Fall 11-18-2021

Relationship Between Grit, Academic Mindset, First-Year GPA, and Perceptions Related to Persistence for Non-Traditional College Students

Melissa Moss Young

Relationship Between Grit, Academic Mindset, First-Year GPA, and Perceptions Related to Persistence for Non-Traditional College Students

by
Melissa Moss Young

A Dissertation
Submitted in Partial Fulfillment of the Requirements for
The Degree of Doctor of Education
In Curriculum and Leadership
(Higher Education Administration)

Columbus State University
Columbus, GA

Jennifer L. Brown, PhD, Chair and Methodologist, Associate Professor, Department of Teacher Education, Leadership, and Counseling
Tina Butcher, PhD, Committee Member, Retired Professor, Department of Teacher Education, Leadership, and Counseling
Melody Shumaker, PhD, Committee Member, FYE Director, Office of the Provost

Dedication

This dissertation is dedicated to my dad, who pushed me to “show him” college was possible for someone from my background. It is dedicated to my husband, daughter, and son, who sacrificed attention to allow me the time to earn my degrees. It is dedicated to my mother, who earned her GED later in life, after being forced to drop out of school because she was pregnant with me. It is dedicated to all the first-generation students navigating the college experience with no one as a guide. It is dedicated to young girls who refuse to take no for an answer and those individuals who persevere in the face of innumerable obstacles.

Acknowledgements

I would like to thank my dissertation chair and methodologist, Dr. Jennifer Brown, for her unwavering support, attention to detail, and the consistent deadlines that pushed me to the finish line. I would also like to thank Dr. Tina Butcher for her mentorship as a leader, and for her support and dedication to continue to serve as a member of my committee into her retirement from our institution. Additionally, I would like to thank Dr. Melody Shumaker for her support as a colleague and for asking the hard questions. Each of these committee members were instrumental in my success.

I would also like to acknowledge the support that I have received from Dr. Sri Sitharaman, for providing institutional data as needed throughout this journey. His support was invaluable as I shaped and developed this dissertation. Additionally, support from my supervisors, Dr. Deborah Bordelon, Dr. Tim Howard, Dr. Pat McHenry, and Ms. Lisa Shaw, was a contributing factor in the successful completion of this journey.

Lastly, I would like to thank Shana Young for her executive coaching and reminders that "done is better than perfect", "does it have to be you", and "you can do anything for 20 minutes" that have helped me to narrow my focus, push to the end, and learn to delegate a bit more.

Thanks so much everyone!

Abstract

Retention of non-traditional college students has been a significant concern for postsecondary institutions, students, their families, and society. This study sought to explore the relationships between grit, academic mindset, first-year GPA, and the perceptions of students related to persistence. Braxton and associates' Revised Theory of Student Departure in Commuter College and Universities served as the theoretical framework for this study. This study was exploratory, sequential mixed method design, incorporating survey data from 2015 as well as qualitative interview data from 2020 and 2021. Results indicated a negative, moderate relationship between grit scores and mindset scores, a weak, negative relationship between academic mindset and first-year college GPA, a positive, moderate relationship between grit scores and first-year GPA. In addition, participants perceived that having a productive academic mindset, family support, supportive faculty and staff, flexible course offerings, and affordability could be factors influencing their persistence in postsecondary education settings. Given these findings, institutions should consider developing programming to improve faculty and staff support, becoming more family friendly, utilizing intentional and flexible course scheduling, and review costs of obtaining a postsecondary credential and begin to look for more ways in which college might be more affordable.

Table of Contents

List of Tables

List of Figures

Chapter I: Introduction

Background of the Problem

Access, affordability, and accountability are currently driving forces in higher education (Thayer, 2000). Complete College America is a national initiative with the mission of making college completion a reality for students of every race, gender, age, and income level (Complete College America, 2018). The primary goals of Complete College America are closing achievement gaps, boosting graduation rates, and making college accessible (Complete College America, 2018). Many states have created organizations to address the goals of Complete College America within their states (Complete College Georgia, 2016). Complete College Georgia seeks to address college readiness by improving P-12 education in the state, improving access and completion for underserved students, shortening the time to degree, restructuring instructional delivery, and transforming remediation (Complete College Georgia, 2016). In 2016, former President Barrack Obama charged postsecondary institutions with providing access to marginalized and non-traditional populations (White House, 2016).

Non-traditional students will continue to be important to postsecondary education institutions as the number of traditional students continues to fall (Grawe, 2018). In 2008, as a response to the Great Recession, people had fewer children, and this population trend directly impacts the number of high school graduates who will be available to enroll in postsecondary institutions (Grawe, 2018). The number of traditional high school graduates will plummet 15% by 2026 and is predicted to fall another 2% by 2029 (Grawe, 2018). This change in demographics means that competition for traditional aged students will be fierce, and non-traditional aged students will be heavily recruited to fill the void and reach enrollment goals.

Non-traditional college students are difficult to define and therefore difficult to study (Kasworm, 1990; MacDonald, 2018; U.S. Department of Education, 2015). Limited data are available specific to non-traditional students due to the complexity of this population (Miller, 2014). Miller (2014) identified a significant gap in the literature related to benchmark studies for non-traditional students. Miller found a lack of data grounded in student-level and institutional-level data from national databases. As the non-traditional student population becomes the majority, it will be critical for local, state, and national databases to be developed to better understand these complex populations (Miller, 2014). Postsecondary institutions and policy makers must be able to identify and meet the needs of this population in order to remain relevant and competitive in the world of postsecondary training.

Many institutions utilize age as a criterion for defining undergraduate non-traditional students, defining students above the age of 25 as non-traditional (S. Sitharaman, personal communication, February 25, 2021). The admissions office at the state university used an age 23 or older and/or out of high school for five or more years to classify undergraduate students as non-traditional, while the University System of Georgia considered students with an age of 25 or older at matriculation as non-traditional undergraduates (S. Sitharaman, personal communication, February 25, 2021). According to the National Center for Education Statistics, in 2018, 16 million students enrolled in postsecondary education, with 4.4 million students who were age 25 or older (U.S. Department of Education, 2018). Non-traditional students account for 26.7% of all students enrolled in postsecondary education (U.S. Department of Education, 2018). A mid-sized public four-year university in Georgia reported 60% of students as non-traditional, using age alone as the criterion of selection (State University, 2018). While age is a significant

characteristic for defining non-traditional students; age is an incomplete definition for describing this population of students.

Non-traditional students are better defined using wide variety of characteristics. Many non-traditional students are under 24 and exhibit other characteristics that are used to define non-traditional students (MacDonald, 2018; U.S. Department of Education, 2015). Non-traditional students can have one or more of the following characteristics:

- be at least 21 years of age,
- attend school part-time,
- work full-time,
- be a veteran,
- have children,
- enroll in college at least a year after high school graduation,
- earn a GED instead of high school diploma,
- be a first-generation college student,
- enroll in a non-degree program,
- or reentered a degree program (MacDonald, 2018).

According to the National Center for Education Statistics (2015), 73.8% of students identified as having one or more of these non-traditional student characteristics. With a population so large and prone to drop-out, understanding their needs and the factors that lead to their persistence is critical. Their success is important to the students, their families, the postsecondary institutions where they enrolled and to the nation (Ishitani, 2006, 2016; Kasworm, 1990; Metha, Newbold, & O'Rourke, 2011).

Non-traditional college students are less likely to reside on campus or become active on campus, and these students are more likely to be part-time students, work more hours, and have families (Postsecondary National Policy Institute, 2018). These students are often from lower socioeconomic backgrounds, part of a minority ethnic background, and are less prepared academically for success in college (Ishitani, 2006, 2016; Metha et al., 2011; Postsecondary National Policy Institute, 2018). Given these circumstances, non-traditional college students are less likely to attend four-year colleges, graduate on time, and are more likely to drop out of college altogether (Postsecondary National Policy Institute, 2018).

With the value of higher education called into question, institutions must keep higher education affordable while eliminating barriers to success (Complete College America, 2018; White House, 2016). Institutions are accountable for their ability to retain and graduate students (Ishitani, 2006, 2016; Metha et al., 2011). Critics contend that higher education takes too long, is too expensive, and does not produce results in the form of graduates (Complete College America, 2018). Only 19% of students complete their baccalaureate degrees in four years (Complete College America, 2018). Non-traditional college students consistently struggle to enroll in and persist through to complete their postsecondary education goals. Their struggles negatively affect retention rates at their institutions.

Grit and academic mindset could be contributing factors in persistence for those students who are successful (Duckworth, 2016; Duckworth, Peterson, Matthews, & Kelly, 2007; Dweck, 2006; Yeager & Dweck, 2012). First-semester GPA could also be a predictor of continued success (Gershenfeld, Ward Hood, & Zhan, 2016; Stewart, Lim, & Kim, 2015). The study sought to explore ways in which institutions could be more responsive to the needs of non-traditional college students and to understand what characteristics, such as grit, this population of

students brings to the table. Thus, non-traditional students could be able to persist through adversity and complete their postsecondary programs.

Statement of the Problem

According to the National Center for Education Statistics (2015), 73.8% of students had one or more non-traditional student characteristic. Most undergraduates in the United States are non-traditional. Additionally, by 2025, the pool of available traditional-aged students is expected to shrink 15% due to low birth rates in 2008 (Grawe, 2018). Fewer traditional-aged students will be available to enroll in postsecondary education programs. Competition for non-traditional students will become fierce, and retention of these students will be imperative. Unfortunately, upswings in the population of non-traditional students likely will have a negative impact on retention rates because non-traditional students are more likely to drop out of college when compared to traditional students (Choy, 2001; Petty, 2014; Postsecondary National Policy Institute, 2018). The National Center for Education Statistics reported that, in the United States, only about 20% of students who are 24 to 29 years old and 16% of student who are 30 or over complete their degrees within six years (Petty, 2014; U.S. Department of Education, 2018). Non-traditional students' failure to persist in college has negative consequences for the students, their families, the institutions, and the communities in which the students reside.

