EXAMINING THE DIFFERENCES IN PERCEIVED STRESS, ACADEMIC

SUCCESS, AND POTENTIAL PROTECTIVE FACTORS BETWEEN FIRST-

GENERATION COLLEGE STUDENTS AND CONTINUING-GENERATION

COLLEGE STUDENTS

by

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ABSTRACT

This study examines the differences in perceived stress, academic stress, academic success, grit, and resilience between first-generation college students and continuing-generation college students. Participants were 247 undergraduate students enrolled in the general psychology course at Middle Tennessee State University who completed a series of self-report questionnaires regarding stress, academic success, grit, and resilience. I hypothesized that first-generation college students would have higher levels of perceived stress, academic stress, grit, and resilience than continuing-generation college students and that continuing-generation college students would have higher levels of self-described academic success than first-generation college students. My findings supported the hypothesis that first-generation college students would have higher levels of resilience than continuing-generation college students, but no other differences were seen in regard to my hypotheses. I conclude that while there were some subtle internal differences between these two groups of students, future research should take into account global external factors such as poverty and parental support when looking at these students.

OVERVIEW

When presented with the opportunity to conduct research for my master's thesis, I knew I wanted to examine differences between first-generation college students and continuing-generation college students. Being a first-generation college student myself, I thought it would be interesting to see what aspects of college life make these students different. More specifically, I am interested in studying how protective factors such as grit and resilience are related to perceived stress, academic stress, and academic success. I wanted my research to focus on whether there are certain protective factors that can specifically help first-generation college students with college success. Additionally, I wanted to understand what aspects of college life differ among first-generation college students and continuing-generation college students and how this can relate to students' college success.

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CHAPTER I: LITERATURE REVIEW

Emerging adulthood has been an area of interest since the early 2000s, when Arnett (2000) posed a new theory of development that focused on the stage of life from late teens through early twenties. He described this period of development to have five differentiating characteristics from other stages of life that include exploring one's identity, experiencing instability, focusing on one's self rather than others, experiencing an in-between feeling, and having a wide range of possibilities (Arnett, 2020). Emerging adulthood is also the time many individuals go to college, which can come with additional unique stressors and challenges as well. These stressors can include an increase in stress due to academic pressure, being the first in your family to go to college and experiencing independence for the first time. Being a first-generation college student, in addition to an emerging adult, I wanted to focus my research attention on specific aspects of college life that impact first-generation college students and continuing-generation college students differently. These unique aspects of interest will include perceived stress, academic success, grit, and resilience.

First Generation College Students

In addition to emerging adulthood being a time of change, college is also a period of rapid change that can come with unique stressors. Chickering's (1969) Seven Vectors of Development described these changes as tasks that students must go through while developing their identity. These tasks included growing competence, controlling emotions, establishing autonomy, developing identity, freeing interpersonal relationships, growing purpose, and establishing integrity. A unique characteristic that may impact this development is whether undergraduates are considered to be a first-generation college student or a continuing-generation college student. Choy (2001) described first-generation college students as undergraduate students whose parents have not earned a postsecondary 4-year degree. Therefore, a continuing-generation college student is an undergraduate

student who has at least one parent who has at least a bachelor's degree. To date, approximately a third of college students are considered to be first-generation college students (EAB Global, 2018).

Although this is the definition used to identify first-generation college students, it is important to look at how a family history of college attendance or graduation relates to success as well. For example, a student could have a parent with an associate degree and still be classified as a first-generation college student (Choy, 2001) despite this student having more college history in their family than a student whose family has no college experience whatsoever. Because of this, it is important to examine how any family history of college, whether that be a parent, grandparent, or sibling who went to college for some time, relates to a student's college success and how that differs from students with purely no college history whatsoever in their family. In order to be consistent with previous research, first-generation college students will continue to be referred to as students whose parents do not have a 4-year degree. However, I refined my definition of first-generation college students and conducted further analyses to investigate if any college history within a family relates to college success compared to none at all.

In order to get a better understanding of who first-generation college students are, researchers have examined demographic information about these students. According to the Postsecondary National Policy Institute (2018), during the 2011-2012 academic school year, first-generation college students tended to be older than continuing-generation college students with a median age of 24 years old for first-generation college students compared to a median age of 21 for continuing-generation college students. Given the age of these students, it could also mean that they work full-time jobs while attending college or even have children at home to take care of. First-generation college students were also more likely to be minority students, with 42% of African American students and 48% of Hispanic students identifying as first generation. Additionally, 48% of first-generation college students attended college part-time as compared to 38% of continuing-generation college students.

Lastly, first-generation college students make up roughly 40% of college dropouts (Miller, 2019; Postsecondary National Policy Institute, 2018).

With college already being a time of uncertainty and change, research indicates that being a first-generation college student could be an additional stressor given that these students do not have family history to guide them through this transitionary period (Wilbur & Roscigno, 2016). According to the National Center for Education Statistics (Cataldi et al.,2018), among the undergraduate college student population, roughly one-third of those students are considered first-generation college students. Thus, parents of these students may have little experience with the newfound changes their children may go through as they experience college. Because of this lack of parental experience with college, first-generation college students could feel an added level of uncertainty or challenge.

Sparkman et al. (2012) found that due to insufficient parental experience with college, students could feel low levels of emotional support and low levels of understanding from their parents of the heavy time commitment college poses. This could in turn impact the way first-generation college students transition to these new changes. It is important to understand how first-generation college students and continuing-generation college students differ in order to understand how to help first-generation college students when experiencing this new transition in life. Factors such as perceived stress, academic success, grit, and resilience are likely to be important to focus on between first-generation college students and continuing-education students as they experience college.

Aspects of College Life that May Impact All College Students

Perceived Stress

According to the American College Health Association, around 88% of 2019 college students reported feeling overwhelmingly stressed by all they had to do within the past 12 months (American College Health Association, 2019). Due to stress having the potential to play a negative role in everyone's life, Cohen et al. (1983) created the Perceived Stress Scale (PSS), a global measure of

perceived stress that looks at an individual's perception of the stress they have felt in the past month. This measure has been used extensively by researchers studying stress. Previous validation studies of this measure have found it to be highly correlated with symptomology of depression and anxiety, making it helpful in possibly identifying students at risk for experiencing mental health issues (e.g., Cohen et al., 1983).

Interested in seeing how perceived stress is related to academics, Saunders-Scott et al. (2017) utilized the PSS to better understand what measures could be used to predict college students' retention. They looked at traditional measures such as American College Test (ACT) scores and grade point average (GPA) and used nontraditional measures such as the PSS and the Short Grit Scale. The sample consisted of 165 undergraduate students with 72% being females and the age range being 18 to 45 years old. Students in this study reported their ACT scores and GPA, completed the PSS and the Short Grit Scale, and retention was measured by assessing the students' progress towards their degree at a 1 ½ year follow-up.

Results indicated that perceived stress was the best predictor of college retention for the students who took part in this study. Surprisingly, Saunders-Scott et al. (2017) indicated that students who perceived themselves as having higher stress were less likely to be retained at follow up. The authors concluded that perceived stress could be an important factor for a college student's retention rate.

Grit, defined as one's passion and perseverance for long-term goals (Duckworth et al., 2007), also seemed to play a role in first-year college students' retention rates. First-year college students who had higher grit levels seemed to also have higher retention rates, indicating that grit could possibly serve as a possible mediator for perceived stress. The researchers stated that, although perceived stress and grit related to academic retention, their results were inconclusive as to which factor was more important. The authors did conclude that grit could be more of an important factor for

first-year college students specifically and that perceived stress was an important predictor for students beyond their first year.

The Saunders-Scott et al. (2017) study presents interesting findings of just how important perceived stress can be in terms of academics and retention. What is important to notice is that this particular study looked at college students as a whole and did not break students into groups of first-generation college students and continuing-generation college students. Future research should focus on key differences of perceived stress among these two groups of students to further understand how perceived stress relates to both of these groups and if there are any group differences that should be noted.

Academic Stress

Another aspect of perceived stress is stress specifically related to one's academics. To examine this, researchers Bedewy and Gabriel (2015) developed the Perception of Academic Stress Scale (PASS). This scale consists of four factors of perceived academic stress: pressures to perform, perceptions of workload and examinations, self-perceptions, and time restraints. This scale was tested among 100 college students attending a university in Egypt. Overall, this study found low-to-moderate levels of overall perceived academic stress. Although findings from this study revealed there were no significant gender differences in perceived academic stress, increased levels of stress did relate to increases in reported teacher criticism of the participants' performance as well as to scores measuring competition felt with peers. These authors recommended future research to examine the potential differences in perceived academic stress between first-generation college students and continuing-generation college students. For this reason, I will utilize the PASS in my current research to examine such differences.

Academic Success

Research has also been done on how perceived academic stress relates to academic success. The ultimate marker of academic stress is when it becomes too much for students and they drop out. Prevatt et al. (2011) were interested in understanding why college students dropout and what key features are responsible for academic success. Because of this, the Academic Success Inventory for College Students (ASICS) was created. The ideal use for this scale was to predict a student's likelihood of experiencing academic success or academic difficulties during their time in college, so that appropriate resources could be sought to help remediate certain difficulties for these students. This scale includes 10 general factors of academic success: general academic skills, internal motivation, perceived instructor efficacy, concentration, future external motivation, socializing, career decidedness, lack of anxiety, personal adjustment, and current external motivation. Due to this scale being useful in understanding college students' area of struggle, Florida State University uses the ASICS in their Academic Success class to help provide remediation for students whose GPAs fall below 2.0 on a 4.0 grading scale (Prevatt et al., 2011).

