order in which participants completed theses measures was determined randomly. Then, participants completed the personal data form that included information regarding their self-reported high school grade point average and parent/guardian educational attainment. Once participants completed the survey, they were directed to a page thanking them for completing the survey and debriefing them regarding the study.

CHAPTER III: RESULTS

Preliminary Analyses

Descriptive statistics (number of participants, mean, standard deviation, and range) were calculated for all subscales completed by participants. Table 2 contains the descriptive statistics.

Table 2

Descriptive Statists for Administered Scales

Subscales	n	Mean	Standard Deviation	Range
SEI-C				
Control and Relevance of University Work	207	2.00	.41	.44 - 2.89
Peer Support at University	207	1.99	.53	.00 - 3.00
Future Aspiration and Goals	208	2.53	.48	1.00 - 3.00
Family Support for Learning	210	2.56	.60	.00 - 3.00
Professors-Student Relationship	208	2.22	.42	1.00 - 3.00
SEI-C Total	202	2.21	.30	1.45 - 2.85
ASICS				
Career Decidedness	210	78.51	22.41	14.28-99.96
Internal Motivation/ Confidence	206	60.03	17.94	16.06-99.96
External Motivation/ Future	208	57.81	25.89	14.28-99.96
General Academic Skills	204	72.05	17.54	14.28-99.96
Lack of Anxiety	209	33.18	19.54	14.28-99.96
Concentration	210	47.87	21.91	14.28-99.96
External Motivation/ Current	208	75.45	15.70	14.28-99.96
Personal Adjustment	208	61.10	26.15	14.28-99.96
Perceived Instructor Efficacy	206	63.72	25.12	14.28-99.96
Socializing	209	86.31	16.32	24.99-99.96
Personal Data Form				
Age	210	19.57	3.46	18-44
Self-Reported Current GPA	185	3.41	.60	0-4
Self-Reported High School GPA	205	3.63	.42	2-5
Sense of Belongingness/Connectedness to MTSU	210	3.60	.98	1-5
High School Staff Helpful	209	3.26	1.28	1-5
Guidance from High School Helpful	210	3.18	1.27	1-5
Received Useful Information from Family who Attended College	210	3.33	1.41	1-5

Adjusted raw scores from the SEI-C and the ASICS as well as numerical values (age, self-reported high school GPA, and current self-reported GPA), Likert scale ratings, and dummy coded variables from the personal data form were used to test my hypotheses. I conducted supplementary analyses as well to provide suggestions for future research. Table 3 contains coefficient alphas for the subscales of the SEI-C from the current study and a previous study. Table 4 contains coefficient alphas for the subscales of the ASICS from the current study and a previous study.

Table 3

Coefficient Alphas of Subscales for SEI-C

Subscale	Current Study	Grier-Reed et al. (2012)
Professor Student Relationship	.87	.85
Control and Relevance of University Work	.73	.78
Peer Support at University	.89	.82
Future Aspirations and Goals	.77	.79
Family Support for Learning	.91	.79
SEI-C Total	.88	.91

Table 4

Coefficient Alphas for Subscales for ASICS

Subscale	Current Study	Prevatt el al., (2011)
Career Decidedness	.89	.87
Internal Motivation/Confidence	.84	.86
External Motivation/Future	.89	.88
General Academic Skills	.92	.93
Lack of Anxiety	.82	.77
Concentration	.89	.87
External Motivation/Current Time	.44	.62
Personal Adjustment	.87	.86
Perceived Instructor Efficacy	.92	.92
Socializing	.74	.84

Hypothesis 1

Using my entire sample, I hypothesized that students who are more academically engaged would show greater self-perception of academic success, compared to students who are not academically engaged with their professors. A Pearson's *r* correlation coefficient was computed to assess the relationship between students who are academically engaged with their professors and their self-perceived academic success, as measured by the External Motivation/Future subscale of the ASICS. There was a small positive correlation between the two variables, $r\ (204) = .14$, $p < .05$. Students who are academically engaged with their professors were somewhat more likely to have academic success. Thus, Hypothesis 1 was supported.