Most non-traditional students who fail to persist to graduation drop out between their freshman and sophomore years (Ishitani, 2016; Petty, 2014; Pike & Kuh, 2005). Students who drop out of college leave with student loan debt, a loss of potential income, and the loss of the socioeconomic mobility that comes with earning a postsecondary degree (Ishitani, 2006; Thayer, 2000; U.S. Department of Labor, 2017). Students' inability to persist from year to year has a

negative impact on their success in life and negatively affects the retention and graduate rates for the institutions when they fail to return.

Postsecondary institutions must retain their non-traditional students, as funding is more frequently associated with performance measured by the retention, progression, and graduation of students (Burkholder et al., 2013; Ishitani, 2006). In the eyes of legislature, the value of education relates to the number of graduates produced (Burkholder et al., 2013). In a global economy, education is a powerful tool that could enable the United States to continue to be a leader in innovation and technology. With the demand for highly educated citizenry, postsecondary institutions are charged with generating more graduates while also being tasked with remaining affordable and accessible (Burkholder et al., 2013).

The review of literature revealed that most research on persistence tends to take a deficit viewpoint focusing on student departure, rather than focusing attention on factors, such as grit and academic mindset, which influence persistence (Braxton, Hirschy, & McClendon, 2004). A better understanding of the factors, such as grit and academic mindset, which contribute to non-traditional college student persistence could enable institutions to better meet their needs and could in turn allow more of these students to complete their baccalaureate programs successfully (Thayer, 2000).

Purpose of the Study

This explanatory, sequential mixed methods study allowed the researcher to explore the relationship between grit, academic mindset, first-year college GPA, and persistence in non-traditional college students at a medium-sized public state university in Georgia. An explanatory, sequential design was used to identify grit scores, academic mindset, first-year GPA, and explore concepts related to the persistence of non-traditional college students. In the quantitative portion

of this study, correlational design was used to examine the relationship between grit and first-year college GPA in first-time, full-time non-traditional college students at a state university. In addition, a correlational design was used to examine the relationship between academic mindset and grit in non-traditional first-time, full-time college students. Additionally, a correlational design was used to examine the relationship between academic mindset and first-year college GPA in first-time, full-time non-traditional college students at a state university. In the qualitative portion of this study, interviews, conducted as part of instrumental case study design, explored factors related to persistence for first-time full-time, non-traditional college students at a state university (Baxter & Jack, 2008). The reason for collecting both quantitative and qualitative data was to allow the researcher a more complete picture of the relationship between students' persistence, first-semester GPA, grit, and academic mindset (Creswell & Creswell, 2018).

Research Questions and Hypotheses

The research study sought to examine the following questions:

1. What is the relationship between non-traditional college students' grit score and academic mindset?

   The researcher hypothesized that a relationship exists between non-traditional college students' academic mindset and grit scores or H_1: $\mu = k$. The null hypothesis is that there was no relationship between grit score and academic mindset or H_0: $\mu \neq k$.

2. What is the relationship between non-traditional college students' academic mindset and first-year college GPA?

   The researcher hypothesized that a relationship exists between non-traditional college students' academic mindset and their first-year college GPA or H_1: $\mu = k$. The null

hypothesis was that there is no relationship between academic mindset and first-year college GPA or H_0: $\mu \neq k$.

3. What is the relationship between non-traditional college students' grit score and first-year college GPA?

   The researcher hypothesized that a relationship exists between non-traditional college students' grit scores and their first-year college GPA or H_1: $\mu = k$. The null hypothesis was that there is no relationship between grit score and first-year college GPA or H_0: $\mu \neq k$.

4. What are the perceptions of non-traditional college students who persisted to earn a degree or credentials regarding their undergraduate experience?

Theoretical Framework

Tinto, perhaps the most cited researcher on student retention, developed the Longitudinal Model of Attrition also referred to as the Student Integration Model (1993) to describe student persistence in college (Aljohani, 2016; Braxton et al., 2004; Tinto, 1993). Tinto contends that college students who initially commit to an institution are more likely to persist or show continued institutional commitment when they have fully integrated at the institution (Tinto, 1993). Integration must occur in both the academic and the social arenas. Academic integration is associated with intellectual development and academic performance (Tinto, 1993). Social integration is associated with relationships formed between student peer groups and faculty (Tinto, 1993). Tinto argued that students' experiences in their first year of college were crucial to persistence or subsequent commitment (Tinto, 1993). Students' failure to recommit is likely to occur during or immediately following the first year at an institution (Aljohani, 2016; DeAngelo, 2014; Tinto, 1993). Tinto's theory asserts that students must feel that they are learning and

growing intellectually while also developing relationships with fellow students and faculty on campus or they are likely to stop-out (Aljohani, 2016; Tinto, 1993).

With over 20 years of research, Tinto laid the groundwork for studying student retention in residential colleges. However, his theory does not address the unique needs or concerns of students enrolled in commuter institutions (Braxton et al., 2004). Utilizing Tinto's theory, Braxton and his associates (2004) describe a theoretical model to aid in understanding student departure from commuter institutions. Braxton and associates' Theory of Student Departure in Commuter Colleges and Universities (Figure 1) describes persistence as a complex relationship between student entry characteristics, initial institutional commitment, external environment, internal campus environment, and subsequent institutional commitment.

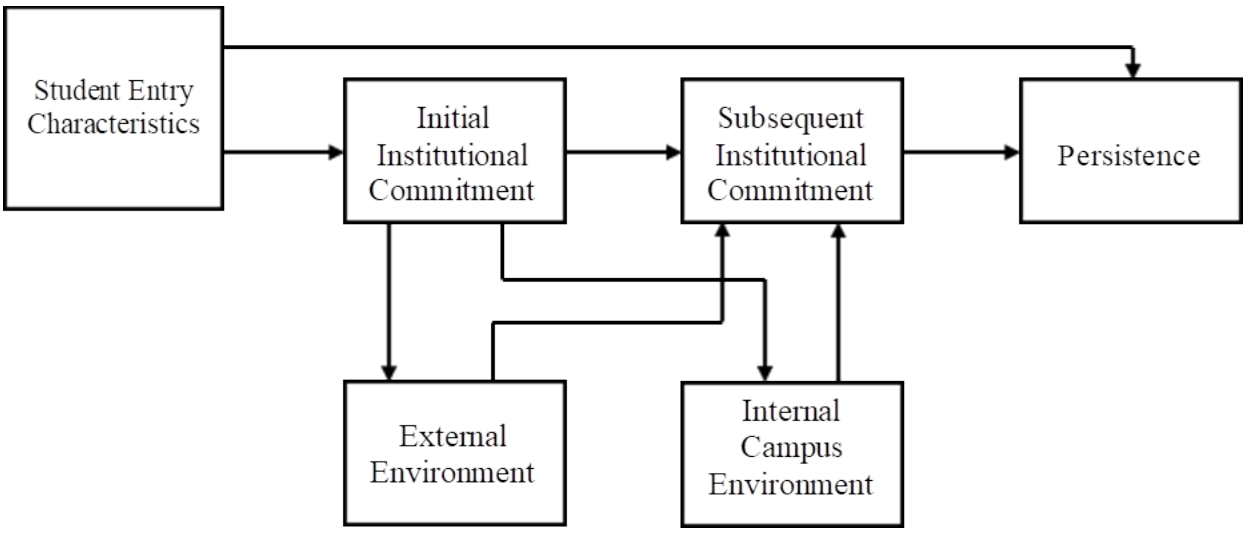


Figure 1. Revised Theory of Student Departure in Commuter College and Universities (Braxton et al., 2004).

Braxton et al.'s (2004) theoretical framework explains student entry characteristics as those characteristics, which could have significant impact on a student's initial institutional commitment. Examples include family background, grit, academic mindset, motivation, self-efficacy, empathy, and socialization (Braxton et al., 2004; Duckworth, 2016; Yeager & Dweck, 2012). External environments and internal campus environments are impacted by students' entry

characteristics and inform subsequent institutional commitment (Braxton et al., 2004). External environments include work, finances, support, family, and community (Braxton et al., 2004). Internal campus environments include academic communities and institutional environment, such as cost, integrity, and institutional commitment to student welfare (Braxton et al., 2004).

The model by Braxton and associates (2004) is more appropriate for use in this study because non-traditional college students have very different student entry characteristics when compared to traditional college students (Pike & Kuh, 2005). Non-traditional college students are less likely to live on campus or engage in campus activities (Pike & Kuh, 2005). Non-traditional college students generally do not form relationships with other students or with faculty (Pike & Kuh, 2005). Non-traditional students are less likely to perceive the institution to be concerned about their well-being (Pike & Kuh, 2005).

Methodology Overview

Participants

The participants for this study were chosen purposefully from the population of enrolled first-time, full-time undergraduate college students at a state university who completed a survey in the fall of 2015. The survey included the Grit-S scale and the Mindset Questionnaire. The state university enrolled 6,640 undergraduate students in Fall 2018 (State University, 2018). Of those students, 60% were non-traditional college students (State University, 2020). Overall retention rates at the state university were around 73%, and six-year graduation rates were around 35% (State University, 2020). Using age as inclusion criteria, first-time, full-time, non-traditional students were retained and graduated at much lower rates at the state university (State University, 2020a; State University, 2020b). Tables 1 and 2 detail the comparisons in retention

rates and graduation rates for traditional and non-traditional students. For the purpose of this study, students were considered non-traditional if they were aged 21 or older.