Researchers have investigated the challenges related to academic success among first-generation college students with particular interest in addressing college readiness. For example, Choy (2001) found that first-generation college students attending a 4-year university begin college less prepared academically than continuing-generation college students. One of the most common ways to measure college readiness is to examine student's American College Testing (ACT) scores and where they fall among the ACT College Readiness Benchmarks (Allen & Radunzel, 2017). According to Bassiri (2016), on average, first-generation college students were found to have lower ACT scores than continuing-generation college students, thus putting these first-generation students at risk for academic difficulties. Additionally, it is clear that being more prepared for college

academically will enhance a student's chance of completing a college degree (ACT Research and Policy, 2013).

It is also common to use a student's high school grade point average in order to predict college readiness (Allensworth & Clark, 2020). In fact, Hodara and Lewis (2017) found that, when examining college students' performance in college-level English and math courses, the students' high school GPA was a more powerful predictor of their performance in these classes than were their ACT scores. In a recent publication from the National Center for Educational Statistics (Cataldi et al., 2018), it was stated that, on average, first-generation college students were more likely to have lower high school GPAs than continuing-generation college students, with 23% of first-generation college students having a GPA of 1.99 or lower compared to only 9% of continuing-generation college students. This reaffirms that first-generation college students are more likely to be less prepared for college, as evident of their ACT scores and their high school GPA, than continuing-generation college students, which may lead to them experiencing more challenges once attending college.

Due to first-generation college students having a relatively high likelihood at being unprepared academically for college and thus likely to experience academic stressors, studying these students with the ASICS (Prevatt et al., 2011) may provide an opportunity to compare first-generation college students with continuing generation students as they progress through college. To date, there has not been research that has used the ASICS to investigate academic success differences between first-generation college students and continuing-generation college students. Given first-generation college students differ from continuing-generation college students on levels of academic preparedness, it is worth exploring how first-generation college students differ from continuing generation college students on this measure in order to see how academic preparedness relates to a student's likelihood of academic success.

Protective Factors

Although several researchers have identified a variety of different academic struggles among first-generation and continuing-generation college students, some have also found positive characteristics that have led to an increase in the likelihood of experiencing academic success (Alvarado, 2017; Hodge et al., 2018; Howard et al., 2019). Personal traits such as grit and resilience have not only been seen to have a positive impact on an individual's overall perspective and work ethic (American Psychological Association, 2020; Duckworth et al., 2007), they have also been seen as possible protective factors for students. Given first-generation college students have a higher likelihood of experiencing academic difficulties due to their lack of college preparedness, it is important to examine possible protective factors that could help combat the risk factors they already face.

Grit. One of the biggest names in grit research is Angela Duckworth, who created the widely used Grit Scale that examines an individual's perseverance and passion for long-term goals, meaning an individual with grit would demonstrate persistence towards goals that were not quickly attainable (Duckworth et al., 2007). Since the development of the Grit Scale, an increasing amount of research has been done that has examined just how beneficial grit can be in an individual's life with helping them succeed.

One example of potential benefit is the role grit plays in college students' success. While perceived stress is negatively related to college students' academic success, as measured by retention rates (Saunders-Scott et al., 2017), there does seem to be a certain protective factor for all college students, but first-generation college students specifically when compared to continuing-generation college students. This protective factor is grit. Hodge et al. (2018) examined the role grit played in academic outcomes in college students. This study found that students who were the first in their family to attend college appeared to have higher levels of grit than those who were not the first in

their family to attend college (Hodge et al., 2018). Additionally, results yielded that grit appeared to be associated with higher levels of academic engagement and academic productivity and did not appear to differ among genders. These results suggest that first-generation college students' likelihood of experiencing academic success could particularly increase by demonstrating levels of grit.

Howard et al. (2019) also found grit to serve as a protective factor for academic success among college students. In this study, the researchers examined how scores on the Grit Scale correlated with scores on the ASICS. Results indicated that grit was significantly and positively correlated with 7 out of 10 academic success factors on the ASICS scale. Because college students were not broken into categories of first-generation college students or continuing-generation college students, future research is needed in order to determine if similar results such as those found by Hodge et al. (2018) can also be seen through the use of ASICS and the Grit Scale.

Resilience. Resilience is another highly studied construct among college students. Literature defines a resilient individual as one who is able to adapt in the face of stressful, life-changing situations and continues to persevere and work hard (American Psychological Association, 2020). Knowing that first-generation college students have a high likelihood of experiencing life stressors, it is important to see how resilience presents in these students and how resilience can possibly protect these students from their unique stressors.

Alvarado et al. (2017) examined how resilience and emotional intelligence differed between first-generation and continuing-generation college students. Additionally, Alvarado and colleagues examined the relationship between self-reported GPA, emotional intelligence, and resilience specifically in first-generation college students. To do so, the study utilized the Brief Resilience Scale (BRS) as well as the Shuttle Emotional Intelligence Scale (SEIS) to examine differences in levels of resilience and emotional intelligence between first and continuing-generation college students.

Participants consisted of 100 undergraduate students who attended a small university in the southwest in Texas. Alvarado et al. did not disclose how many of the 100 undergraduate students were first-generation college students. During the study, participants completed a demographic section of the questionnaire where they indicated their estimated GPA, academic year, race, and parent education which was used to indicate first-generation status and the participants then proceeded to complete the BRS and the SEIS.

Results from this study indicated that first-generation college students demonstrated higher levels of resilience than continuing-generation college students, which was contradictory to this study's hypothesis, but a significant relationship between GPA, emotional intelligence, and resilience in first-generation college students was not found. The results from this study indicate that, while first-generation college students seem to present higher levels of resilience than continuing-generation college students, it is unclear if emotional intelligence and resilience correlate with academic performance.

While no relationship was found between GPA and resilience among first-generation college students in the Alvarado et al. study, negative results are difficult to interpret. For example, this does not entirely mean that academic success and resilience in first-generation college students cannot be correlated. There are numerous ways of measuring academic success and GPA is just one of them. Additionally, considering the participants in the study I will be conducting will most likely be undergraduate freshmen, they will not yet have a GPA to report. Because of this, it is important to use a measure other than GPA that evaluates academic success in order to get a better understanding of just how first-generation and continuing-generation college students differ, which can then be used to better determine if there is indeed a significant relationship between resilience and academic success in first-generation college students.

Statement of the Problem

Considering the work of Arnett (2000), it is understood that college students face a variety of challenges during the transition between adolescence to emerging adulthood due to taking on new responsibilities with their new-found independence. Given that first-generation college students face a unique set of stressors during emerging adulthood (Choy, 2001), it is possible their challenges during this developmental period are quite different from those experienced by continuing-generation college students. These differences could then possibly impact their college experience.

As noted earlier, first-generation college students are more likely to be less prepared for college than continuing-generation college students, which may impact the challenges they will face once attending college (Choy, 2001). These challenges can then impact first-generation college student's perceived stress, levels of academic stress, and academic success. Although these challenges have not been studied between first-generation college students and continuing-generation college students specifically, it has been found that grit and resilience appear to positively relate to first-generation college students and their levels of academic success (Alvarado et al., 2017; Hodge et al., 2018). Considering the lack of research examining just how first-generation college students and continuing-generation college students typically differ among their personal and academic characteristics, it is important to do further research in this area in order to better understand how to assist first-generation college students prior to beginning college.

The purpose of the current study is to examine academic and personal differences between first-generation and continuing-generation college students in order to better understand both protective and risk factors among these two groups of students. Perceived stress and academic stress will be the possible risk factors for academic success investigated here. These differences will then be compared to the level of academic success for first-generation and continuing-generation students in order to examine the relationship these risk factors have to academic success. Lastly, protective

factors such as grit and resilience will be assessed within each group of students to see if the two groups differ on these measures and if these protective factors related to group membership and measured levels of academic success, perceived stress, and academic stress.

Hypotheses

Hypothesis 1: First-generation college students will have higher levels of perceived stress than continuing-generation college students.

Hypothesis 2: First-generation college students will have higher levels of academic stress than continuing-generation college students.

Hypothesis 3: First-generation college students will have lower levels of academic success compared to continuing-generation college students.

Hypothesis 4: First-generation college students will display higher levels of grit compared to continuing-generation college students.

Hypothesis 5: First-generation college students will display higher levels of resilience than continuing-generation college students.

Supplemental analyses will be conducted based on the variations of first-generation status related to the familiarity of each student with college prior to enrolling at Middle Tennessee State University. An exploratory analysis will also be conducted to examine possible gender differences between all variables.