Hypothesis 2

I hypothesized that continuing-generation college students would have higher expected confidence compared to first-generation college students. The independent sample *t*-test ($\alpha = .05$) indicated that the level of confidence, as measured by Internal Motivation/Confidence subscale of the ASICS, was similar for first-generation ($M = 61.59$, $SD = 17.13$, $n = 93$) and continuing-generation ($M = 58.75$, $SD = 18.55$, $n = 113$) college students, $t\ (204) = 1.13$, $p = .26$. These results indicate that confidence levels did not differ between first-generation and continuing-generation college students. Thus, there was no support for this hypothesis.

Hypothesis 3

I hypothesized that first-generation students who are more academically engaged with their professors would show greater self-perception of academic success, compared to first-generation college students who were not academically engaged with their

professors. A Pearson's *r* correlation coefficient was computed to assess the relationship between being academically engaged with their professors and self-perceived academic success among first-generation students. There was a positive correlation between the two variables, $r\ (89) = .30$, $p < .01$. First-generation college students who were academically engaged with their professors were more likely to have a higher self-perception of academic success. Thus, this hypothesis was supported.

Hypothesis 4

A Pearson's *r* correlation coefficient was computed to assess the relationship between family support and motivation to succeed among first-generation college students compared to the relationship between family support and motivation to succeed among continuing-generation college students. There was a nonsignificant correlation between the two variables for first-generation students, $r\ (91) = .08$, $p = .42$, and likewise a nonsignificant correlation between the two variables for continuing-generation students, $r\ (113) = .07$, $p = .46$. Neither first-generation college students nor continuing-generation college students showed significant relationships between family support and motivation to succeed. Thus, there was no support for Hypothesis 4.

Supplemental Analysis 1

I hypothesized that first-generation college students of non-traditional age (older than 20) would be more aware of the relevance of their academic work compared to those of traditional age (18 and 19). There was a nonsignificant difference in the scores for first-generation of nontraditional age ($M = 2.00$, $SD = .03$) and first-generation college students of traditional age ($M = 1.99$, $SD = .44$) conditions; $t\ (205) = .29$, $p = .77$. These

results suggest that first-generation college students do not differ in their awareness of relevance of their academic work no matter their age.

Supplemental Analysis 2

A Pearson's *r* correlation coefficient was computed to assess the relationship between peer support and motivation to succeed among first-generation college students compared to the relationship between peer support and motivation to succeed among continuing-generation college students. There was a nonsignificant correlation between the two variables for first-generation college students, $r = -.08$ $n = 93$, $p = .43$. Likewise I found a nonsignificant correlation between the two variables for continuing-generation college students, $r = -.03$, $n = 115$, $p = .77$. Neither first-generation nor continuing-generation college students showed significant relationships between peer support and motivation to succeed.

Supplemental Analysis 3

A complete correlation of variables was conducted for exploratory purposes and results for the SEI-C, ASICS, and self-reported high school GPA are presented in Table 5.

There was a significant correlation between the Family Support for Learning subscale on the SEI-C and the SEI-C Total ($r = .44$, $n = 202$, $p < .01$), Future Aspiration and Goals subscale of the SEI-C ($r = .14$, $n = 208$, $p < .05$), Control and Relevance ($r = .17$, $n = 207$, $p < .05$), Professor Student Relationship ($r = .22$, $n = 208$, $p < .01$), Personal Adjustment ($r = .27$, $n = 208$, $p < .01$). All other correlations of the Family Support for Learning subscale to other variables were nonsignificant.

There was a significant correlation between self-reported current Grade Point Average (GPA) and Internal Motivation/Concentration subscale of the ASICS (r = .24, n = 183, p < .01), General Academic Skills (r = .22, n = 181, p < .01), Concentration (r = .17, n = 185, p < .05), Perceived Instructor Efficacy (r = .15, n = 182, p < .05), and self-reported high School GPA (r = .42, n = 182, p < .01). All other correlations of self-reported current GPA to other variables were nonsignificant.