Table 1

Retention Rates for First-time, Full-Time Non-traditional Students

Academic Semester/Year	Traditional	Non-traditional
Fall 2014	71.3%	69.0%
Fall 2015	73.4%	66.7%
Fall 2016	75.3%	54.5%
Fall 2017	73.3%	61.3%
Fall 2018	71.6%	65.4%
Fall 2019	75.3%	60.7%

Table 2

Six-Year Graduation Rates for Traditional and Non-traditional Students

Academic Semester/Year	Traditional	Non-traditional
Fall 2009-2015	31.0%	14.5%
Fall 2010-2016	30.9%	17.2%
Fall 2011-2017	33.0%	12.5%
Fall 2012-2018	38.6%	8.6%
Fall 2013-2019	40.6%	14.6%
Fall 2014-2020	38.8%	11.5%

Data Collection

In Fall 2015, 244 first-time, full-time students responded to a survey that included questions related to grit (Appendix A) and academic mindset (Appendix B). The researcher collected demographic data related to students' age in fall 2015 to identify potential non-traditional students. For the purpose of this study, students were considered non-traditional if they were age 21 or above. The researcher also collected data to determine academic success as

measured by GPA and persistence as measured by continuous enrollment from semester to semester. From the 244 survey participants, a sample of eight students were identified as non-traditional students, using age as criteria for selection, and were selected as participants in this study.

The researcher interviewed the non-traditional students who experienced academic success and continue to enroll as well as students who have stopped attending. The researcher conducted interviews via Zoom. The researcher recorded the interviews using the Zoom platform tools and constructed field notes during the interviews. The recordings were used to generate transcripts of the interviews to allow for better qualitative analysis. The researcher created these transcripts rather than contract with a third-party transcription service.

Data Analysis

The researcher analyzed quantitative data collected using Pearson's *r* to allow the researcher to determine if there was relationship between grit score and academic mindset, mindset and first-semester GPA, and grit score and first-semester GPA for the eight students identified as non-traditional in the data set. Once the researcher analyzed the quantitative data, the researcher conducted semi-structured interviews with the eight students identified as non-traditional for the qualitative portion of the study. Interviews were conducted and recorded using Zoom. Recordings generated from Zoom were used during the transcription process by the researcher to generate transcripts for qualitative analysis.

The researcher analyzed the qualitative data that were collected from interviews using hand coding to identify emerging themes to understand the factors contributing to non-traditional college students' success in persisting from year to year toward graduation. Once the emerging

themes were identified, the researcher was able to determine the factors that contribute to the persistence of non-traditional college students.

Relationship to Research Questions

The explanatory, sequential mixed methods research design aligns with the research questions by allowing for the collection and analysis of both quantitative and qualitative data. (Appendix E). The quantitative data gleaned from the review of institutional data and survey results allowed the researcher to answer Research Question 1, 2, and 3 through statistical analysis. The analysis of qualitative data allowed the researcher to understand factors that contribute to the persistence of non-traditional college students in response to Research Question.

Delimitations and Limitations

The study's limited number of participants, selection method of participants, and focus on one institution do not allow the results to be easily generalized. Additionally, this study was further limited by the choosing age as the only identifying factor in selecting the non-traditional population from survey participants (Bohl, Haak, & Shrestha, 2017; Donaldson & Townsend, 2007; Langrehr, Phillips, Melville, & Eum, 2015; Warden & Myers, 2017). More research is necessary and should utilize a larger sample size and include students to determine if the same factors impacted their decisions to leave school. Additionally, participants should be chosen from a wider variety of institutions, such as research universities, junior colleges, and technical colleges, and selection should include additional criteria specific to non-traditional students rather than defining students as non-traditional using age as the sole criterion.

Definition of Terms

Academic Mindset is defined as one's mindset about academic ability being either static or dynamic grit (Mrazek et al., 2018; Yeager & Dweck, 2012). Fixed mindset is a belief that intelligence or ability is inflexible and unable to be developed with effort, study, and grit (Mrazek et al., 2018; Yeager & Dweck, 2012). Growth mindset is a belief that intelligence and ability is malleable and can be developed through hard work, study, and grit (Mrazek et al., 2018; Yeager & Dweck, 2012).

Commuter Students are defined as those students who do not live in campus housing and commute to and from the institution in which they are enrolled (Braxton et al., 2004).

Graduation is defined as college students' completion of their baccalaureate program within six years of beginning their studies (Pike & Kuh, 2005).

Grit is defined as both the passion and perseverance directed at achieving goals in the face of adversity (Duckworth, 2016).

Non-traditional Students are defined as college students who meet one or more of the following characteristics: be at least 21 years of age, attend school part-time, work full-time, be a veteran, have children, enroll in college at least a year after high school graduation, earn a GED instead of high school diploma, be a first-generation college student, enroll in a non-degree program, or reentered a degree program (MacDonald, 2018).

Persistence is students' continuation in college toward the goal of degree completion (Ishitani, 2016; Reason, 2009). Persistence is a student construct, which is sometimes confused with progression.

Progression is a measure of a college's success in encouraging students' continued enrollment. Success in progression is determined by the rate at which students complete their bachelor's degree in the four- to six-year time frame (Complete College Georgia, 2019).

Retention is defined as a college or university's measure of whether students remain enrolled (Reason, 2009). Typically, retention rate for an institution is calculated by the percentage of first-time, full-time students who enroll fall to fall at a given institution (U.S. Department of Education, 2018).

Traditional students are defined as students who enroll in postsecondary education programs immediately following high school and do not possess other characteristics associated with non-traditional students (MacDonald, 2018).

Significance of the Study

The study helped identify potential factors that allow non-traditional students to persist to degree at a state university, which was a mid-sized regional university and was considered a commuter institution (Carnegie Foundation, 2017). Non-traditional students account for 26.7% of the undergraduate student population across the nation and account for 60% of the student body at a state university (State University, 2018; U.S. Department of Education, 2018). By 2026, fewer traditional-aged students will be available for recruitment, which makes the retention of non-traditional student populations more critical (Grawe, 2018). Results from this study could help higher education administrators better understand the factors that allow non-traditional students to be successful in college. Results could drive policy and processes that affect non-traditional college students and other special populations across the University System of Georgia and beyond. Administrators could use the knowledge gleaned from this research to

better direct limited resources to serve this population and have a positive impact on all students' ability to persist to degree completion.

Summary

The explanatory, sequential mixed methods research study sought to examine the relationship between grit and academic mindset, mindset and first-year college GPA, and grit and first-year college GPA in non-traditional college students. It also sought to identify factors that allow non-traditional college students to persist year to year toward completion of their baccalaureate programs. While the scope of this study was limited to one mid-sized public state university, the results could be used as a springboard for further research, such as longitudinal studies. The results could also inform best practices at institutions with similar student populations. Postsecondary institutions have a vested interest in the success of non-traditional college students and other marginalized populations. Identifying factors that enable non-traditional students to persist could improve retention rates across all student populations (Thayer, 2000).

Chapter II: Literature Review

Braxton and associates' (2004) Theory of Student Departure in Commuter Colleges and Universities guided this study, serving as the framework to situate existing literature related to non-traditional college student persistence. The review of literature outlines existing research related to retention, persistence, grit, academic mindset, academic success, non-traditional college student entry characteristics, initial institutional commitment, external environments, internal environments, and subsequent institutional commitment. The review will illustrate the need to further study persistence of non-traditional college students with attention paid to factors that encourage persistence, rather than discourage.

Theoretical Framework

Persistence and retention are often used interchangeably in the literature to describe students' enrollment in college from semester to semester (Reason, 2009; Thayer 2000). Retention is an institutional construct whereas persistence is an individual trait (Reason, 2009). Colleges are charged with retaining their students (Reason, 2009). Students persist toward their goals (Reason, 2009). Progression is also sometimes used to describe student retention and persistence. Progression is defined as continued enrollment, which moves students toward their academic goals at an appropriate pace for completion of their programs of study within the expected time frame, typically six years for a bachelor's program and three years for an associate or certificate program (Complete College Georgia, 2019). Only 19% of first-time, full-time college students complete a bachelor's degree in four years, and just 60% of those students complete their degrees in six years (Complete College America, 2018, U. S. Department of Education, 2018). Non-traditional students are less likely to complete their programs within the six-year timeframe (U.S. Department of Education, 2018).

Retention or student retention has been the focus of significant research in the field of higher education over several decades, if not since the onset of formal education (Aljohani, 2016; Reason, 2009). With a body of literature so vast, a discussion of the contributors who are considered experts in the field, such as William Spady, Vincent Tinto, John Bean, and John Braxton, is necessary (Aljohani, 2016).

In 1970, Spady completed an extensive review of the literature associated with student retention conducted prior to his seminal work (Aljohani, 2016; Spady 1970). Spady found a lack of organization, clarity, and empirical research related to retention (Aljohani, 2016; Spady, 1970). The following year, he published empirical research focused on the development of his sociological student retention model (Aljohani, 2016; Spady, 1971). Spady's model illustrated two systems (i.e., academic and social) that are at play in students' decisions to remain enrolled in college. He further posited that two factors from each system influences a student's decision to remain enrolled (Aljohani, 2016; Spady, 1971). In the academic system, grades and intellectual development were strong determinants of whether a student was retained from year to year (Aljohani, 2016; Spady, 1971). In the social system, a sense of belonging and development of friendships were indicators of retention (Aljohani, 2016; Spady, 1971).

Tinto, perhaps the foremost researcher on student retention, expanded on Spady's work to include students' goal commitment and institutional commitment (Aljohani, 2016; Tinto, 1975). In developing his theoretical model, Institutional Departure Model, Tinto (1975) argued that student dropout (lack of retention) is a longitudinal process of interactions between the individual students and the academic and social systems of the institution in which the students' experiences impact their decisions related to continued commitment to the institutions and to their goals of college completion. He further detailed the impact that student background

characteristics and individual attributes have on goal commitment, institutional commitment, and decisions related to persistence in postsecondary education (Tinto, 1975).

Tinto (1997, 1998, 2012) has continued extensive work in the field of retention to include revisions of his theory to add the importance of classroom interactions about student persistence. According to Tinto (1997, 1998, 2012), students succeed in environments that provide structured support in academic, social, and financial arenas. He suggested that the classroom, which is especially important to developing community for non-traditional students, was the center of student life and therefore should be at the forefront of institutional intervention on persistence (Tinto 1997, 1998, 2012).