CHAPTER II: METHOD

Participants

Participants in the current study consisted of 247 undergraduate college students attending Middle Tennessee State University (MTSU). Of these participants, there were 133 students considered to be continuing-generation college students and 114 students who were considered to be first-generation college students. The mean ranting on the Scale of Subjective Social Status (Adler et al., 2000) was 5.3 with the minimum rating being 1 and the maximum ranking being 9. In total, there were 180 women and 63 men in this study with 4 participants identifying as other. The mean age of participants was 19.1 years old ($SD = 2.5$) with the minimum age being 18 years old and the maximum age being 44 years old. Participation in this study was completely voluntary and participants were recruited through the Department of Psychology research pool. Participants enrolled in the PSY 1410 General Psychology course received class credit in return for their involvement in this study.

Materials

Participants completed a series of measures in the form of an online approved questionnaire created through Qualtrics which was uploaded to the Sona System for completion. Prior to the completion of the questionnaire, participants electronically completed an informed consent document that was approved by the MTSU Institutional Review Board. The consent form (see Appendix A) outlined the purpose and nature of this study as well as described the risks involved in volunteering. Participants then completed the major measures. Finally, participants completed the Personal Data Form that asked about demographic information as well as the level of educational support and familiarity with college each participant had prior to attending college.

Perceived Stress Scale (PSS; Cohen et al., 1983).

This scale measures an individual's level of perceived stress (see Appendix B). Cohen and colleagues investigated three samples of individuals in order to test the reliability and validity of the PSS. The first two samples consisted of 114 and 332 college students who completed the measure along with two other measures, one examining physical symptomologies of stress as well as an additional stress measure. The third sample consisted of 64 individuals who recently stopped smoking to better understand how higher levels of stress correlated with an individual's chances of reducing the act of smoking. These authors addressed reliability and found relatively high internal consistency measures of .84, .85, and .86 when using a coefficient alpha in each of the three samples.

Cohen and colleagues also addressed validity on the PSS and found that scores on this measure correlated with depressive symptomology, social anxiety, and life-event scores (Cohen et al., 1983). Evidence for validity was reported for depressive symptomology, with correlations of .76 in Sample 1 and .65 in Sample 2 with each being statistically significant. Additionally, increased levels of social anxiety were seen to be correlated with an increase of perceived stress (.37 and .48, $p < .001$ for each sample). The PSS also correlated with frequency of life event scores at a rate of .20 and .17 in Samples 1 and 2, with .20 being statistically significant, although modest.

In total, there are 10 items on this scale that are scored on a 5-point frequency scale (0 = *never,* 4 = *very often*) as they pertain to the participants over the last month. There is a total of 40 points possible on this measure with higher scores indicating higher perceived stress. Scores from 0-13 are considered low stress, scores from 14-26 are considered moderate stress, and scores from 27-40 are considered higher perceived stress. A sample item from the measure is "In the last month, how often have you been upset because of something that happened unexpectedly?"

Perception of Academic Stress Scale (PASS; Bedewy & Gabriel, 2015).

This 18-item scale measures students' perceptions of their personal academic stress and examines what source that stress predominately stems from (see Appendix C). The four sources of

academic stress were described as the following: Pressures to Perform, Perceptions of Workload, Academic Self-Perceptions, and Time Restraints. For Pressures to Perform, a sample item for this source includes "The unrealistic expectations of my parents stress me out." A sample item from Perceptions of Workload include "I believe that the amount of work assignment is too much." An item from the Academic Self-Perceptions source includes "I am confident that I will be a successful student." Lastly, a sample item from the Time Restraints source includes "The time allocated to classes and academic work is enough." Each item is scored on a 5-point Likert scale (1 = *Strongly Disagree*, 5 = *Strongly Agree*). Higher scores on this measure indicate lower levels of perceived academic stress.

Bedewy and Gabriel (2015) investigated the PASS for reliability and validity. The overall internal consistency reliability for the PASS was .70. As for the individual subscales, each one had an internal consistency reliability of .60 except for the academic self-perceptions subscale which had an internal consistency reliability of .50. Although these coefficient alphas are weak, this was the most appropriate scale of academic stress that I found.

Academic Success Inventory for College Students (ASICS; Prevatt et al., 2011).

The ASICS is a 50-item measure containing 10 subscales that is used to determine a college student's academic success (see Appendix D). Students who take this scale are asked to think of their most challenging college course they have either taken in the past or are currently taking and rate their level of agreement on each item as it pertains to that course. Previous research indicates that lower subscale scores indicate the possibility that a student is at higher risk of dropout and experiencing academic difficulties.

These researchers reported that the ASICS's 10 subscales possess acceptable internal consistency. An example item from the General Academic Skills (.93) subscale includes "I worked really hard in this class." As for the Internal Motivation/Confidence (.86) subscale, an example item

includes "I worried a lot about failing this class." The Perception of Instructor Efficacy (.92) subscale includes a sample item such as "I did poorly because the instructor was not effective." The Concentration (.87) subscale includes an item that states, "I had an easy time concentrating in this class." A sample item from the External Motivation/Future (.88) subscale includes "I needed good grades in this class to keep up my GPA." The Socializing (.84) subscale includes an item that reads "Sometimes I partied when I should have been studying." The Career Decidedness (.87) subscale includes an item that that's "I am certain that my major is a good fit for me." A sample item from the Lack of Anxiety (.77) subscale is "I got anxious when taking tests in this class." The Personal Adjustment (.86) subscale includes an item that reads "Personal Problems kept me from doing well in this class." Lastly, a sample item from the External Motivation/Current (.62) subscale includes "I worked hard in this class because I wanted others to think I was smart."

Discriminate validity was also found when comparing a group of honors students ($N = 265$) and a group of students on academic probation ($N = 346$). Each subscale, except for the External Motivation/Current subscale, was significantly different across the two groups with the honors students scoring significantly higher on the ASICS than those who were on academic probation. Additionally, the scores from the 10 subscales predicted 41% of the variation in grades between these two groups of students. The subscales most predictive of GPA were Personal Adjustment, General Academic Skills, Internal Motivation/Confidence, and Socializing and Concentration. Prevatt and colleagues suggest that the ASICS can be a useful tool at identifying and evaluating at-risk students and/or those who need remedial interventions.

The items on the ASICS are rated on a 7-point Likert scale (1 = *Strongly Disagree*, 7 = *Strongly Agree*). A total of 19 items on this measure are reversed scored. Scores from each subscale are converted into a scale score using a range from 1-100. Higher scores on each subscale indicates higher likelihood for experiencing academic success in college.

12-Item Grit Scale (Duckworth et al., 2007).

This measure (see Appendix E) examines an individual's level of grit rated on a 5-point Likert scale (1 = *Not like me at all*, 5 = *Very much like me*). Scores from each question are added together and divided by 12 in order to find an individual's total grit score with 5 being the highest possible score. A score of 1 indicates an individual is not at all gritty and a score of 5 indicates an individual is very gritty.

This scale also has two factors within the measure: Consistency of Interests and Perseverance of Effort. An example item from the Consistency of Interests factor is "I often set a goal but later choose to pursue a different one" and an example item from the Perseverance of Effort factor is "I have achieved a goal that took years of work." When evaluating reliability, Duckworth and colleagues found this scale demonstrated high internal consistency at .85 for the overall scale, an alpha of .84 for Consistency of Interests, and an alpha of .78 for Perseverance of Effort.

This authors also examined predictive validity for education and number of career changes in adults and found that individuals with grit levels one standard deviation higher than average were 35% less likely to be frequent career changers. Lastly, grit explained 4.8% of variance in educational attainment in Study 1 and 2 ($p < .001$), 6.3% of variance of grade point average in Study 3 ($p < .01$), 3.9% and 1.4% of variance in class retention in Study 4 and 5 ($p < .001$ and $p < .01$), and 3.8% of variance of final round participants in a national spelling bee ($p < .05$). Duckworth and colleagues concluded that grit may be as essential as talent to high accomplishment due to their findings.

Brief Resilience Scale (BRS; Smith et al., 2008).

This scale is a 6-item measure that examines an individual's level of resilience (see Appendix F). This measure is scored on a 5-point Likert scale (1 = *Strongly Disagree*, 5 = *Strongly Agree*). A score of 30 is the highest score an individual can reach on this scale with higher scores indicating

higher levels of resilience. A sample item from this scale is "I tend to bounce back quickly after hard times."

Smith et al. (2008) examined the BRS's reliability and validity. As for reliability, this scale had good internal consistency with Cronbach's alpha ranging from .80-.91 between four different samples.

Additionally, this scale was negatively and significantly ($p < .01$) correlated with perceived anxiety, stress, depression, negative affect, and physical symptomology or stress, indicating convergent validity. The authors suggested that, given the results of this study, that the BRS could have a unique place in behavioral medicine research.

Personal Data Form (Stroupe, 2020).

This form determined the extent of familiarity a student had with college prior to attending this university due to their family's college experiences (see Appendix G). This form narrows first-generation college students into different subcategories with some first-generation college students having little to no educational support and/or familiarity prior to beginning college with others having more educational support and familiarity due to a sibling or distant relative having college experience. There are a total of 7 questions within this survey that asks about whether the student's older siblings attended college before the respondent did, if their parent or guardian attended but did not complete college prior to the student attending college, if their grandparents attended college, if they had received useful information about college from a relative prior to attending college, if the student had received useful information about college from a high school counselor or career advisor, and if the student's parent or guardian were able to provide helpful information about what to expect at college before attending. I used the information about the participants' family history of college to determine whether students are considered to be first-generation or continuing-generation college students.