There was a significant correlation of age and self-reported high school GPA (r = .42, n = 205, p < .01). All other correlations with age were nonsignificant. Due to a limited number of participants reporting they were in the TRiO program, no analyses were conducted to examine possible correlations linked to enrollment in that program.

Table 5

Correlations of Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	-	.63	.52	.78*	.73	-	.23	.20	.34	.21	.25	.23	-	-	-	.19
2	.63	-	.20	.48	.28	.23	-	.17*	.35	-.30	.17*	.29	-	-	.15*	.15*
3	.52	.20	-	.22	.16*	-	-	-	.15*	-	.17*	.29	-	-	.15*	.15*
4	.79	.48	.22	-	.51	-	.22	.24	.41	-.15	.24	.25	-	-	-	.14*
5	.73	.28	.16*	.51	-	-	.14*	.14*	.17*	-	.14*	.16*	-	.17*	-	-
6	-	.23	-	-	-	-	-	-	.30	-	.15*	-	-	-	.16*	-
7	.23	-	-	.22	.14*	-	-	.32	.28	.25	.53	.22	-	.37	-	-
8	.20	.17	-	.24	.14	-	.32	-	.28	-	.24	.30	-	.26	-	-
													.17*			
9	.34	.35	.15*	.41	.17*	.30	.28	.28	-	-.35	.40	.42	.18	-	.33	-
10	-.21	-.30	-	-.15	-	-	.25	-	-.35	-	.17*	-.24	.15*	-	-	-
11	.25	.17*	-	.24	.14*	.15*	.53	.24	.40	.17	-	.18	.30	.29	.20	-
12	.23	.29	-	.25	.16*	-	.22	.30	.42	-.24	.18	-	-	.26	-	-
13	-	-	-	-	-	-	-	-	.18	.15*	.29	-	-	-	.34	-
								.17*								
14	-	-	-	-	.17*	-	.37	.26	-	-	.29	.26	-	-	.16*	-
15	-	.15*	-	-	-	.16*	-	-	.33	-	.20	-	.34	.16*	-	-
			.16*													
16	.19	.15*	.17*	.14*	-	-	-	-	-	-	-	-	-	-	-	-

*Correlation is significant at the 0.05 level
All other correlations are significant at the 0.01 level

Note. 1= SEI-C Total; SEI-C subscale: 2= Future Aspirations and Goals; 3= Peer Support; 4= Control and Relevance; 5=Professor-Students Relationship; ASICS subscales: 6= Career Decidedness; 7=Internal Motivation/Confidence; 8=External Motivation/Future; 9= General Academic Skills; 10=Lack of Anxiety; 11=Concentration; 12=External Motivation/Current Time; 13=Personal Adjustment; 14=Perceived Instructor Efficacy; 15=Socializing; 16= Self-Reported High School GPA.

CHAPTER IV: DISCUSSION

The results of the current study supported Hypothesis 1 and showed that students who are academically engaged with their professors are more likely to regard themselves as having academic success. Similar to the current study, Hopper (2011) found that the availability of university faculty was related to student academic success. Participants in Hopper's study engaged in weekly interactions with faculty in an informal setting. This allowed for more direct contact and made students feel more comfortable asking questions in class. The significant correlation from the current study demonstrates that academically successful participants indicated that they felt their professors were there for them, that their professors were interested in them as a person and not just as a student, and that their professors were open and honest. Likewise less successful participants reported lower overall engagement with their professors. Hébert (2002) also supports this concept as the study found that supportive faculty and staff were related to student success. Research thus supports the idea that as students are more academically engaged with their professors, the more their chances of being successful in the class increases.

The results of the current study also supported Hypothesis 3 and showed that first-generation college students who are academically engaged with their professors are more likely to have a higher self-perception of academic success when compared to first-generation students who are not academically engaged with their professors. Based on the results for the overall sample, it was not surprising that the correlation held true for a subset of participants. Even though Engle and Tinto (2008) found that first-generation college students are typically less academically prepared for college than their peers, the

current study suggests that if first-generation students are able to engage with their professors, their chances of being academically successful increases. This finding is consistent with Morales (2012) who found that successful first-generation students engaged with their professors when they had questions and/or were confused or uncertain about assignments.