Bean (1980) proposed and tested a causal model of student retention related to employee departure from the work environment. Utilizing multiple regression and path analysis, he analyzed the results of surveys that were completed by 366 men and 541 women who were freshmen at a major public midwestern university in 1977 (Bean, 1980). The analysis revealed that, for women, institutional commitment, institutional quality, and routinization of being a college student were more closely related to retention than other factors reviewed (Bean, 1980). For men, institutional commitment, routinization, communication, and satisfaction were better indicators of retention (Bean, 1980). The study was inherently biased as it was administered at only one institution, and analysis was restricted to survey participants under the age of 22, who were Caucasian and freshmen (Bean, 1980). The elimination of other populations detracts significantly from the results (Bean, 1980). Bean (1980) also found that the ACT scores for the participants were closer to the top quartile at the institution and, when compared nationally, were significantly higher. The populations in question, i.e., minority students and lower performing, have a high risk of dropping out supported by a significant body of literature. Bean

acknowledged that excluding these populations of students diminished the generalization of the study. He called for further research to be conducted with larger sample sizes from multiple institutions and a more heterogeneous group of participants (Bean, 1980).

Braxton et al. (2004) developed the Revised Theory of Student Departure in Commuter College and Universities, which served as the theoretical framework for this study. Non-traditional college students are typically commuter students (Macdonald, 2018). Braxton et al. (2004) expanded on the retention work of Tinto and established a retention model that considered the needs of non-residential student populations. Institutions lack communities for commuter and non-traditional students to be able to find their fit (Braxton et al., 2004). As a result, these students struggle to establish a sense of social and academic belonging. Braxton et al. (2004) posed 16 ideas under four concepts related to student departure, which include economic, organizational, psychological, and sociological.

From an economic standpoint, students view college value through a cost-benefit lens (Braxton et al., 2004). If students perceived that the benefits of attending college outweigh the cost, they are more likely to persist (Braxton et al., 2004). Braxton and associates (2004) reported that financial aid and the available types of aid also impact students' decisions to persist. Braxton et al. stated that the more students believe that the institution is committed to their welfare and exhibits integrity the more likely they are to persist. Their perception of the organization has a direct influence on their retention.

Braxton et al. (2004) also identified five psychological concepts that contribute to student persistence: motivation to graduate and make steady progress toward that goal; lesser need for control and order over one's environment; belief in one's ability to succeed; awareness of the effects of one's actions on others; and lesser need to have a sense of affiliation. Braxton et al.

further detailed four sociological concepts that contribute to student persistence, some of which are counterintuitive: lower level of parental education; support from significant others; participation in the learning communities on campus; and enter college without preconceived notions or ideals about anticipated socialization. Additionally, Braxton et al. identified four other propositions related to persistence: student entry characteristics, which affect the initial institutional commitment; institutional commitment to students affects the students' subsequent commitment to the institution; a greater degree of academic integration leads to a greater subsequent commitment to the institution; and the greater the degree of subsequent commitment to the institution the greater the degree of persistence.

These 16 propositions form the basis of the Theory of Student Departure in Commuter Colleges and Universities (see Figure 1) and are grouped into student entry characteristics, initial institutional commitment, external environment, internal environment, subsequent institutional commitment, and persistence (Braxton et al., 2004). In order to encourage student persistence, commuter institutions must address the needs of their student population, particularly regarding the concepts outlined in Braxton et al.'s theory.

Historical Overview

Postsecondary institutions have been concerned with retention, progression, and graduation of students since the beginning of formal education (Aljohani, 2016). Theoretical models of retention began to be developed in the 1970s, and retention has continued to be an area of research interest today (Aljohani, 2016). Despite the attention paid to the retention of students throughout the years, significant work remains to move the needle on retention and to understand and improve the success of students in postsecondary education. The National Student Clearinghouse Research Center (2018) reported overall persistence and retention rates as being

relatively flat from 2009 to 2016, with persistence rates around 80% and retention rates around 70% for full-time students. The center defined persistence as enrolling at any institution for the second year and retention as remaining at the original institution for the second year (National Student Clearinghouse Research Center, 2018). Part-time student persistence and retention were reported around 60% (National Student Clearinghouse Research Center, 2018). Non-traditional students, defined as age 24 or older, were reported at 52% for both persistence and retention (National Student Clearinghouse Research Center, 2018). The report also showed that students between the ages of 20 and 24, had a 57.7% retention rate, while college students below the age of 20 had a 77% retention rate (National Student Clearinghouse Research Center, 2018). The six-year graduation rate remained relatively flat with only a 2% increase, from 58% to 60% between 2010 and 2017 (U.S. Department of Education, 2019).

In 1990, Kasworm conducted a review of research related to adult undergraduates in higher education using qualitative content analysis to identify assumptions related to the non-traditional student population. The study revealed five themes that framed the research reviewed, which included image of implied deficiency, image of student entry and adaptation, image of description and characteristics, image of psychosocial development, and image of equity and outcome (Kasworm, 1990).

Kasworm (1990) points out that early research related to non-traditional students sought to simply identify the population and compare the students with traditional students. Kasworm cautioned researchers against simplistic definitions and challenged researchers to consider that life experience, educational experience, sociocultural contexts, psychological beliefs, and perceptual expectations should be used to better delineate the populations.

Kasworm (1990) undertook a content analysis of the literature available related to adult students from 1940 to 1986. The first phase involved reviewing available literature from *Adult Education Quarterly, Journal of Higher Education, Journal of College Student Development,* and other prominent publications in the field and resulted in the review of 345 articles, books, papers, and reports (Kasworm, 1990). The initial pool was further screened for topics related to adult learners, substantive research, and studies conducted in the U.S., culminating in a final sample of 96 documents for analysis (Kasworm, 1990). In the second phase, the articles were reviewed using qualitative meta-analysis to identify domains in which the literature could be situated (Kasworm, 1990). The domains identified were image of implied deficiency, image of student entry and adaptation, image of description and characterization, image of psychosocial development, and image of equity and outcomes (Kasworm, 1990). Kasworm (1990) suggested that future research should include the development of a theoretical base of knowledge regarding adult undergraduate education so that postsecondary institutions could be better equipped to meet the needs of the adult learner population.

In 2007, Donaldson and Townsend sought to review current research in relation to non-traditional students a using qualitative content analysis of higher education journals to determine how frequently non-traditional students appeared in the literature and to examine how non-traditional students were portrayed. The research was undertaken in two stages, with the first focused on identification of U.S. higher education journal articles, which involved the study of non-traditional students (Donaldson & Townsend, 2007). The second stage of the study involved the analysis of how the students were portrayed in the available literature (Donaldson & Townsend, 2007).

Researchers selected specific journals to target; excluding journals that they knew to focus specifically on non-traditional students, with the intent of discovering where higher education professionals not working with non-traditional students might find literature (Donaldson & Townsend, 2007). The journals reviewed were the *Journal of College Student Development, National Association of Student Personnel Administrators, Community College Journal of Research and Practice, Community College Review, The Journal of Higher Education, Research in Higher Education,* and *The Review of Higher Education* (Donaldson & Townsend, 2007). Researchers reviewed the table of contents for each journal published in 1990 through 2003 (Donaldson & Townsend, 2007). The researchers used the article titles and searched for references to adult(s), mature, older, mixed-age or non-traditional age, or non-traditional (Donaldson & Townsend, 2007). This process revealed only 53 articles for review (Donaldson & Townsend, 2007). The researchers read each article and eliminated articles that did not specifically deal with higher education in the United States, focus on undergraduate students, and define adult students as 22 or older (Donaldson & Townsend, 2007). Researchers were left with 41 articles for review after the elimination process was complete, despite initially reviewing 3,219 article titles (Donaldson & Townsend, 2007).

Stage 2 of the study involved comprehensive content analysis of the 41 articles included in the study (Donaldson & Townsend, 2007). In this stage of the study, researchers hoped to understand what each article was about, its purpose, and place in the body of available literature (Donaldson & Townsend, 2007). The research found that only 1.27% of the available literature referenced adult students and much of the research was quantitative in nature (Donaldson & Townsend, 2007). The qualitative content analysis revealed six categories into which the reviewed articles fell (Donaldson & Townsend, 2007). The categories were student retention,

student needs, classroom behavior and perceptions, new ways to think about and work with adult students, professional development of instructors of adults, and other, i.e., the articles that did not fit in the other five categories (Donaldson & Townsend, 2007).

Upon completion of the analysis, researchers developed a Classification Scheme of Scholarly Discourse about Adult Undergraduate Students, which include four perspectives (Donaldson & Townsend, 2007). The perspectives were *invisible, acknowledged but devalued, accepted,* and *embraced* (Donaldson & Townsend. 2007). The classification scheme allows for understanding of how non-traditional students are portrayed in the literature and provides a guide for future research and practice (Donaldson & Townsend, 2007). The content analysis and subsequent classification scheme illustrated the lack of relevant literature and the deficit view that most of the available literature took regarding the non-traditional student population (Donaldson & Townsend, 2007).

A more recent study conducted by Langrehr and associates (2015) sought to build on these previous studies and performed a methodological review of research related to non-traditional students. The purpose of this study was to identify determinants used to classify non-traditional students beyond age and provide an analysis of theoretical and methodological approaches used in studying the non-traditional student (Langrehr et al., 2015).

Researchers used PsycInfo, Google Scholar, Eric, and JSTOR to search for articles published between 1990 and 2011 (Langrehr et al., 2015). Articles selected were found using key words, such as non-traditional student, adult learner, adult student, mature, older, part-time, and nonresident college student, ultimately resulting in 147 articles across 56 different journals (Langrehr et al., 2015).

Researchers reported that over the 21-year span, only 1% of the available literature specifically addressed non-traditional students (Langrehr et al., 2015). Articles generally focused on data drawn from single institutions, and nearly half of the available articles used age as the sole determinant of as students' non-traditional status (Langrehr et al., 2015). Researchers also found that only 6% of the studies were longitudinal in nature and that most were quantitative in nature (Langrehr et al., 2015). The available quantitative literature used multivariate statistics, correlational statistics, or exploratory, confirmatory, and factor analysis (Langrehr et al., 2015). In the few qualitative studies available, self-report survey measures were dominant (95%), and, in nearly 45%, the instruments were developed by the researchers (Langrehr et al., 2015).