For supplemental analyses examining family history of college experience, these students were broken into the following four subgroups of first-generation college students: first-generation students whose parent(s) had an associate's degree, first-generation students whose older siblings had college experience, first-generation students whose grandparents had college experience, and first-generation students with no family history of college. The last comparison group was continuing-generation college students, which was defined as students who had at least one parent with a bachelor's degree. In total, 5 comparison groups were used for supplemental analyses.

This form also includes a brief demographics portion that asks about participants' gender, race, age, what year they are at MTSU, their major, GPA (if available), and whether or not they have participated in the TRiO program—a program designed to assist first-generation students—at MTSU. This demographics form also utilizes the MacArthur Scale of Subjective Social Status (Adler et al., 2000) in order to determine each participants' perception of their social status. On this scale, participants view an image of a ladder and are asked to rate which rung of the ladder best describes their social status with the first rung representing those who are worst off (little to no money, bad job, no education, etc.) and the top rung representing those who are better off (a lot of money, high level of education, etc.).

Procedure

This study took place during the Fall 2020 semester at MTSU. The participants completed the PSS, PASS, ASICS, Grit Scale, and the BRS in counterbalanced order to ensure that the order of the presentation of each questionnaire was randomized. Once participants completed the measure, they then completed the Personal Data Form. The total time it took to complete this procedure was approximately 30-45 min. Once this survey was completed, students were thanked for their participation and were given course credit for their completion of this study.

CHAPTER III: RESULTS

Descriptive Statistics

Responses from the Personal Data Form were used to determine a student's first-generation college student status. For this study, first-generation college students were defined as any student whose parents were not reported to have a 4-year college degree. The following categories were used for supplemental analyses: first-generation students whose parent(s) had an associate's degree, first-generation students whose older siblings had college experience, first-generation students whose grandparents had college experience, and first-generation students with no family history of college, and continuing-generation college students.

The means and standard deviations for continuing-generation and first-generation college students are outlined in Tables 1 and 2 and the descriptive statistics for all 5 comparison groups are outlined in Tables 3 and 4. Additionally, one-sample t tests were used to compare my sample means for each measure to each measure's sample. These results are outlined in Table 5.

Table 1

Descriptive Statistics for Dependent Variables for Continuing- and First-Generation College Students

Measures	*Continuing- Generation*			*First-Generation*		
	N	*M*	*SD*	*N*	*M*	*SD*
PSS	133	22.0	6.9	112	23.2	6.5
PASS	133	51.5	10.9	114	51.1	9.9
Grit	133	3.2	0.6	113	3.3	0.6
BRS	133	3.1	0.8	114	3.3	0.8

Note. BRS = Brief Resilience Scale; PSS = Perceived Stress Scale; PASS = Perception of Academic Stress Scale

Table 2

Descriptive Statistics for ASICS for Continuing- and First-Generation College Students

ASICS Scales	Continuing-Generation			First-Generation		
	N	*M*	*SD*	*N*	*M*	*SD*
Career Decidedness	132	78.9	23.4	114	78.3	23.4
Internal Motivation	132	59.8	18.8	114	57.2	19.6
External Motivation Future	132	62	26.8	114	60.5	28.8
General Skills	132	73.6	14.8	114	73.9	12.9
Lack of Anxiety	132	32.6	18.5	114	27.2	12.2
Concentration	133	43.7	21.8	114	47.7	23.6
External Motivation Current	132	77.6	16.2	114	74.6	13.5
Personal Adjustment	132	59.9	24	114	62	24.5
Socializing	132	84.9	17	114	85.3	16.6
Instructor Efficacy	132	58.2	25.2	114	54.2	26.5

Note. ASICS = Academic Success Inventory for College Students

Table 3

Descriptive Statistics for Dependent Variables Based on Subgroups

Student Subgroups	PSS			PASS			Grit			BRS		
	n	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Continuing Generation	133	22.0	6.9	113	51.5	10.9	133	3.3	0.6	133	3.1	0.8
FGPA	42	23.1	6.7	43	52.2	10	43	3.2	0.6	43	3.3	0.9
FGSH	19	23.1	5.9	20	50.3	9.7	19	3.4	0.6	20	3.5	0.8
FGGH	11	21.6	7.6	11	56.2	10.7	11	3.2	0.5	11	3.4	0.9
FGNH	40	23.6	6.3	40	49.0	9.3	40	3.4	0.6	40	3.3	0.7

Note. BRS = Brief Resilience Scale; PSS = Perceived Stress Scale; PASS = Perception of Academic Stress Scale; FGPA = First-generation with parents having an associate's degree; FGSH = First-generation with sibling college history; FGGH = First-generation with grandparents' college history; FGNH = First-generation with no college history

Table 4

Descriptive Statistics for Academic Success Inventory for College Students (ASICS) Scales Based on

Subgroups

ASICS Scales	*Continuing Generation*			*FGPA* (*n* = 43)		*FGSH* (*n* = 20)		*FGGH* (*n* = 11)		*FGNH* (*n* = 40)	
	N	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
CD	132	79	23	78	23	73	25	80	24	76	27
IM	132	60	19	57	20	60	18	68	14	55	14
EM-F	132	62	27	61	29	64	27	65	22	62	25
GS	132	74	15	74	13	69	16	80	11	75	15
LA	132	33	19	27	12	32	18	36	25	29	18
C	133	44	22	48	24	62	17	52	17	45	22
EM-C	132	78	16	75	14	73	18	73	12	79	13
PA	132	60	24	62	25	60	22	52	24	55	25
S	132	85	17	85	17	84	18	85	16	89	15
IE	132	58	25	54	27	63	27	72	27	60	30

Note. FGPA = First-generation with parents having an associate's degree; FGSH = First-generation with sibling(s) college history; FGGH = First-generation with grandparent(s) college history; FGNH = First-generation with no college history; CD = Career Decidedness; IM = Internal Motivation; EM-F = External Motivation-Future; GS = General Skills; LA = Lack of Anxiety; C = Concentration; EM-C = External Motivation-Current; PA = Personal Adjustment; S = Socializing; IE = Instructor Efficacy

Table 5

One-sample t tests Comparing Sample to Norm Group Students

Comparisons	*Mean Difference*	*Standard Error*	*t*	*df*	*p*
PSS Sample – 23.8	-1.26	.43	-2.95	244	.004
PASS Sample – 45	6.31	.66	9.49	246	.000
Grit Sample – 3.65	-.38	.04	-10.08	245	.000
BRS Sample – 3.53	-.30	.05	-5.79	246	.000

Note. PSS = Perceived Stress Scale; PASS = Perception of Academic Stress Scale; BRS = Brief Resilience Scale

Table 6

One-sample t tests Comparing Sample to Norm Group Students for ASICS Subscales

Comparisons	*Mean Difference*	*Standard Error*	*t*	*df*	*p*
Career Decidedness – 74	3.92	1.53	2.55	245	.01
Internal Motivation – 56.8	2.19	1.15	1.90	245	.06
External Motivation – 58.1	3.93	1.69	2.33	245	.02
General Skills– 57.7	16.1	.93	17.4	245	<.01
Lack of Anxiety – 48.2	-17.1	1.13	-15.1	245	<.01
Concentration – 57	-10.6	1.40	-7.56	246	<.01
Personal Adjustment – 66.1	2.19	1.54	1.43	245	.16
Socializing – 74.3	11.2	1.06	10.6	245	<.01
Instructor Efficacy – 62.7	-4.01	1.70	-2.38	245	.02

Note. ASICS = Academic Success Inventory for College Students

Inferential Statistics

In addition to the personal data information, the following data were collected: raw scores from the Perception of Academic Stress Scale (PASS), the Perceived Stress Scale (PSS), the Academic Success Inventory for College Students (ASICS), the 12-Item Grit Scale, and the Brief Resilience Scale (BRS). The raw scores from the 10 subscales on the ASICS were then converted into an adjusted score using a range of 1-100 so each subscale was comparable to one another.

All data were analyzed with SPSS and Jamovi software. A one-tail independent sample *t* test was used to analyze all hypotheses at an alpha level of .05. These programs made comparisons between first-generation college students and continuing-generation college students for each dependent variable.

Results from these independent sample *t* tests showed there were no significant differences between first-generation college students and continuing-generation college students on the Perceived Stress Scale ($t = -0.71, p = 0.24$) and the Perceptions of Academic Stress Scale ($t = -0.38, p = 0.65$), which does not support my hypotheses. As for the Academic Success Inventory for College Students, continuing-generation college students had higher levels than the first-generation students on the

External Motivation/Current subscale ($t = 1.66$, $p = .05$), which did not support my hypotheses. All other subscale scores on the ASICS were not significantly different between the two groups.

When evaluating how continuing-generation and first-generation college student compare on levels of grit and resilience, however, results indicated that first-generation college students had significantly higher levels of resilience than continuing-generation college students ($t = -2.67$, $p = .004$), which did support my hypotheses. Grit levels were not significantly different among these two groups of students ($t = -0.55$, $p = 0.30$).