The results of the current study did not support Hypothesis 2; instead results indicated that confidence levels do not differ between first-generation and continuing-generation college students. Duggan (2001) found that first-generation college students often lack confidence in their academic preparedness for college. Similarly, the Aspelmeier et al. (2012) study suggests that first-generation college students reported lower self-esteem compared to their peers. Based on the findings from Duggan (2001) and Aspelmeier et al. (2012), it was expected that first-generation students would differ from continuing-generation college students in their confidence levels. One explanation for the discrepancy between the current study and past studies is that participants were in their first semester of college when the study was conducted. Therefore, students may have been in less challenging classes compared to the classes offered to college juniors or seniors. If first-generation students perceived their classes as easy then their confidence may have not been affected as in previous studies.

Hypothesis 4 stated that the correlation of family support and motivation to succeed would differ between first-generation and continuing-generation college students. This hypothesis was not supported. Rather, neither first-generation nor continuing-generation college students showed a significant relationship between family support and motivation to succeed. These correlations did not differ significantly. This

finding is not consistent with Tinto's (1975) interactionist theory, which predicts that college students who have a supportive family would experience more commitment to their university, which would result in higher levels of academic success (Tinto, 1975). In addition, Hébert (2018) found that family pride was a factor that correlated with students remaining focused on reaching their academic goals. In this study, family pride was described as parents being proud of their children for attending college. The Tinto and Hébert studies suggest that students who have a commitment to the university or family pride would display more motivation to succeed academically. One potentially important difference between the current study and previous studies is that participants completed this survey during a global pandemic in which a majority of their classes were online. The health crisis may have cast a shadow over the present findings and diminished group differences between first-generation and continuing-generation students. Since participants were primarily completing their classes remotely via eLearning their families may not have understood that they were actively attending school. Therefore, families may not have shown the support they typically would have if their children had been enrolled during a typical college semester. Families also may have had difficulty finding ways to encourage and support their children since they also were also adjusting to changes associated with the global pandemic.

Supplemental Hypotheses/Analyses

The supplemental analyses found a positive correlation between self-reported high school GPA and future goals and aspirations. French et al. (2015) found that high school GPA is positively correlated with future salaries. This suggests that early

academic success is a predictor of future outcomes. It was also no surprise that current self-reported college GPA was correlated with self-reported high school GPA.

Also unsurprisingly, I found that there was a positive correlation between family support for learning and personal adjustment. Participants who had family members who were supportive and encouraging tended to report fewer personal issues that interfered with their academic performance. This correlation is supported by Wodka and Barakat (2007) who found that as family support increases, life events such as depression and anxiety decrease.

The results indicated that the age of a student does not matter when it comes to realizing the relevance of coursework to the student's future career. The results also indicated that peer support and motivation to succeed did not differ between first-generation and continuing-generation college students. Results likes this may be another example of how the on-going health crisis may have masked the importance of such variables such as chronological age and peer support.

Limitations

One limitation of the current study was that it was conducted during the COVID-19 global pandemic. Participants were completing most of their classes virtually. This may have influenced students' responses to questions relating to their sense of belongingness to MTSU. Because of the pandemic, students may not have been able to engage with professors or peers as they typically would in a university setting. Therefore, their responses may have been different if the fall semester of 2020 was a typical school year. Students may also have not been aware of the programs available to them such as TRiO for the extra support they may have needed.

Another limitation of this study was that a majority of the participants were college freshman. Since participants were freshman who just started college in August, they did not have a current college GPA to report. Because of participants' class status, their responses to the ASICS may not have been accurate, as this questionnaire requires respondents to answer questions based on their most difficult class they have taken within the last year. The ASICS does not specify that the course had to be taken during college. Participants could have based their responses on the ASICS on a course they took in high school. Therefore, some of the analyses that used the results of the ASICS may be a misrepresentation of participants' college experience thus far.