The results of this study suggested that future research on non-traditional students should address sampling practices, characteristics of non-traditional students, and overall scientific rigor (Langrehr et al., 2015). Researchers pointed out the lack of available research, self-reported data, limited sampling to single institutions, and self-designed survey measures as areas of concern (Langrehr et al., 2015). Researchers suggested that qualitative studies may be more relevant moving forward (Langrehr et al., 2015). With smaller sample sizes and better control of participants, qualitative work allows for a narrower focus in the broad category of non-traditional student research (Langrehr et al., 2015).

Legislative Discussion

The Higher Education Act of 1965 was signed into law on November 8, 1965 to strengthen educational resources and provide financial assistance for students enrolled in postsecondary training (Pell Institute, 2003). Federal student aid programs are funded and governed under this act (Congressional Research Service, 2018; Pell Institute, 2003). The provisions of this legislation included a requirement for postsecondary institutions to make

public, information related to retention, progression, and graduation, so that students and their families can make informed decisions about where they attend college (Congressional Research Service, 2018). The Higher Education Act of 1965 was last reauthorized in 2008, and many of the provisions and appropriations of this reauthorization have been continued under the U.S. Department of Defense and Labor, Health and Human Services, and Education Appropriations Act of 2019 and Continuing Appropriations Act of 2019 (Congressional Research Service, 2018). Lawmakers on both sides of the aisle believe that the reauthorized Higher Education Act of 1965 needs an overhaul (Kreighbaum, 2018).

Both parties have proposed legislation related to the reauthorization of the Higher Education Act of 1965. In December of 2017, Republican lawmakers put forth the Promoting Real Opportunity, Success and Prosperity through Education Reform Act, which has been criticized as undermining efforts to make college more affordable and accessible for students (Institute for Higher Education Policy, 2018; Kreighbaum, 2018). The party has yet to bring the bill to the house floor for a vote due to lack of support and opposition (Kreighbaum, 2018). In July 2018, Democratic lawmakers put forth the Aim Higher Act, which was their plan for overhauling the Higher Education Act of 1965 (Institute for Higher Education Policy, 2018). Opponents of this bill contended that bill was a prop for higher education and did nothing to address high cost of education, while supporters argued that the bill addressed access and affordability for students (Rifkin, 2018). Despite the lack of a bipartisan approach thus far, an overhaul of the 2008 reauthorization of the Higher Education Act of 1965, seems likely in the coming years.

Retention, progression, and graduation of students will continue to play a role in legislation related to postsecondary education funding. Students and their families must be able

to access, afford, and complete their postsecondary programs so that students have better employment opportunities and so that the local, state, national, and global economy can continue to thrive.

Student Characteristics

Traditional Students

Traditional students are defined as students who enter college the fall immediately following their high school graduation, enroll full-time, and live on campus (MacDonald, 2018; Kasworm, 1990; U.S. Department of Education, 2015). Traditional students are usually more academically prepared for college level coursework (MacDonald, 2018; U.S. Department of Education, 2015). Traditional students earned a high school diploma rather than a GED (MacDonald, 2018). Additionally, traditional students are less likely to work as a means of supporting themselves or a family (MacDonald, 2018; U.S. Department of Education, 2015). Traditional students can generally depend on their families for financial support beyond their financial aid package (MacDonald, 2018; U.S. Department of Education, 2015). Traditional students are not the first in their families to attend college, so they have stronger support systems and families with knowledge about the collegiate experience (MacDonald, 2018; U.S. Department of Education, 2015).

The traditional college student population is shrinking as more students possess the criteria that are associated with being non-traditional (MacDonald, 2018). It is more common for students to delay enrollment in college, attend college part-time, and work full-time (MacDonald, 2018; U.S. Department of Education, 2015). With better access and affordability, non-traditional students account for approximately 14% of students who enroll in postsecondary

education, and the population continues to grow (MacDonald, 2018; U.S. Department of Education, 2015).

Non-traditional Students

Non-traditional college students are diverse and multifaceted groups of students (Bohl et al., 2017; Davidson & Holbrook, 2014; Forbus, Newbold, & Mehta, 2011; MacDonald, 2018; Woods & Froggé, 2017). Students are considered non-traditional based on them possessing one or more accepted criteria for this population (Bohl et al., 2017; Davidson & Holbrook, 2014; Forbus et al., 2011; MacDonald, 2018; Woods & Froggé, 2017). These students tend to be older, with some institutions defining them as 21 or older while others define them as 25 and older (Bohl et al., 2017; Davidson & Holbrook, 2014; Forbus et al., 2011; MacDonald, 2018; Woods & Froggé, 2017). Non-traditional students are more likely to begin their postsecondary experiences at community colleges rather than four-year institutions (Bohl et al., 2017; Davidson & Holbrook, 2014; Forbus et al., 2011; MacDonald, 2018; Woods & Froggé, 2017). Non-traditional students are typically less academically prepared and come from lower socioeconomic backgrounds (Bohl et al., 2017; Davidson & Holbrook, 2014; Forbus et al., 2011; MacDonald, 2018; Woods & Froggé, 2017).

Non-traditional students also tend to have more family obligations, attend college part-time, and work more hours than traditional age students (Bohl et al., 2017; Davidson & Holbrook, 2014; Forbus et al., 2011; MacDonald, 2018; Woods & Froggé, 2017). This population is less likely to form relationships with their faculty and peers, commuting to campus for class and spending little time on campus (Bohl et al., 2017; Davidson & Holbrook, 2014; Forbus et al., 2011; MacDonald, 2018; Woods & Froggé, 2017). Non-traditional students experience college differently and have competing demands on their time when compared to

traditional students, who typically have more time to focus on the college experience and their academics (Bohl et al., 2017; Davidson & Holbrook, 2014; Forbus et al., 2011; MacDonald, 2018; Woods & Froggé, 2017).

Bohl et al. (2017) conducted a qualitative study to examine the experiences of non-traditional college students in a university setting. The sample was comprised of nine students who were age 25 or older, had no enrollment immediately following high school, and were then enrolled in an undergraduate degree full-time at a private Catholic university in the southeast (Bohl et al., 2017). The nine students were derived from an original sample of 430 non-traditional students enrolled at the institution using purposeful and snowball sampling (Bohl et al., 2017).

Researchers scheduled and conducted semi-structured, open-ended interviews on campus in a private interview room (Bohl et al., 2017). Interviews were recorded and later transcribed for analysis (Bohl et al., 2017). Each researcher independently coded and sorted the data and then met to compare and arrive at a consensus of five major themes and sub-topics of support for those themes (Bohl et al., 2017). The themes were motivation to return, academic challenges, generation gap, support systems, and benefits of being a non-traditional student. Researchers found that non-traditional students look to their families as a source of strength and support, so positive interactions were critical (Bohl et al., 2017). Researchers found that non-traditional college students could connect their life experiences to classroom topics and approach college to enhance their lives (Bohl et al., 2017).

Forbus and associates (2011) conducted a study aimed at comparing stress factors and coping mechanisms for traditional and non-traditional student populations. Researchers designed a survey instrument, testing its reliability in a pilot study (Forbus et al., 2011). This study utilized

age as the only qualification to determine student classification as non-traditional (Forbus et al., 2011). Of the 471 survey participants, 97 were classified as non-traditional (Forbus et al., 2011). This study was comprised of 16 different hypotheses related to demographics, attitudes and involvement, stress and coping, and academic outcomes (Forbus et al., 2011). Survey responses were analyzed using descriptive statistics (Forbus et al., 2011). Results indicated that, in the demographic area, non-traditional students were more likely to be married, commute to campus, work more hours, and combat more stress than traditional students (Forbus et al., 2011). In the attitudes and involvement domain, non-traditional students reported different expectations for their college experience, were less likely to engage socially on campus, and were focused on personal and career development (Forbus et al., 2011).

Researchers suggested that the study was limited by a single construct measuring students' attitudes about "having a good time", the self-reported data, and the inclusion of students from only one institution (Forbus et al., 2011). Future research should include additional concepts, which could better allow researchers to understand the work and school balance for traditional and non-traditional students (Forbus et al., 2011). This study also only included quantitative data. A more complete picture could be derived from a mixed methods study (Creswell & Creswell, 2018).

Woods and Froggé (2017) conducted a study which compared the preferences and experiences of traditional and non-traditional students. The study focused on preferred method of instruction, enrollment status, number of hours worked, GPA, and time spent preparing for class (Woods & Froggé, 2017). Participants were selected from a convenience sample of five classes with 201 students who were enrolled (Woods & Froggé, 2017). From those 201 students, only

153 surveys were returned, and some were eliminated for incomplete information, which left 137 participants from a university in the southeast (Woods & Froggé, 2017).

The researchers established five hypotheses and collected survey data, which were analyzed using inferential statistics (Woods & Froggé, 2017). Results indicated that there was no statistically significant relationship between non-traditional and traditional students regarding preference of online instruction (Woods & Froggé, 2017). There was a statistically significant relationship regarding non-traditional students who took fewer hours as compared to traditional students (Woods & Froggé, 2017). The results also suggested that non-traditional students spent more time studying when compared to traditional students (Woods & Froggé, 2017). The findings confirmed a significant relationship between non-traditional status and hours worked (Woods & Froggé, 2017). However, there was no significant relationship between the GPAs of the two groups of students (Woods & Froggé, 2017).

The study was limited because of the small sample size, single institution, convenience sample, and only including students from two courses in two departments of the university in one semester (Woods & Froggé, 2017). The researchers suggested that future research should include replication of the study with a more robust sample and be longitudinal in nature (Woods & Froggé, 2017).