Exploratory Analyses

Next, I conducted several supplementary analyses. First, to examine if there were any gender differences among my sample, I ran a one-way ANOVA to compare gender differences on the Perceived Stress Scale, Perception of Academic Stress Scale, ASICS, 12-Item Grit Scale, and the Brief Resilience Scale. Results indicated that men had significantly higher levels of resilience on the BRS ($F = 5.5$, $p = .02$), significantly lower levels of anxiety ($F = 13.9$, $p < .01$) on the ASICS, and significantly lower levels of perceived academic stress ($F = 15.5$, $p < .01$) than women. Results also indicated that women had significantly higher levels of general skills ($F = 8.8$, $p < .01$) and external motivation ($F = 5.5$, $p = .02$), as measured on the ASICS, and significantly higher levels of perceived stress ($F = 27.5$, $p < .01$), as measured on the PSS, than men. While there did appear to be several gender differences between the men and women in this study, future research should examine if these differences relate to men and women's college success.

Second, in order to better understand how having family history of a variety of college experiences could possibly relate to one's levels of stress, academic success, grit, and resilience, I divided my sample of first-generation college students into the following four subgroups: (a) first-generation college students whose parent(s) had either an associate's degree, some college history but no degree, or a trade's school certificate, (b) first-generation college students whose older siblings had

any college experience, (c) first-generation students whose grandparents had any college experience, and (d) first-generation students with no family history of post-high school education.

I then used a one-way ANOVA in order to compare the four first-generation college student subgroups and the one continuing-generation college students group to each other using the Perceived Stress Scale, Perception of Academic Stress Scale, ASICS, 12-Item Grit Scale, Brief Resilience Scale, and the MacArthur Subjective Social Status as the dependent variables. Of these comparisons, results indicated that the group of first-generation college students whose older sibling had college experience had significantly higher levels on the Concentration subscale ($M = 61.6$, $SD = 16.6$; $F = 4.79$, $p = .02$), as measured on the ASICS, than those whose parent(s) had an associate's degree ($M = 47.7$, $SD = 23.6$), whose grandparent(s) had any college experience ($M = 52.3$, $SD = 16.6$), those with no family history of post-high school education ($M = 44.5$, $SD = 22.2$) and continuing-generation college students ($M = 43.7$, $SD = 21.8$). The groups of students did not differ significantly on any of the other measures.

Additionally, in order to explore how having any family history of college differed from having no family history of college, I grouped together the continuing-generation college students, first-generation parent subgroup students, first-generation siblings subgroup students, and first-generation grandparents subgroup students to make up a "Family History" group, and used an independent samples t test to compare them to the first-generation college students subgroup with no family history of post-high school education who then made up the "No Family History" group. While results indicated that there were no significant differences in these calculations, I did find two differences that were approaching significance. It appeared that students with a family history of college had slightly lower levels of perceptions of academic stress as measured on the PASS ($t = -1.53$, $p = 0.06$). Additionally, results indicated that students with a family history of college had slightly higher levels of internal motivation as measured on the ASICS ($t = -1.51$, $p = 0.06$).

To better understand how first-generation college students with no family history of college differed from continuing-generation college students, I used an independent samples *t* test to evaluate how first-generation college students with no family history of college differed from continuing-generation college students. Results from these independent samples *t* tests indicated that, while first-generation college students with no family history of college experience did not significantly differ from continuing-generation college students on the dependent variables, continuing-generation college students did have slightly higher levels of internal motivation as measured on the ASICS which was approaching significance ($t = 1.47$, $p = 0.07$).

Additionally, I ran Pearson's *r* correlations between all my measures and subscales to see how each measure related to one another. Significant results from these correlations are presented in Table 7 and Table 8. These results indicate that the measures PSS, PASS, 12-item Grit Scale, and BRS significantly correlated. Additionally, it was seen that several of the ASICS subtests correlated with one another as well as the with the 12-item Grit Scale.

Lastly, given previous research suggesting GPA is commonly used as a measure of a college student's success (Hodara & Lewis, 2017), I ran Pearson's *r* correlations between all ASICS subscales and each students' self-reported college GPA. Additionally, I created a separate correlation matrix that included Pearson's *r* correlations between the students' self-reported high school GPA, college GPA, and their perception of their social status, which was used as a measure of SES. Results from these correlations are presented in Table 8 and Table 9.

Table 7

Correlation Matrix between PSS, PASS, Grit, and BRS

Measures	*PSS*	*PASS*	*Grit*
PASS	-.58**		
Grit	-.31**	.27**	
BRS	-.47**	.28**	.23**

*** = p < .01*
Note. PSS =Perceived Stress Scale; PASS = Perception of Academic Stress Scale (higher scores denote lower stress); BRS = Brief Resilience Scale

Table 8

Correlation Matrix between ASICS subscales and College GPA

Measures	*ASICS: CD*	*ASICS: IM*	*ASICS: EM-F*	*ASICS: GS*	*ASICS: LA*	*ASICS: C*	*ASICS: PA*
Grit	-.13**						
ASICS:IM							
ASICS: EM-F	.14*	.26**					
ASICS: GS	.19*	.29**					
ASICS: LA		.31**		-.26**			
ASICS: C		.37**	.16**	.29**	.14*		
ASICS: EM-C			.19**	.25**	-.20**		
ASICS: PA	.13*	.20**			.21**	.20**	
ASICS: S	.15*			.40**		.17**	.27**
ASICS: IE		.37**	.22**			.27**	
College GPA		.22**		.21**		.22**	

* = p < .05
*** = p < .01*
Note. ASICS = Academic Success Inventory for College Students; CD = Career Decidedness; IM = Internal Motivation; EM-F = External Motivation-Future; GS = General Skills; LA = Lack of Anxiety; C = Concentration; EM-C = External Motivation-Current; PA = Personal Adjustment; S = Socializing; IE = Instructor Efficacy; GPA = grade point average

Table 9

Correlation Matrix between High School GPA, College GPA, and SES

Variables	College GPA	High School GPA
High School GPA	.33**	
SES	.12	.16**

* = p < .05
** = p < .01
Note. GPA = grade point average; SES = social economic status; BRS = Brief Resilience Scale

CHAPTER IV: DISCUSSION

With a third of college students being classified as first generation, it is imperative to understand how this classification can relate to a student's college experience (EAB Global, 2018). Previous research has indicated that first-generation college students are at a great risk for experiencing academic struggles due to lack of preparedness than continuing-generation college students are (Choy, 2001). Even with being less prepared to face the many challenges college entails, research has shown that first-generation college students have higher levels of grit and resilience than continuing-generation college students (Alvarado et al., 2017; Hodge et al., 2018), suggesting there may be certain protective factors unique to first-generation college students. What is missing from the literature is how first-generation college students differ on levels of perceived stress and academic stress than continuing-generation college students, and if these differences relate to academic success. I hypothesized that first-generation college students in this study would be found to have higher levels of grit, resilience, perceived stress, perceived academic stress, and lower levels of academic success on each subscale.

Results indicate that, although this sample of first-generation and continuing-generation college students may not have significantly differed on levels of perceived stress, perceived academic stress, and all areas of academic success as hypothesized, there were some differences that were important to note among the two groups of students. For starters, first-generation college students from this sample were found to have significantly higher levels of resilience than continuing-generation college students as measured on the Brief Resilience Scale. This finding supports one of my five hypotheses, in addition to the research of Alvarado et al. (2017), and further suggests that resilience may be a positive factor unique to first-generation college students. One possible reason for these students demonstrating higher resilience could be due to them needing to face and overcome unique stressors and challenges in their life already. Alvarado et al. (2017) suggests that due to first-

generation college students being more likely to have been exposed to more stressful situations earlier on in life than continuing-generation college students, first-generation college students could have developed resilience earlier on in life which may help them while attending college.

Secondly, it appeared that first-generation college students had lower levels of one aspect of the measure of academic success used here from the Academic Success Inventory for College Students (Prevatt et al., 2011)—External Motivation/Current. In this sample, continuing-generation college students had significantly higher scores on the External Motivation/Current subscale, suggesting that continuing-generation students have an external incentive to perform well in a class given that class's relevance to future success (Welles, 2010). One plausible hypothesis as to why these continuing-generation students were shown to have higher levels of external motivation compared to first-generation college students could be that they have learned through their parents' own academic careers just how important it is to do well in classes.

When evaluating the different subgrouping of first-generation college students and how they compare to continuing-generation college students, the only significant finding was in the first-generation college students who had an older sibling with college experience reported having significantly higher levels of self-reported concentration than the remaining subgroups of first-generation college students as well as continuing-generation college students. While this is only one subscale on the Academic Success Inventory for College Students, it could be worth evaluating further. One plausible reason for this significant difference could be that first-generation college students with an older sibling having college experience could have seen their sibling(s) concentrating on their schoolwork and they were able to learn the importance of concentrating on academics.

Although there were no significant findings when examining how having a family history of college experience—meaning students considered to be continuing-generation college students and first-generation students whose parents, siblings, and/or grandparents had some history of college—

compared to having no family history of college experience—meaning first-generation college students with absolutely no family history of college experience—it is important to note that students with some family history of college did correlate with slightly higher levels of internal motivation, as measured on the ASICS, and slightly lower levels of academic stress, as measured on the PASS. Again, it could be that having some form of college experience in your family could motivate you to do well in school and could help ease your stress when facing academic challenges given that you have people in your family you can turn to since they know what you are likely experiencing.