The literature review suggested that there are many differences between first-generation and continuing-generation college students; however, the current study only focused on supportive professors, self-confidence related to academic preparedness, and peer relations. This can be viewed as a limitation of the study as it is not an in depth overview of the differences between first-generation and continuing-generation college students. If modes of interaction within the family, adjustment to college lifestyle, and achievement guilt were investigated, the results may have provided more insight into how these factors affect first-generation students.

Participants had the option to skip over items they did not feel comfortable answering. Therefore, all participants did not answer every question. It was unclear why participants chose to skip certain questions. The skipped responses may have had an effect on the results, as the results were not a comprehensive overview of the full sample.

Future Directions

Future studies at universities with large first-generation populations should continue research to discover how this unique subpopulation of college students differs from their continuing-generation peers. Specifically, research should focus on supports and services that could help first-generation college students become socially and academically successful.

While conducting the literature review, I did not find many studies that focused on the advantages of being a first-generation college student. Additional research could discover advantages of being a first-generation college student and how these advantages help them adapt to the university environment. Previous research suggests there are many unique challenges that first-generation students face when making the transition to college. Future research should examine factors such as, first-generation students changing beliefs, their role within their families, and their overall adjustment to college. Investigating these factors along with first-generation students unique advantages can help universities better understand how to support first-generation students. I would suggest creating surveys or interviews that are open-ended to allow the researchers to get an in-depth understanding of first-generation college students.

Conclusion

Based on the findings from my study, I conclude that although college success continues to be correlated with measures of student engagement and openness of professors, it was difficult to document overall group differences based on first-generation or continuing-generation status. Surprisingly, my measures of parent and peer support failed to correlate with self-perceived student success. The global pandemic

could have reduced the advantages that continuing-generation students might normally have compared to first-generation students. Since more students were living at home in the fall semester of 2020, then all students regardless of generational status were exposed to more family effects. For example, students may have had to help their family financially by getting a job or providing childcare to their younger siblings. These roles may have affected the perceived support they experienced from their families. Overall, it is possible that the on-going health crisis masked some of the differences that may have existed between first-generation and continuing-generation college students.

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APPENDICES

APPENDIX A: INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

IRB
INSTITUTIONAL REVIEW BOARD
Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129

MIDDLE TENNESSEE STATE UNIVERSITY

IRBN001 - EXPEDITED PROTOCOL APPROVAL NOTICE

Wednesday, August 12, 2020

Protocol Title	***Self-Perception of Academic Success in First-Generation and Continuing Generation College Students***
Protocol ID	**21-20037q**
Principal Investigator	**Audrey Stroupe** (Student)
Faculty Advisor	James Rust
Co-Investigators	NONE
Investigator Email(s)	*acs8n@mtmail.mtsu.edu; james.rust@mtsu.edu*
Department	Psychology
Funding	**NONE**

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU IRB through the **EXPEDITED** mechanism under 45 CFR 46.110 and 21 CFR 56.110 within the category *(7) Research on individual or group characteristics or behavior.* A summary of the IRB action is tabulated below:

IRB Action	**APPROVED for ONE YEAR**		
Date of Expiration	**8/31/2021**	*Date of Approval:* 8/12/20	*Recent Amendment:* NONE
Sample Size	ONE HUNDRED AND FIFTY (150)		
Participant Pool	*Target Population:* Primary Classification: **General Adults (18 or older)** Specific Classification: **MTSU SONA Research Pool**		
Type of Interaction	☒ Virtual/Remote/Online interaction ☐ In person or physical interaction – Mandatory COVID-19 Management		
Exceptions	1. Online consent followed by Qualtrics survey is permitted. 2. Retention of participant details to comply with MTSU SONA policy is allowed.		
Restrictions	**1. Mandatory ACTIVE Informed Consent.** **2. Identifiable data/artifacts, such as, audio/video data, photographs, handwriting samples, personal address, driving records, social security number, and etc., MUST NOT BE COLLECTED.** **3. Mandatory Final report (refer last page).**		
Approved Templates	*IRB Templates:* Online Informed Consent and MTSU SONA Recruitment script *Non-MTSU Templates:* NONE		
Funding	NONE		
Comments	NONE		

Post-approval Requirements

The PI and FA must read and abide by the post-approval conditions (Refer "*Quick Links*" in the bottom):