Table 3

Concept Analysis for Student Characteristics

Study	Purpose	Participants	Design/Analysis	Outcomes
Bohl et al., 2017	To examine the experiences of non-traditional students.	nine participants	Qualitative, open ended questionnaire	five overarching themes: motivations to return, academic challenges, generation gap, support systems, and benefits of being a non-traditional student
Davidson & Holbrook, 2014	To determine leading indicators from first-term academic behaviors & outcomes for term-to-term, and year-to-year retention.	285 non-traditional students who were enrolled in Kentucky	Binary logistic regression analyses	First-term academic behaviors and outcome variables were better predictors of persistence than were student characteristics and environmental factors.
Forbus et al., 2011	To examine the differences between non-traditional and traditional students in their stress factors and coping strategies.	471 students (97 non-traditional and 374 traditional)	Survey developed by researchers Descriptive statistics (crosstab & means)	Non-traditional students bring different expectations regarding their college experience, are less involved in the social activities or concerned about having a good time, have different levels of motivation, campus involvement, time management, different levels of stress, and methods of coping.
Woods & Froggé, 2017	To compare preferences and experiences of non-traditional students and traditional students.	137 students enrolled at a public southeastern university. Convenience sample from students who were enrolled in specific courses	Quantitative, survey data Inferential statistics (chi-square test of independence)	Non-traditional students reported spending more hours studying and working off campus. Traditional students were more likely to be enrolled full-time, and no significant relationship found in learning format or GPAs.

Retention, Persistence, and Graduation

Traditional Students

Research related to retention, persistence, and graduation has been conducted for the last several decades (Aljohani, 2016; Raju & Shumaker, 2015; Thayer, 2000). Despite the focus on these topics, the national retention rates continue to hover around 70% on average (U.S. Department of Education, 2015). Traditional college students are more likely to persist in college and earn their degrees (Choy, 2001; Petty, 2014; Postsecondary National Policy Institute, 2018).

Despite their advantages, a significant portion of traditional college students fail to persist from one year to the next and/or earn a postsecondary degree or credential (Sloan, 2013). Sloan (2013) reported that this population of students can have difficulty adjusting to college life citing the transition to living on campus, hefty price tag associated with college, and maturation challenges as chief among the reasons that traditional students either dropout of college altogether or transfer to schools closer to their support systems.

Institutions, students, and society would benefit from improved retention of both traditional and non-traditional students (Raju & Shumaker, 2015). Raju and Shumaker (2015) explored student characteristics that led to higher graduation rates to build a predictive model that could help administrators identify which students were more likely to be retained and graduate. Using data mining, the study found that first-semester GPA, earned credit hours at the end of the first semester, full- versus part-time status at the end of the semester, and high school GPA were the most important variables in their decision tree and logistic regression models (Raju & Shumaker, 2015).

The study was conducted at a flagship university in the southeast and utilized data obtained from the Office of the Institutional Research (Raju & Shumaker, 2015). Data were

collected regarding first-time, full-time freshmen who were enrolled in the fall semester from 1995 until 2005 (Raju & Shumaker, 2015). Full-time status was defined as students who enrolled in 12 or more credit hours; part-time students were excluded even if they were first-time students (Raju & Shumaker, 2015). The data collection ended with the 2005 cohort to define graduation as completion of a program in a six-year period (Raju & Shumaker, 2015).

Researchers identified two sets of variables (i.e., pre-college and college characteristics) and conducted analysis on each dataset with graduation as the dependent variable or target (Raju & Shumaker, 2015). Pre-college variables included ethnicity, residence, gender, working information, Advanced Placement credit, college choice, ACT/SAT score, high school English GPA, high school math GPA, aggregate high school GPA, and home distance (Raju & Shumaker, 2015). College variables included earned hours, first-semester GPA, and enrollment status (Raju & Shumaker, 2015). Researchers assumed that missing data were completely at random and used list-wise deletion (Raju & Shumaker, 2015).

Using logistic regression, decision trees, and neural networks, researchers built predictive models using both data sets (Raju & Shumaker, 2015). Results indicated an overall freshman graduation rate of 67.46% (Raju & Shumaker, 2015). Results also showed that Caucasian students were 6.8% more likely to graduate (Raju & Shumaker, 2015). Students who lived within 200 miles of home were 4% more likely to graduate, and students who did not expect to work during school were 7% more likely to graduate (Raju & Shumaker, 2015). Researchers found the pre-college dataset to produce a better predictive model (Raju & Shumaker, 2015). The college model revealed that first-semester GPA, especially when linked with completion of 12 or more hours was associated with higher persistence and graduation (Raju & Shumaker, 2015).

Attewell, Heil, and Reisel (2011) conducted a quantitative longitudinal study to compare and understand factors influencing college degree completion and degree attainment. Researchers hoped to identify a predictive model that could help policy makers develop interventions that could positively impact retention, progression, and graduation (Attewell et al., 2011). Using data that were collected from the Beginning Postsecondary Students Longitudinal Study, researchers analyzed data for first-time, full-time students who entered college in the fall of 1995 (Attewell et al., 2011). Sheaf coefficients were used to understand the strength of sets of variables and maximize predictions (Attewell et al., 2011).

Researchers initially identified 36 predictors, which ultimately fell under eight high level constructs that were used to create the sheaf coefficients (Attewell et al., 2011). The eight constructs were high school preparation; non-traditional status; financial aid; race, ethnicity, and gender; socioeconomic status; integration; working hours; and remediation (Attewell et al., 2011). Researchers found that each of these constructs had statistically significant predictive power in relation to students' degree attainment (Attewell et al., 2011). Researchers were not able to identify a single dominant construct and suggested that each played a role (Attewell et al., 2011). Researchers found that some factors were more influential in certain types of institutions (Attewell et al., 2011). Financial aid had a positive impact on student completion at two-year institutions, and academic preparation had a stronger predictive power in four-year institutions (Attewell et al., 2011). Attewell and associates (2011) also found that non-traditional status was a predictor for drop out across institution type.

Non-traditional Students

Davidson and Holbrook (2014) conducted a quantitative study in Fall 2005 utilizing a sample of first-time, undecided, degree-seeking, adult students (i.e., age 21 or over) who enrolled

at public four-year institutions in Kentucky. After employing listwise deletion to eliminate missing data, the participants included 285 students for whom data were collected and analyzed from the Kentucky Council on Postsecondary Education (Davidson & Holbrook, 2014). The study measured three outcome variables, including persistence to Spring 2006, persistence to Fall 2016, and degree completion (Davidson & Holbrook, 2014). For the purpose of the study, seven years was the period for degree completion (Davidson & Holbrook, 2014). The study also included predictor variables (i.e., age, gender, race-ethnicity, and underprepared subject areas); environmental variables (i.e., total aid disbursed, total loan aid disbursed, marital status, children, and total income); and leading indicators (i.e., degree seeking, number of hours enrolled, enrollment in online coursework, earned credit ratio, passing grades in math and passing grade in English; Davidson & Holbrook, 2014). Data were analyzed using descriptive statistics and logistic regression (Davidson & Holbrook, 2014). The descriptive data indicated that 82.8% persisted from Fall 2005 to Spring 2006, 60% persisted to Fall 2006, and only 18.2% earned their degrees (Davidson & Holbrook, 2014). Results from the logistic regression indicated that earning 100%, or 76% to 99% of attempted credit hours had the greatest impact on semester to semester persistence, fall to fall persistence, and ultimately degree completion (Davidson & Holbrook, 2014). Overall, the study showed that first-term academic behaviors and outcome variables were better predictors of persistence through to degree completion for adult students (Davidson & Holbrook, 2014).

Limitations of the study included small sample size, inability to control for student experiences, and student success interventions that may have been employed and were unable to be controlled for in the study (Davidson & Holbrook, 2014). The final sample was comprised of 92.6% Caucasian students, which impacted the generalizability of any findings associated with

race or ethnicity (Davidson & Holbrook, 2014). Davidson and Holbrook (2014) challenged future researchers and institutions to pay attention to the completion ratio for this population and their unique needs that were related to academic success and support.

Non-traditional students typically struggle to remain in school given the unique demands on their time. Their work and family obligations can make education less of a priority. These students typically enroll in fewer hours so that they are better able juggle their responsibilities. A 2014 study found that adult students were less likely to persist if they perceived a conflict between work and academics (Bergman, Gross, Berry, & Shuck, 2014). The quantitative study was comprised of 437 participants, who completed an Adult Persistence Survey. Researchers hoped to determine how student entry characteristics, internal campus environments, and external environments related to student persistence (Bergman et al., 2014). Survey responses were analyzed using logistic regression (Bergman et al., 2014). Results of the study indicated a significant relationship between students' ability to persist and their degree aspirations in addition to positive relationships with peers and faculty (Bergman et al., 2014). While this study was limited in its generalizability, due to its sample size and restriction to students at one institution, the researchers encouraged future researchers to consider conducting more complex studies to understand the needs of non-traditional students (Bergman et al., 2014). A better understanding of the needs of this population could positively impact retention and graduation rates (Bergman et al., 2014).

Fike and Fike (2008) conducted a quantitative retrospective study of 9,200 first-time college students who enrolled in public community college in Texas. Relevant student data were collected over a four-year period (Fike & Fike, 2008). The dependent variables for retention were enrollment from fall to spring and fall to fall (Fike & Fike, 2008). The independent

variables or predictor variables were student gender, age, ethnicity, completion status for developmental studies, participation in student support services, receipt of financial aid, enrollment in online courses, semester hours enrolled, semester hours dropped, and education level of parents (Fike & Fike, 2008).

Data were analyzed using descriptive statistics, chi-square analysis, bivariate correlation coefficients, point-biserial correlation coefficients, phi correlation coefficients, and multivariate logistic regression (Fike & Fike, 2008). The study found retention rates for fall to spring to vary from year to year with a range of 65.7% and 70.7% (Fike & Fike, 2008). The study reported retention rates from fall to fall to be between 45.8% and 49.4% (Fike & Fike, 2008). The multivariate logistic regression indicated that developmental education, online courses, financial aid, parents' education, number of hours earned, number of hours dropped, and participation in student support services had an impact on student persistence (Fike & Fike, 2008). The researchers suggested that the study was limited by missing data that were associated with parents' level of education and the use of self-reported data that could not be verified (Fike & Fike, 2008).