Overall, this study found that first-generation college students differed slightly from continuing-generation college students on levels of resilience and some levels of self-reported academic success. This is a start at better understanding how these two groups of students differ and how having a family history of college experiences can relate to one's own journey with college. While much work still needs to be done to fully understand the impact of these differences, this study begins to bridge the gap in the literature about first-generation college students and their college experiences.

Limitations and Future Research

It is important to note that this study is not without limitations. For instance, this study specifically looked at internal characteristic such as stress, grit, and resilience between first-generation and continuing-generation college students and how this related to self-reported levels of academic success. What was not examined were how external factors, such as poverty, college preparedness, and family support differed among first-generation and continuing-generation college students and how this could impact their academic success. While internal factors are important to look at when it comes to academic success, it is also essential to consider how bigger, more external variables can also relate to one's academic experience. Furthermore, it is also critical to examine how global factors

relate to one's college student status (i.e., being a first-generation college student or a continuing-generation college student). Only looking at internal factors just gives us one piece of the puzzle.

Another limitation that is key to consider is that this sample consisted of college students who were presently living through a global pandemic. Hoyt et al. (2020) found that college students, on average, are currently experiencing moderate levels of perceived stress and anxiety during the current pandemic. Because of this, participants' responses could have greatly differed than if these students were not living in a global pandemic. In fact, my sample of college students had significantly lower levels of grit and resilience than previous samples from both measures. Due to this unique circumstance, it is hard to generalize my results to first-generation and continuing-generation college students as a whole.

Lastly, it is important to mention that this was not a very diverse sample of college students given that only one university was examined. In order to better generalize these results, students from different parts of the country, with different backgrounds, with an even distribution of males and females should be included in future research.

For future research, more global factors such as poverty, parental support, and college preparedness should be incorporated when examining differences between first-generation and continuing-generation college students and how these differences relate to academic success. Since resilience has been found to be higher in first-generation college students, it is perplexing as to why drop-out rates in first-generation college students are also higher. Looking at external factors may be able to shed more light on what contributes to this difference and what can be done to prevent higher drop-out rates in these students.

Additionally, considering only 5 out of the 247 total participants that completed this study have participated in the TRIO Student Support Services, which is designed to assist first-generation college students and students with unique financial needs. A greater emphasis on utilizing this

resource may lead to an increase in the number of students participating in this service. For future research, it would be interesting to examine how participation in this program relates to academic success and one's college student status (i.e., first-generation or continuing-generation college student).

Overall, this study presents findings that could be useful at better understanding the potential differences between first-generation and continuing-generation college students and how these differences relate to academic success. While more research is needed to understand more global differences between these students, this study does begin to bridge the gap in the literature regarding first-generation college students and the unique challenges they face during college.

REFERENCES

ACT Research and Policy. (2013). Readiness matters: The impact of college readiness on college persistence and degree completion. *Policy Report*. https://ucarecdn.com/d99ed98c-77b1-407c-8213-947544c224aa/

Adler, N., Epel, E., Castellazzo, G, & Ickovics, J. (2000). Relationship of subjective and objective social status with psychological and physiological functioning. Preliminary data in healthy, white women. *Health Psychology, 19*(6), 586-592.

Allen, J., & Radunzel, J. (2017). What are the ACT College Readiness Benchmarks? *ACT Research & Policy.* https://www.act.org/content/dam/act/unsecured/documents/pdfs/R1670-college-readiness-benchmarks-2017-11.pdf

Allensworth, E., & Clark, K. (2020). High school GPAs and ACT scores as predictors of college completion: Examining assumptions about consistency across high schools. *Educational Research, 49*(3), 198-211. http://doi.org/10.3102/0013189X20902110

Alvarado, A., Spatariu, A., &Woodbury, C. (2017). Resilience & emotional intelligence between first generation college students and non-first-generation college students. *Focus on Colleges, Universities, and Schools, 11*(1), 1-10.

American College Health Association. (2019). National College Health Assessment II: Undergraduate Student Reference Group Data Report Spring 2019. https://www.acha.org/documents/ncha/NCHA-II_SPRING_2019_UNDERGRADUATE_REFERENCE_GROUP_DATA_REPORT.pdf

American Psychological Association. (2020). Building your resilience. *American Psychological Association.* https://www.apa.org/topics/resilience

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens

through the twenties. *American Psychological Association, 55*(5), 469-480.

http://doi.org/10.1037//0003-066x.55.5.469

Arnett, J. J. (2020). Emerging adulthood. In R. Biswas-Diener & E. Diener (Eds), *Noba*

textbook series: Psychology. Champaign, IL: DEF Publishers. http://noba.to/3vtfyajs

Bassiri, D. (2016). Academic growth patterns of first-generation college students in

grades 8 to 12 by parent education. *ACT Research & Policy.*

https://www.act.org/content/dam/act/unsecured/documents/6170_Academic_Growth_Patterns

_FirstGen_College_Students_Parental_Education.pdf

Bedewy, D. & Gabriel, A. (2015). Examining perceptions of academic stress and its

sources among university students: The perception of academic stress scale.

Health Psychology Open, 1-9. http://doi.org/10.1177/2055102915596714

Cataldi, E., Bennett, C., & Chen, X. (2018). First-generation students: college access,

persistence, and postbachelor's outcomes. *U.S Department of Education: National Center for*

Education Statistics, 1-31. https://nces.ed.gov/pubs2018/2018421.pdf

Chickering, A. (1969). *Education and identity*. San Francisco, CA: Jossey-Bass.

Choy, S. (2001). Students whose parents did not go to college: postsecondary access,

persistence, and attainment. *U.S Department of Education; National Center for*

Education Statistics, 1-34. http://nces.ed.gov/pubs2001/2001126.pdf

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress.

Journal of Health and Social Behavior, 24(4), 385-396. https://doi.org/10.1007/s11031-017-

9660-4

Duckworth, A., Peterson, C., Matthews, M., & Kelly, D. (2007). Grit: perseverance and

passion for long-term goals. *Journal of Personality and Social Psychology, 92*(6),

1087-1101. http://doi.org/10.1037/0022-3514.92.6.1087

EAB Global. (2018). 7 fast facts about your first-generation students. https://eab.com/insights/daily-briefing/student-affairs/7-fast-facts-about-your-first-generation-students/

Hodara, M., & Lewis, K. (2017). How well does high school grade point average predict college performance by student urbanicity and timing of college entry? (REL 2017–250). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northwest. http://ies. ed.gov/ncee/edlabs

Hodge, B., Wright, B., & Bennett, P. (2018). The role of grit in determining engagement and academic outcomes for university students. *Research in Higher Education 59*(1), 448-460. http://doi.org/10.1007/s11162-017-9474-y

Howard, J., Nicholson, B., & Chesnut, S. (2019). Relationships between positive parenting, overparenting, grit, and academic success. *Journal of College Student Development, 60*(2), 189-202. http://doi.org/10.1353/csd.2019.0018

Hoyt, L., Cohen, A., Dull, B., Castro, E., & Yazdani, N. (2020). Constant stress has become the new normal: Stress and anxiety inequalities among U.S. college students in the time of COVID-19. *Journal of Adolescent Health, 68*(1), 270-276. http://doi.org/10.1016/j.jadohealth.2020.10.030

Miller, C. (2019). *College dropout rates*. Educational Data. https://educationdata.org/college-dropout-rates

Postsecondary National Policy Institute. (2018). First generation students in higher education. *Fact Sheets: First-Generation Students.* https://pnpi.org/first-generation-students/

Prevatt, F., Welles, T., & Yelland, S. (2011). The academic success inventory for college

students: Scale development and practical implications for use with students. *Journal of College Admissions.*

https://pdfs.semanticscholar.org/8ddc/dfdafa7029e3dde5d6c7f1d62d370b111127.pdf?_ga=2.2 23109976.238926549.1593013745-1485019597.1592429361

Saunders-Scott, D., Braley, M., & Stennes-Spidahl. N. (2017). Traditional and psychological factors associated with academic success: Investigating best predictors of college retention. *Motivation and Emotion, 42*(1), 459-465.

Smith, B., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine, 15*(1), 194-200. http://dx.doi.org/10.1080/10705500802222972

Sparkman, L., Maulding, W., & Roberts, J. (2012). Noncognitive predictors of student success in college. *College Student Journal, 43*(3)*, 642*-652.

Stroupe, A. (2020). *Personal Data Form.*

Welles, T. (2010). An analysis of the academic success inventory for college students: Construct validity and factor scale invariance. *The Florida State University College of Education.* https://fsu.digital.flvc.org/islandora/object/fsu%3A175747

Wilbur, T. & Roscigno, V. (2016). First-generation disadvantage and college enrollment/completion. *SOCIUS: Sociological Research for a Dynamic World, 2*(1), 1-11. http://dx.doi.org/10.1177/2378023116664351

APPENDICES

APPENDIX A

Informed Consent Document

IRBF024 – Participant Informed Consent (ONLINE)
Language to be used for online surveys that qualify for "no more than minimal risk"

Information and Disclosure Section

The following information is provided to inform you about the research project in which you have been invited to participate. Please read this disclosure and feel free to ask any questions. The investigators must answer all of your questions and please save this page as a PDF for future reference.

- Your participation in this research study is voluntary.
- You are also free to withdraw from this study at any time without loss of any benefits.