- ***Reporting Adverse Events:*** The PI must report research-related adversities suffered by the participants, deviations from the protocol, misconduct, and etc., within 48 hours from when they were discovered.
- ***Final Report:*** The FA is responsible for submitting a final report to close-out this protocol before **8/31/2021 (Refer to the Continuing Review section below)**; REMINDERS WILLNOT BE SENT. **Failure to close-out or request for a continuing review may result in penalties** including cancellation of the data collected using this protocol and/or withholding student diploma.
- ***Protocol Amendments***: An IRB approval must be obtained for all types of amendments, such as: addition/removal of subject population or investigating team; sample size increases; changes to the research sites (appropriate permission letter(s) may be needed); alternation to funding; and etc. The proposed amendments must be requested by the FA in an addendum request form. The proposed changes must be consistent with the approval category and they must comply with expedited review requirements

Continuing Review (The PI has requested early termination)

Although this protocol can be continued for up to THREE years, The PI has opted to end the study by **8/31/2021**
The PI must close-out this protocol by submitting a final report before 8/31/2021 Failure to close-out may result in penalties that include cancellation of the data collected using this protocol and delays in graduation of the student PI.

Post-approval Protocol Amendments:

The current MTSU IRB policies allow the investigators to implement minor and significant amendments that would fit within this approval category. ***Only TWO procedural amendments will be entertained per year*** *(changes like addition/removal of research personnel are not restricted by this rule).*

Date	Amendment(s)	IRB Comments
NONE	NONE.	NONE

Other Post-approval Actions:

The following actions are done subsequent to the approval of this protocol on request by the PI/FA or on recommendation by the IRB or by both.

Date	IRB Action(s)	IRB Comments
NONE	NONE	NONE

COVID-19 Management:

The PI must follow social distancing guidelines and other practices to avoid viral exposure to the participants and other workers when physical contact with the subjects is made during the study.

- The study must be stopped if a participant or an investigator should test positive for COVID-19 within 14 days of the research interaction. This must be reported to the IRB as an "adverse event."
- The MTSU's "Return-to-work" questionnaire found in Pipeline must be filled by the investigators on the day of the research interaction prior to physical contact.
- PPE must be worn if the participant would be within 6 feet from the each other or with an investigator.
- Physical surfaces that will come in contact with the participants must be sanitized between use
- The PI is given the administrative authority to make emergency changes to protect the wellbeing of the participants and student researchers during the COVID-19 pandemic. However, the PI must notify the IRB after such changes have been made. The IRB will audit the changes at a later date and the PI will be instructed to carryout remedial measures if needed.

Data Management & Storage:

All research-related records (signed consent forms, investigator training and etc.) must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data must be stored for at least three (3) years after the study is closed. Additional Tennessee State data retention requirement may apply (*refer "Quick Links" for MTSU policy 129 below*). The data may be destroyed in a manner that maintains confidentiality and anonymity of the research subjects.

The MTSU IRB reserves the right to modify/update the approval criteria or change/cancel the terms listed in this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Quick Links:

- Post-approval Responsibilities: http://www.mtsu.edu/irb/FAQ/PostApprovalResponsibilities.php
- Expedited Procedures: https://mtsu.edu/irb/ExpeditedProcedures.php
- MTSU Policy 129: Records retention & Disposal: https://www.mtsu.edu/policies/general/129.php

APPENDIX B: ACADEMIC SUCCESS INVENTORY FOR COLLEGE STUDENTS

List a course that you have taken within the past year that was the hardest or most difficult for you.

How difficult was the course above?

- o Extremely easy
- o Moderately easy
- o Slightly easy
- o Neutral
- o Slightly difficult
- o Moderately difficult
- o Extremely difficult

This course was:

- o Required
- o An Elective

The following items pertain to the Academic Success Inventory for College Students. Since these items reflect your attitudes and opinions, there are no correct answers. For all the following statements that refer to a specific class, please rate them with regard to the course you listed above. For each statement please honestly mark the response that best describes you.