Table 4

Concept Analysis for Retention, Persistence, & Graduation

Study	Purpose	Participants	Design/Analysis	Outcomes
Attewell et al., 2011	To establish predictive model to explain noncompletion.	First-time, full-time, undergraduates who enrolled in Fall 1995	Sheaf Coefficients	No single dominant factor to explain noncompletion. Financial aid was statistically significant to students who enrolled in a two-year institution. Academic preparation was significant for students who enrolled in a four-year institution
Fike & Fike, 2008	To examine predictors of fall-to-spring, and fall-to-fall retention.	9,200 first-time, full-time students enrolled in a community college over a four-year period	Quantitative retrospective study and descriptive statistics	Developmental education, online courses, financial aid, parents' education, number of hours earned, number of hours dropped, and participation in student support services had an impact on student persistence.
Bergman et al., 2014	To examine how student entry characteristics, internal campus environments, and external campus environments related to persistence.	437 students	Logistic regression	Persistence influenced by positive relationship with faculty and student degree aspirations
Raju & Shumaker, 2015	To explore students' pre-college and college characteristics to build a predictive model of student persistence.	First-time, full-time, students enrolled in college at a flagship institution from 1995 to 2005	Logistic regression, decision trees, and neural networks	Pre-college factors related to persistence-white students, who lived within 200 miles of the institution, and did not expect to work in college. College factors higher first-semester GPA and completion of 12 or more semester hours in the first semester of college.
Davidson & Holbrook, 2014	To determine leading indicators from first-term academic behaviors & outcomes for term-to-term, and year-to-year retention.	285 nontraditional students who were enrolled in Kentucky	Binary logistic regression analyses	First-term academic behaviors and outcome variables were better predictors of persistence than were student characteristics and environmental factors.

Factors Influencing Persistence

Grit

Nationally, student persistence has been a struggle for several decades, with retention rates hovering in the same area despite efforts to address the issue (Reason, 2009). Just over half of students complete their degrees within six years (Reason, 2009). Perhaps, the successful students come to the table better prepared academically, come from higher socioeconomic backgrounds, or possess something called grit. Grit is closely related to motivation and resilience but differs greatly in the overtime aspect (Duckworth, 2016; Duckworth et al., 2007). Positive or growth mindset is a component of grit, but the term should not be confused with grit. Growth mindset has been shown to contribute to students' ability to develop resilience (Mrazek et al., 2018; Yeager & Dweck, 2012). Students with fixed mindsets are unlikely to be resilient in the face of academic struggles (Mrazek et al., 2018; Yeager & Dweck, 2012). Resilience is related to having a positive mindset when confronted with adversity, whereas grit is defined as "passion and perseverance for long term goals" (Duckworth, 2016; Duckworth et al., 2007). In her research, Duckworth's development of the grit concept entailed experiments conducted in various settings related to education, such as West Point and the National Spelling Bee (Duckworth, 2016; Duckworth et al., 2007).

Duckworth found that gritty individuals were more successful and that talent and intelligence where not responsible for their successes (Duckworth, 2016; Duckworth et al., 2007). Non-traditional college students tend to overcome significant odds in their path to and through college. Non-traditional college students tend to show tremendous motivation, resilience, and grit in the face of adversity. Grit could be a key student entry characteristic for

those non-traditional college students who experience academic success and persist to complete their postsecondary education paths.

Researchers found that grit predicts both academic and nonacademic outcomes during college years (Bowman, Hill, Denson, & Bronkema, 2015). Bowman and associates (2015) conducted two studies across two postsecondary institutions to explore the dimensions of grit on educational achievement, satisfaction, and intentions. The purpose of Study 1 was to determine how persistence of effort and consistency of interest uniquely predict important collegiate outcomes and student intentions at a large doctoral granting institution (i.e., Bowling Green State University), and researchers also investigated the potential value of grit in the admissions process (Bowman et al., 2015). Participants completed an online survey through the university's psychology subject pool (Bowman et al., 2015). The pool of responses was evaluated for a long series of disparate items to arrive at an analytical sample of 417 participants (Bowman et al., 2015). The instrument developed included the short GRIT scale, which served as the dependent variable, and items designed to measure the following independent variables: academic adjustment, college GPA, college sense of belonging, college satisfaction, intent to persist in college, intent to change major, and intent to change career (Bowman et al., 2015). Multiple regression was used for analysis of the survey responses; the GRIT scale was broken down to show both perseverance of effort and consistency of interest for comparison (Bowman et al., 2015).

Results from Study 1 indicated perseverance of effort as positively associated with academic adjustment, college GPA, college sense of belonging, college satisfaction, and intent to persist (Bowman et al., 2015). Consistency of interest did not significantly predict outcome in any area of satisfaction (Bowman et al., 2015). Both grit scales were associated with lower plans

to change major, and only consistency of interest related to changing careers (Bowman et al., 2015). Study 1was limited by sampling students from only one institution (Bowman et al., 2015). Researchers addressed that concern in Study 2 by replicating the previous study and including a second institution, which differed in size (Bowman et al., 2015).

Study 2 was conducted with students from University of Wisconsin at La Crosse and Bowling Green State University (Bowman et al., 2015). Researchers chose this institution because University of Wisconsin at La Crosse enrolled fewer students and had fewer majors and programs available, while also attracted a student body that was similar in pre-college characteristics when compared to the Bowling Green State University (Bowman et al., 2015).

The sample population was derived from all undergraduate students living on both campuses in Spring 2013 (Bowman et al., 2015). There were 1,089 participants from the University of Wisconsin at La Crosse and 938 from Bowling Green State University (Bowman et al., 2015). As in Study 1, students were invited to complete the online survey used in the previous research (Bowman et al., 2015). Institutional data were collected to be analyzed along with the survey data (Bowman et al., 2015).

Results from Study 2 indicated that grit was positively correlated to college education outcomes with perseverance of effort showing a stronger relationship than consistency of effort (Bowman et al., 2015). Perseverance of effort was again found to be related to intent to persist in college and less intent to change majors or programs (Bowman et al., 2015). Relationships were also found in college GPA, college satisfaction, and student intentions (Bowman et al., 2015).

Researchers found a relationship between grit and college outcomes in both studies (Bowman et al., 2015). The findings suggested that grit contributes to student persistence in

academic and nonacademic college outcomes (Bowman et al., 2015). Researchers suggested that grit could be considered useful as an additional admission criterion (Bowman et al., 2015).

The study was limited by the inclusion of only two institutions in the same state, self-reported data, and the timeframe for the studies (Bowman et al., 2015). Additional research should be conducted across multiple institutions to include public and private two-year and four-year institutions (Bowman et al., 2015). Researchers suggested longitudinal studies of grit and the relationship that it has on persistence were needed (Bowman et al., 2015).

Another study conducted with 395 university students in Australia also found a positive relationship between grit, engagement, and academic productivity (Hodge, Wright, & Bennett, 2018). The cross-sectional study was conducted with university students across Australia and recruited participants using online advertisement and social media (Hodge et al., 2018). The final sample was comprised of 50 male students and 345 female students (Hodge et al., 2018). The survey instrument included the eight-item grit scale, which measured consistency of interest and persistence of effort, a modified version of the Utrecht work engagement scale for schools, three questions from the job demands-resource scale, and demographic questions (Hodge et al., 2018).

Correlational analysis was conducted to determine relationships between demographic factors, engagement, and grit factors (Hodge et al., 2018). The results indicated significant correlations between grit factors, engagement, and demographic factors (Hodge et al., 2018). The study found that first-generation college students had higher levels of the persistence of effort grit factor than other students who were surveyed (Hodge et al., 2018). The overall findings suggested that grit had a direct effect upon productivity and engagement (Hodge et al., 2018).

The study was limited in assessing differences in grit by gender because of the skewed sample reflecting a significant difference in the number of male and female participants.

Suggestions for future study included the need to undertake longitudinal work to assess the relationship of grit over time.

A third study, involving grit and non-traditional students, was conducted to evaluate the impact of nonintellective variables, such as grit, on the academic achievement of non-traditional college students (Warden & Myers, 2017). The study sought to determine which research domains were highly related to GPA in non-traditional students, which personality variables were highly correlated with non-traditional college student GPA, and were the same domains and variables similarly related to traditional college students (Warden & Myers, 2017). Personality variable measures were needed for cognition, academic procrastination, grit, academic locus of control, academic motivation, and academic self-efficacy (Warden & Myers, 2017).

Participants were recruited from a small, rural southeastern college via a link on the campus newsfeed (Warden & Myers, 2017). The sample of 139 students was comprised of 72 non-traditional and 67 traditional students (Warden & Myers, 2017). Participants completed a 216-item survey delivered online via Qualtrics (Warden & Myers, 2017). Items were derived from multiple measures of personality traits and motivational factors to include the Need for Cognition Scale, the Procrastination Assessment Scale for Students, the Grit Scale, Revised Academic Locus of Control Scale, Academic Motivation Scale, and Academic Self-Efficacy Scale (Warden & Myers, 2017).

Data were analyzed using multiple linear regression, Pearson *r,* and independent samples *t*-test to compare differences by student type (Warden & Myers, 2017). Notably, the researchers did not find grit to be significant for the non-traditional student in the primary analysis using multiple regression (Warden & Myers, 2017). The researchers found that academic motivation was instead a better predictor of non-traditional student success in this analysis (Warden &

Myers, 2017). However, the secondary analysis of the study revealed a marginal negative relationship between grit and GPA in non-traditional students (Warden & Myers, 2017). When compared to traditional students in the study, non-traditional students procrastinated less and showed higher levels of academic and intrinsic motivation (Warden & Myers, 2017).