For additional information on your rights as a participant in this study, please contact the Middle Tennessee State University (MTSU) Office of Compliance (Tel 615-494-8918) or send your emails to irb_information@mtsu.edu. (URL: http://www.mtsu.edu/irb).

Please read the following and respond to the consent questions in the bottom if you wish to enroll in this study.

1. **Purpose**: This research project is designed to help us evaluate any possible personal and academic differences between first-generation and continuing-generation college students. Additionally, possible protective factors within the two groups of students will be evaluated.

2. **Description**: There are several parts to this project. They are:
   - Completing an online consent form
   - Completing a series of self-report questionnaires online
   - Completing a brief demographics form
   - Reading a debriefing document

3. **IRB Details:**
   - **Protocol Title**: How first-generation college students and continuing-generation college students differ on levels of personal and academic characteristics
   - **Primary Investigator:** Hannah Johnson
   - **PI Department and College:** School Psychology; College of Behavioral and Health Services
   - **Faculty Advisor:** Dr. James Rust
   - **Protocol ID:** 21-2033 7q   **Approval Date:** 09/23/2020   **Expiration Date:** 09/30/2021

4. **Duration**: The whole activity should take about __30-45_ minutes/hours. / The participants will not compensated / The subjects must take at least___30___minutes/hours to complete the study.

5. **Here are your rights as a participant: (MANDATORY)**

   1. Your participation in this research is voluntary.

2. <mark>You may skip any item that you don't want to answer, and you may stop the experiment at any time (but see the note below)</mark>
3. <mark>If you leave an item blank by either not clicking or entering a response, you may be warned that you missed one, just in case it was an accident. But you can continue the study without entering a response if you didn't want to answer any questions.</mark>
4. <mark>Some items may require a response to accurately present the survey</mark>.

6. **Risks & Discomforts:** You will be asked to complete a series of questionnaires which will require 30-45 minutes of your time. Some of the questionnaires ask about stress which could cause minimal discomfort due to answering questions about stress and possibly stressful situations.

7. **Benefits:**
   a. Benefits to you that you may not receive outside this research: There are no direct benefits to you; however, your participation is crucial as given below.
   b. Benefits to the field of science or the community: By participating in this study, you are assisting with furthering the knowledge related to first-generation college students and continuing-generation college students and how these two groups differ in levels of stress, academic success, grit, and resilience. This information will be helpful for better understanding how these two groups of students differ and could guide the development of better resources and programs for these students in order to be successful in completing a college degree. You will also be assisting a fellow MTSU student complete their master's thesis. There will be no financial compensation for completing this study, but you will be given partial course credit for completing this study.

8. **Identifiable Information**: You will NOT be asked to provide identifiable personal information/You may provide contact information for follow-up / We may request your contact information for compensation purposes

9. **Compensation:** The participants will be compensated by partial course credit. No other monetary compensation will be made. No other compensation will be available. Compensation will also not be given in case of any injury or bodily harms including sickness.

   Compensation Requirements:
   a) *The qualifications to participate in this research are:* the participant must consent to participate in this study in order to receive partial course credit. *If you do not meet these qualifications, you will not be included in the research and you will not be compensated.*
   b) *After you complete this consent form you will answer screening questions. If you fail to qualify for the research based on these questions, the research will end and you will not be compensated.*
   c) *Please do not participate in this research more than once. Multiple attempts to participate will not be compensated.*
   d) *Attention checks are embedded in the research. If you fail 1 or 2 of these, then you will not be compensated.*
   e) *To be compensated, you must receive a completion code. That requires clicking on the final screen of the study. If you choose to stop for any reason, you will still need to click through until the end to receive compensation (just leave the items blank and click*

through until the end <; if items require a response to present the survey accurately, you will need to respond to those items as your progress to the end of the survey)>.

    f) *Based on the cash value of the compensation (more than $75 per iteration), you will be asked for tax details for accounting purposes.*

10. **Confidentiality.** All efforts, within reason, will be made to keep your personal information private but total privacy cannot be promised. Your information may be shared with MTSU or the government, such as the Middle Tennessee State University Institutional Review Board, Federal Government Office for Human Research Protections, *if* you or someone else is in danger or if we are required to do so by law.

11. **Contact Information.** If you should have any questions about this research study or possibly injury, please feel free to contact Hannah Johnson by telephone 615-500-8756 or by email hgj2c@mtmail.mtsu.edu OR my faculty advisor, Dr. James Rust, at James.Rust@mtsu.edu, 615-898-5027. You can also contact the MTSU Office of compliance via telephone (615 494 8918) or by email (compliance@mtsu.edu). This contact information will be presented again at the end of the experiment.

You are not required to do anything if you decide not to enroll in this study. Just quit your browser. Please complete the response section below if you wish to learn more or you wish to part take in this study.

Participant Response Section

☐No ☐Yes   I have read this informed consent document pertaining to the above
                identified research
☐No ☐Yes   The research procedures to be conducted are clear to me
☐No ☐Yes   I confirm I am 18 years or older
☐No ☐Yes   I am aware of the potential risks of the study

By clicking below, I affirm that I freely and voluntarily choose to participate in this study. I understand I can withdraw from this study at any time without facing any consequences.
       ☐ NO I do not consent
       ☐ Yes I consent

APPENDIX B

Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate *how often* you felt or thought a certain way. Although some of the questions are similar, there are differences between them, and you should treat each one as separate questions. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate. For each question choose from the following alternatives:

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

1. In the last month, how often have you been upset because of something that has happened unexpectedly?   0 1 2 3 4

2. In the last month, how often have you felt that you were unable to control the important things in your life?   0 1 2 3 4

3. In the last month, how often have you felt nervous and stressed?   0 1 2 3 4

4. In the last month, how often have you felt confident about your ability to handle your personal problems?   0 1 2 3 4

5. In the last month, how often have you felt that things were going your way?   0 1 2 3 4

6. In the last month, how often have you found that you could not cope with all the things you had to do?   0 1 2 3 4

7. In the last month, how often have you been able to control irritations in your life?   0 1 2 3 4

8. In the last month, how often have you felt that you were on top of things?   0 1 2 3 4

9. In the last month, how often have you been angered because of things that happened that were outside of your control?   0 1 2 3 4

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?   0 1 2 3 4

Scoring:

First, reverse the scoring for questions 4, 5, 7, and 8. On these 4 questions, change the scores so that 0 = 4, 1 = 3, 2 = 2, 3 = 1, and 4 = 0. Then, add up your scores for each item to get a total. Scores on this measure can range from 0-40 with higher scores representing higher perceived stress. Scores from 0-13 are considered low stress, scores from 14-26 are considered moderate stress, and scores from 27-40 are considered higher perceived stress.

APPENDIX C

Perception of Academic Stress Scale

The following questions ask about your thoughts and feelings towards the classes you are currently taking. Please choose from the following options to indicate how much you agree with each statement:

1 = Strongly Agree 2 = Slightly Agree 3 = Neutral 4 = Slightly Disagree 5 = Strongly Disagree

1. Competition with my peers for grades is quite intense. 1 2 3 4 5

2. My teachers are critical of my academic performance. 1 2 3 4 5

3. Teachers have unrealistic expectations of me. 1 2 3 4 5

4. The unrealistic expectations of my parents stress me out. 1 2 3 4 5

5. The time allocated to classes and academic work is enough. 1 2 3 4 5

6. The size of the curriculum (workload) is excessive. 1 2 3 4 5

7. I believe that the amount of work assignments is too much. 1 2 3 4 5

8. I am unable to catch up if I get behind on my work. 1 2 3 4 5

9. I have enough time to relax after work. 1 2 3 4 5

10. Exam questions are usually difficult. 1 2 3 4 5

11. Exam times are too short to complete the answers. 1 2 3 4 5

12. Exam times are very stressful to me. 1 2 3 4 5

13. I am confident that I will be a successful student. 1 2 3 4 5

14. I am confident that I will be successful in my future career. 1 2 3 4 5

15. I can make academic decisions easily. 1 2 3 4 5

16. I fear of failing classes this year. 1 2 3 4 5

17. I think that my worry about exams is a weakness of mine. 1 2 3 4 5

18. Even if I pass my exams, I am worried about getting a job. 1 2 3 4 5

Scoring: Reverse score items 1-5 in which 1 = Strongly Disagree and 5 = Strongly Agree. The lower the score, the higher the level of perceived academic stress.

APPENDIX D

Academic Success Inventory for College Students

Gender: 1 Male   Age:_____
          1 Female

Estimated Overall GPA: _____

How many semesters have you been in college? _____
    (Please count summer even if you did not take classes. Please count current semester.)

Ethnicity: 1 Anglo
               ☐ African American
               ☐ Non-White Hispanic
               ☐ Asian American
               ☐ Other

Have you declared a major yet?   1 Yes   1 No

If yes, how many semesters have you been in your current major? _____

Have you ever been diagnosed with ADHD?   1 Yes   1 No

Have you ever been diagnosed with a learning disability?   1 Yes   1 No

Approximately what PERCENTAGE of your total college expenses (tuition, room and board, books, daily living expenses) do you personally pay for by working, borrowing money (such as financial aid or student loans) or out of your own personal savings? Do not count expenses that are paid for by your parents, by a trust fund, or by a scholarship. _____
                                        The value must be between 0%-100%

How many hours a week do you spend working at a job for pay? _____

If you are currently in a dating relationship, how would you describe it?