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
I needed to do well in this class to get a good job later on.	○	○	○	○	○	○	○
I worked hard to prove I could get a good grade.	○	○	○	○	○	○	○
I enjoyed the challenge of just learning for learning's sake in this class.	○	○	○	○	○	○	○
I felt confident I could understand even the most difficult material in this class.	○	○	○	○	○	○	○
I was pretty sure I could make an A or a B in this class.	○	○	○	○	○	○	○

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
I tried everything I could to do well in this class.	○	○	○	○	○	○	○
Personal problems kept me from doing well in this class.	○	○	○	○	○	○	○
It was easy to keep my mind from wandering in this class.	○	○	○	○	○	○	○
I was nervous for tests even when I was well prepared.	○	○	○	○	○	○	○
I studied the correct material when preparing for tests in this class.	○	○	○	○	○	○	○
I had an easy time concentrat -ing in this class.	○	○	○	○	○	○	○

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
I got satisfactio -n from learning new material in this class.	○	○	○	○	○	○	○
Sometime -s I partied when I should have been studying.	○	○	○	○	○	○	○
I worked really hard in this class.	○	○	○	○	○	○	○
Studying for this class made me anxious.	○	○	○	○	○	○	○
I had a hard time concentrat -ing in this class.	○	○	○	○	○	○	○
My grades suffered because of my active social life.	○	○	○	○	○	○	○
I knew that if I worked hard, I could do well in this class.	○	○	○	○	○	○	○

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
This class will be very useful to me in my career.	○	○	○	○	○	○	○
I worried a lot about failing this class.	○	○	○	○	○	○	○
I got easily distracted in this class.	○	○	○	○	○	○	○
I was disappoint -ed with the quality of the teaching.	○	○	○	○	○	○	○
I kept a good study schedule in this class.	○	○	○	○	○	○	○
I did poorly because the instructor was not effective.	○	○	○	○	○	○	○

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
I would have done much better in this class if I didn't have to deal with other problems in my life.	○	○	○	○	○	○	○
It was important to get a good grade in this class for external reasons (my parents, a scholarshi-p, university regulation-s).	○	○	○	○	○	○	○
I worked hard in this class because I wanted others to think I was smart.	○	○	○	○	○	○	○
I would have done better if my instructor was better.	○	○	○	○	○	○	○

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
I was pretty sure I would get a good grade in this class.	○	○	○	○	○	○	○
I felt pretty confident in my skills and abilities in this class.	○	○	○	○	○	○	○
I worked hard in this class because I wanted to understand the materials.	○	○	○	○	○	○	○
I got anxious when taking tests in this class.	○	○	○	○	○	○	○
I studied a lot for this class.	○	○	○	○	○	○	○
I think I used good study skills when working in this class.	○	○	○	○	○	○	○

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
The instructor in this class really motivated me to do well.	○	○	○	○	○	○	○
Anything I learned, I learned on my own.	○	○	○	○	○	○	○
The instructor in this class was not a good teacher.							
I got behind in this class because I spent too much time partying or hanging out with my friends.	○	○	○	○	○	○	○
This class is important to my future success.	○	○	○	○	○	○	○
I needed good grades in this class to keep up my GPA.	○	○	○	○	○	○	○

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
I had some personal difficulties that affected my performan-ce in this class.	○	○	○	○	○	○	○
I think in the future I will really use the material I learned in this class.	○	○	○	○	○	○	○
Sometime-s my drinking behavior interfered with my studying.	○	○	○	○	○	○	○
I made good use of tools such as planners, calendars and organizers.	○	○	○	○	○	○	○
I used goal setting as a strategy in this class.	○	○	○	○	○	○	○
I was good at setting specific homework goals	○	○	○	○	○	○	○

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
I was well organized.	○	○	○	○	○	○	○
I am certain about occupation I want after I graduate.	○	○	○	○	○	○	○
I know what I want to do after I graduate.	○	○	○	○	○	○	○
I am having a hard time choosing a major.	○	○	○	○	○	○	○
I am certain that my major is a good fit for me.	○	○	○	○	○	○	○

APPENDIX C: STUDENT ENGAGEMENT INSTRUMENT-COLLEGE VERSION

The following items pertain to the Student Engagement Instrument-College Version. Since these items reflect your attitudes and opinions, there are no correct answers. For each statement please honestly mark the response that best describes you.