- ☐ Not currently in a dating relationship
- ☐ Casual Dating
- ☐ Slightly Serious
- ☐ Moderately Serious
- ☐ Quite Serious
- ☐ Extremely Serious

My partner is a positive influence on my academic achievement. _____

Enter 0 for Not currently in a dating relationship, 1 for Strongly Disagree, 2 for Moderately Disagree, 3 for Slightly Disagree, 4 for Neutral, 5 for Slightly Agree, 6 for Moderately Agree, 7 for Strongly Agree.

My partner is a positive influence on my academic achievement. _____

Enter 0 for Not currently in a dating relationship, 1 for Strongly Disagree, 2 for Moderately Disagree, 3 for Slightly Disagree, 4 for Neutral, 5 for Slightly Agree, 6 for Moderately Agree, 7 for Strongly Agree.

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

_____

For all the following questions that refer to a specific class, please answer them with regard to the course you listed above.

How difficult was the course above? _____

Enter 1 for Extremely Difficult, 2 for Moderately Difficult, 3 for Slightly Difficult, 4 for Neutral, 5 for Slightly Easy, 6 for Moderately Easy 7 for Extremely Easy.

This course was: 1 Required 1 An Elective

For the following questions, please circle the number that corresponds to your answer

2	Personal problems kept me from doing well in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
4	It was easy to keep my mind from wandering in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
5	I was nervous for tests even when I was well prepared.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

6	I studied the correct material when preparing for tests in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
7	I had an easy time concentrating in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
8	I got satisfaction from learning new material in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
9	I needed to do well in this class to get a good job later on.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
10	I worked hard to prove I could get a good grade.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
11	I enjoyed the challenge of just learning for learning's sake in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
12	I felt confident I could understand even the most difficult material in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
13	I was pretty sure I could make an A or a B in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
14	I tried everything I could to do well in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

15	Sometimes I partied when I should have been studying.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
16	I worked really hard in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
18	Studying for this class made me anxious.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
19	I had a hard time concentrating in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
20	My grades suffered because of my active social life.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
22	I knew that if I worked hard, I could do well in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
23	This class will be very useful to me in my career.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
24	I worried a lot about failing this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
25	I got easily distracted in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

26	I was disappointed with the quality of the teaching.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
28	I kept a good study schedule in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
29	I did poorly because the instructor was not effective.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
30	I would have done much better in this class if I didn't have to deal with other problems in my life.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
31	It was important to get a good grade in this class for external reasons (my parents, a scholarship, university regulations).						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
32	I worked hard in this class because I wanted others to think I was smart.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
33	I would have done better if my instructor was better.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
34	I was pretty sure I would get a good grade in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
35	I felt pretty confident in my skills and abilities in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

36	I worked hard in this class because I wanted to understand the materials.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
37	I got anxious when taking tests in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
39	I studied a lot for this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
41	I think I used good study skills when working in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
42	The instructor in this class really motivated me to do well.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
44	Anything I learned, I learned on my own. The instructor in this class was not a good teacher.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
45	I got behind in this class because I spent too much time partying or hanging out with my friends.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
46	This class is important to my future success.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
49	I needed good grades in this class to keep up my GPA.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

50	I had some personal difficulties that affected my performance in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
51	I think in the future I will really use the material I learned in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
54	Sometimes my drinking behavior interfered with my studying.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
55	I made good use of tools such as planners, calendars and organizers.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
56	I used goal setting as a strategy in this class.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
57	I was good at setting specific homework goals.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
58	I was well organized.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
59	I am certain about what occupation I want after I graduate.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
60	I know what I want to do after I graduate.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

61	I am having a hard time choosing a major.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
62	I am certain that my major is a good fit for me.						
	1	2	3	4	5	6	7
	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

Scoring:

The following items are reversed scored: 2, 5, 15, 18, 19, 20, 24, 25, 26, 29, 30, 33, 37, 42, 44, 45, 50, 54, 61

Use the following distribution of items to find each subscale score:

      Career Decidedness: 59, 60, 61, 62

      Internal Motivation/Confidence: 8, 11, 12, 13, 22, 24, 34, 35

      External Motivation/Future: 9, 23, 46, 51

      General Academic Skills: 6, 10, 14, 16, 28, 36, 39, 41, 55, 56, 57, 58

      Lack of Anxiety: 5, 18, 37

      Concentration: 4, 7, 19, 25

      External Motivation/Current Time: 31, 32, 49

      Personal Adjustment: 2, 30, 50

      Perceived Instructor efficacy: 26, 29, 33, 42, 44

      Socializing: 15, 20, 45, 54

For each subscale, add up the total score, divide by the number of items included in that subscale and multiply by 14.28 so that the score is now on a scale of 1-100. This score will be compared to the norming sample to indicate high/low scores.

APPENDIX E

12-Item Grit Scale

Directions for taking the Grit Scale: Here are a number of statements that may or may not apply to you. For the most accurate score, when responding, think of how you compare to most people -- not just the people you know well, but most people in the world. There are no right or wrong answers, so just answer honestly!

1. I have overcome setbacks to conquer an important challenge.
   Very much like me
   Mostly like me
   Somewhat like me
   Not much like me
   Not like me at all

2. New ideas and projects sometimes distract me from previous ones.*
   Very much like me
   Mostly like me
   Somewhat like me
   Not much like me
   Not like me at all

3. My interests change from year to year.*
   Very much like me
   Mostly like me
   Somewhat like me
   Not much like me
   Not like me at all

4. Setbacks don't discourage me.
   Very much like me
   Mostly like me
   Somewhat like me

Not much like me
Not like me at all

5. I have been obsessed with a certain idea of project for a short time but later lost interest.*
Very much like me
Mostly like me
Somewhat like me
Not much like me
Not like me at all

6. I am a hard worker.
Very much like me
Mostly like me
Somewhat like me
Not much like me
Not like me at all

7. I often set a goal but later choose to pursue a different one.*
Very much like me
Mostly like me
Somewhat like me
Not much like me
Not like me at all

8. I have difficulty maintaining my focus on projects that take more than a few months to complete.*
Very much like me
Mostly like me
Somewhat like me
Not much like me
Not like me at all

9. I finish whatever I begin.
Very much like me

Mostly like me
Somewhat like me
Not much like me
Not like me at all

10. I have achieved a goal that took years of work.
Very much like me
Mostly like me
Somewhat like me
Not much like me
Not like me at all

11. I become interested in new pursuits every few months.*
Very much like me
Mostly like me
Somewhat like me
Not much like me
Not like me at all

12. I am diligent.
Very much like me
Mostly like me
Somewhat like me
Not much like me
Not like me at all

Scoring:
- For questions 1, 4, 6, 9, 10, and 112 assign the following points:
  - 5 = Very much like me
  - 4 = Mostly like me
  - 3 = Somewhat like me
  - 2 = Not much like me
  - 1 = Not like me at all

- For questions 2, 3, 5, 7, 8, and 11 assign the following points:
    1 = Very much like me
    2 = Mostly like me
    3 = Somewhat like me
    4 = Not much like me
    5 = Not like me at all

Add up all points and divide by 12. The maximum score on this scale is 5 (extremely gritty), and the lowest score on this scale is 1 (not at all gritty).

APPENDIX F

Brief Resilience Scale

Please indicate the extent to which you agree with each of the following statements by using the following scale:

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

1. I tend to bounce back quickly after hard times   1   2   3   4   5

2. I have a hard time making it through stressful events   1   2   3   4   5

3. It does not take me long to recover from a stressful   1   2   3   4   5
    event

4. It is hard for me to snap back when something bad   1   2   3   4   5
     happens

5. I usually come through difficult times with little trouble   1   2   3   4   5

6. I tend to take a long time to get over setbacks in my life   1   2   3   4   5

Scoring: items 2, 4, and 6 are reversed scored. Find the mean of the 6 items to obtain total score. Higher scores indicate higher levels of resilience.

APPENDIX G

Personal Data Form

How old are you?

Estimated current grade point average (GPA)

Estimated high school grade point average (GPA)

What is your current major?

What year are you considered at MTSU?
    Freshman
    Sophomore
    Junior
    Senior

To which gender identity do you most identity with?
    Male
    Female
    Other

Please indicate your race:
    White
    African American
    Hispanic or Latino
    Native American
    Asian/Pacific Islander
    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
    Not Applicable

What is the highest educational attainment status obtained by your older sibling/siblings?
    Less than High School Graduate
    High School Graduate or GED
    Trade School Certification
    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 parents/guardians?
    Less than High School Graduate
    High School Graduate or GED
    Trade School Certification
    Some College or Associate Degree
    Bachelor's Degree
    Graduate or Professional Degree

What is the highest educational attainment status obtained by either of your grandparents?

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

The Following are on a likert scale: strongly agree, agree, disagree, 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

Look at the following picture. At the top of the ladder are the people who are the best off, those who have the most money, most education, and best jobs. At the bottom are the people who are the worst off, those who have the least money, least education, worst jobs, or no job.

Please indicate the number rung that best represents where you think you stand on the ladder with the bottom rung being number 1 and the top rung being number 9.