	Strongly Agree	Agree	Disagree	Strongly Disagree
Overall, professors at my university treat students fairly	○	○	○	○
Professors at my university listen to the students.	○	○	○	○
At my university, professors care about students.	○	○	○	○
My professors are there for me when I need them.	○	○	○	○
The university rules are fair.	○	○	○	○
Overall, my professors are open and honest with me.	○	○	○	○
I enjoy talking to the professors here.	○	○	○	○
I feel safe at university.	○	○	○	○
Most professors at my university are interested in me as a person, not just as a student.	○	○	○	○
The tests in my classes do a good job of measuring what I'm able to do.	○	○	○	○
Most of what is important to know you learn in college.	○	○	○	○
The grades in my classes do a good job of measuring what I'm able to do	○	○	○	○
What I'm learning in my classes will be important in my future.	○	○	○	○

	Strongly Agree	Agree	Disagree	Strongly Disagree
After finishing my schoolwork I check it over to see if it's correct.	○	○	○	○
When I do schoolwork I check to see whether I understand what I'm doing.	○	○	○	○
Learning is fun because I get better at something.	○	○	○	○
When I do well in college it's because I work hard	○	○	○	○
I feel like I have a say about what happens to me at university.	○	○	○	○
Other students at my university care about me.	○	○	○	○
Students at my university are there for me when I need them.	○	○	○	○
Other students here like me the way I am.	○	○	○	○
I enjoy talking to the students here.	○	○	○	○
Students here respect what I have to say.	○	○	○	○
I have some friends at my university.	○	○	○	○
I plan to continue my education after I finish my undergraduate degree.	○	○	○	○
Going to university after high school was important to me.	○	○	○	○
A college degree is important for achieving my future goals.	○	○	○	○
My education will create many future opportunities for me.	○	○	○	○
I am hopeful about my future.	○	○	○	○

	Strongly Agree	Agree	Disagree	Strongly Disagree
My family/guardian(s) are there for me when I need them.	○	○	○	○
When I have problems at my university my family/guardian(s) are willing to help me.	○	○	○	○
When something good happens at my university, my family/guardian(s) want to know about it.	○	○	○	○
My family/guardian(s) want me to keep trying when things are tough at my university.	○	○	○	○

APPENDIX D: PERSONAL DATA FORM

Please answer the following questions as accurately as possible.

How old are you?

Estimated current grade point average (GPA).

Estimated high school grade point average (GPA).

To which gender identity do you most identify with?

- Male
- Female
- Other

Are you currently or have you ever participated in the TRiO program at Middle Tennessee State University?

- Yes
- No

Do you have any older siblings or step-siblings who attended college before you?

- Yes
- No

What is the highest educational attainment status obtained by your older sibling/step-sibling(s)?

- Less than High School Graduate
- High School Graduate or GED
- Some College or Associate Degree
- Bachelor's Degree

- Graduate or Professional Degree
- Not Applicable

What is the highest educational attainment status obtained by either of your parent/guardians(s)?

- Less than High School Graduate
- High School Graduate or GED
- Some College or Associate Degree
- Bachelor's Degree
- Graduate or Professional Degree

What is the highest educational attainment status obtained by either of your grandparent(s)?

- Less than High School Graduate
- High School Graduate or GED
- Some College or Associate Degree
- Bachelor's Degree
- Graduate or Professional Degree

For each statement please mark the response that best describes you.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel a sense of belongingness/ connectedness to MTSU.	○	○	○	○	○
My high school staff (advisor, counselor, school psychologist, teachers, etc.) were helpful in my transition to college.	○	○	○	○	○
The guidance I received from my high school staff (advisor, counselor, school psychologist, teacher, etc.) was very helpful.	○	○	○	○	○
Prior to starting college, I talked to or got useful information from any immediate or extended family members who had attended (or graduated from) college.	○	○	○	○	○