Researchers suggested that the study was limited by sample bias because most students had higher GPAs and likely self-selected for the study because of their high achievement (Warden & Myers, 2017). Researchers also discussed the lack of nuance in their definition of non-traditional students, as their sole criterion was student age (Warden & Myers, 2017). Future research recommendations included conducting a study with students from different GPA levels, examining criteria aside from age to determine non-traditional student status, and including multiple institutions (Warden & Myers, 2017).

A fourth study regarding grit sought to examine the effectiveness of the grit measure as a predictive model for academic success (Muenks, Wigfield, Yang, & O'Neal, 2017). The study was designed to answer the following research questions:

1. What is the best-fitting factor model of grit for high school and college students-a one-factor model, a two correlated-factor model, or a bifactor model?
2. How empirically distinct or overlapping are grit and the conceptually similar constructs of conscientiousness, self-control, cognitive self-regulations, effort regulation, behavioral engagement, and behavioral disaffection?
3. Does students' grit predict their later grades after controlling for gender and ethnicity? Which constructs are the most powerful independent predictors of grades after controlling for gender and ethnicity? Do students' grades predict their later grades after

controlling for gender, ethnicity, and the similar constructs? (Muenks et al., 2017, p. 603).

The study was conducted with a sample of high school students and a sample of college students (Muenks et al., 2017). High school participants (N = 203) attended a private high school in the mid-Atlantic and were recruited in partnership with the administrators (Muenks et al., 2017). Students were administered multiple measures to include the Grit-Scale, 10-item Personality Inventory, Brief Self-Control Scale, Motivation Strategies for Learning Questionnaire, Effort Regulation Scale, Engagement vs. Disaffection with Learning Scale, and institutional data were collected related to end of term grades (Muenks et al., 2017). College student participants (N = 336) were recruited from classes at a mid-Atlantic university by asking professors to send the links to their students (Muenks et al., 2017). The measures were identical, except the high school students completed a shortened version of the self-regulation scale (Muenks et al., 2017).

Data were statistically analyzed using MIRT models and multiple regression (Muenks et al., 2017). Researchers found that students' perseverance of effort predicted their grades more so than consistency of effort (Muenks et al., 2017). However, researchers also found that other self-regulation and engagement variables were stronger predictors when other variables were controlled (Muenks et al., 2017).

The study was limited in that it examined at grit holistically, rather than in specific courses where students might struggle (Muenks et al., 2017). Additionally, researchers suggested that longitudinal studies were necessary to better understand the interaction between age, grit, and other personality factors (Muenks et al., 2017).

The above studies support the idea that grit plays a significant role regarding perseverance of effort as relates to students' retention, progression, and graduation from college. However, additional evidence will be needed to confirm if consistency of effort is equally important regarding students' grit and persistence in college. Further research is needed to identify whether grit is a student characteristic that can contribute to persistence until degree completion.

Academic Mindset

Academic mindset, commonly referred to as a growth versus fixed mindset, has been associated with persistence in college (Complete College Georgia, 2019). The University System of Georgia has incorporated growth mindset concepts within the Momentum Year design for encouraging freshmen to persist in college beyond their first-year and complete their postsecondary education (Complete College Georgia, 2019). Fixed and growth mindset have been associated with success in academics (Yeager & Dweck, 2012). Yeager and Dweck (2012) found that interventions aimed at improving students' growth mindset were effective and could foster resilience in the educational setting and reduce social stress. To determine the effect of interventions related to growth mindset, researchers conducted a double-blind randomized controlled experiment with a sample of ($N = 78$) new high school freshmen (Yeager & Dweck, 2012). All students, both control and treatment groups, attended a workshop related to brain function to provide background on incremental theory. A week later, students were randomly assigned to the treatment or control group (Yeager & Dweck, 2012). After reading an article on growth mindset, the treatment group was asked to write a letter to an incoming freshman about how they might use the ideas around growth mindset to overcome challenges, while the control group participated in a very similar activity but was not exposed to the article teaching the

growth mindset information (Yeager & Dweck, 2012). One to two days after completing the activity, students were assessed for stress levels after participating in the Cyberball exclusion experience (Yeager & Dweck, 2012). Researchers found the difference in stress response to be significant by 0.5 *SD* and expanded the study to analyze students' stress responses over the semester and again found a significance in the differences between the control and treatment group (Yeager & Dweck, 2012). These results led researchers to measure students' academic performance and found that the control group experienced an academic decline resulting in roughly one-third of a point in GPA (Yeager & Dweck, 2012). Researchers suggested that future research was needed to determine how unintentional messages related to mindset might undermine resilience, how training on mindset could be scaled up to impact more students, and how can changing mindset improve academic outcomes without addressing other adversities in the students' lives (Yeager &Dweck, 2012).

Another study conducted in 2018 found that growth mindsets related to self-regulation had an influence on effort and perseverance (Mrazek et al., 2018). Researchers conducted five studies to examine the impact of growth mindsets on self-regulation (Mrazek et al., 2018). Study 1 examined whether an intensive intervention designed to promote growth mindset would influence (a) mastery beliefs related to self-control, growth mindsets, and positive appraisal of fatigue and (b) improved self-regulatory behavior in relation to persistence, inhibition, and self-control (Mrazek et al., 2018). The following four studies built upon Study 1 by investigating potential effects of growth mindsets of self-regulation more precisely and as a possible mediating factor of appraising fatigue as something beneficial rather than taxing (Mrazek et al., 2018).

Study 1 had 87 participants with 52 of them being female from a midwestern university who engaged in a quasi-randomized active controlled intervention with the treatment group

receiving self-regulation training while the control group participated in relationship training (Mrazek et al., 2018). Participants completed pre- and post-intervention assessments related to growth mindset, beliefs about mental fatigue, persistence with an impossible anagram, inhibition, and self-control in daily life (Mrazek et al., 2018). The data were analyzed using ANOVA, and the findings suggested that self-regulation enhanced growth mindsets and appraisals of fatigue, persistence, and self-regulation (Mrazek et al., 2018).

Study 2 had 126 undergraduate students with 51 being female (Mrazek et al., 2018). Participants were randomly assigned to read an article describing self-regulation as a fixed skill or an article the described self-regulation as something that could be developed (Mrazek et al., 2018). Students were then asked to complete a series of tasks and assessments that were designed to measure their responses to the article intervention (Mrazek et al., 2018). Study 2 results supported the findings of Study 1 with those participants in the growth mindset condition showing more persistence, positive appraisal of fatigue, and development of self-regulation (Mrazek et al., 2018). The remaining studies found similar results and researchers determined that interventions could have a positive impact on the development of growth mindsets are related to self-regulation, persistence, and appraisal of fatigue (Mrazek et al., 2018).

Researchers suggested that additional research should be conducted to determine if interventions have enduring effects, whether or not there are any drawbacks to the concept of growth mindset, and whether or not awareness of self-control has played a role in self-regulatory behaviors, such as persistence (Mrazek et al., 2018).

Academic Success

GPA determines access to scholarships, grants, and other forms of aid, which are necessary for funding tuition, fees, and other living expenses for college students, particularly

those individuals from lower socioeconomic standing or with families and other responsibilities. GPA is also tied to a feeling of belonging; students who struggle academically may begin to feel that college is not a good fit (Gershenfeld et al., 2016; Stewart et al., 2015). Anecdotally, first-year college GPA is considered an indicator of academic success and influences students' decisions related to persistence.

A longitudinal study conducted with 3,213 students found that first-semester college GPA was a predictor of persistence (Gershenfeld et al., 2016). The quantitative study was conducted utilizing solely the academic records of the students who were enrolled at a public institution in the midwest in 2005 and 2006 showed that first-year academic GPA was a statistically significant predictor of graduation for students in the selected population (Gershenfeld et al., 2016). Students with lower GPAs were at risk of not completing their programs of study within the six-year period. The study also found that students on academic probation (i.e., GPA at or below 2.0) were at high risk of not graduating at all and students at 2.33 and below were at risk as well (Gershenfeld et al., 2016). These studies confirmed the anecdotal understanding that students' persistence in college correlates to their GPAs at the conclusion of their first-year of study.

A second study longitudinal study with a sample of 12,812 first-time, full-time freshmen who enrolled in a mid-sized southeastern public university from 1998 through 2004 was conducted to understand the factors that influence student success (Millea, Willis, Elder, & Molina, 2018). The study found that students who were academically prepared, received grants or scholarships, and were enrolled in smaller classes were more likely to be retained and graduate (Millea et al., 2018). The quantitative study data were collected from detailed student records and were analyzed using probit analysis and included demographics, academic

preparation (i.e., ACT scores and high school GPA), financial aid, absenteeism, first-year GPA, and first-year class sizes (Millea et al., 2018).

The study found that older students were less likely to graduate in six years, while smaller class sizes and higher first-year GPAs increased the likelihood of graduation within six years (Millea et al., 2018). The study also found that financial aid had a significant impact on students' ability to remain enrolled in school (Millea et al., 2018). Retention and graduation rates were negatively correlated with student loans, and a positive correlation was found between merit-based scholarships and grants and retention and graduation rates (Millea et al., 2018). This study found no significant relationship between course attendance and on campus residence and retention and graduation (Millea et al., 2018). Researchers suggested that future research should address multiple institutions and should be longitudinal in nature, replicating and broadening the scope of the study to include factors, such as access to online courses (Millea et al., 2018).

A third study was conducted to examine what factors might influence first-time students' persistence (Stewart et al., 2015). Using existing longitudinal data from the state higher education database, researchers conducted ex post facto design to examine the variables' effects on persistence (Stewart et al., 2015). Independent variables were student demographics, family characteristics, precollege academic performance, and college academic performance (Stewart et al., 2015). Data were analyzed using descriptive statistics, factorial analysis of variance, Pearson's product-moment correlation, and multiple regressions analysis (Stewart et al., 2015). The study found that there was a statistically significant relationship between persistence and the following variables: race/ethnicity, financial aid, high school performance, and first-semester college GPA (Stewart et al., 2015). Overall findings suggested that traditional college students who were academically prepared were more likely to persist than students placed in remedial

coursework (Stewart et al., 2015). The study was limited by the inclusion of only students from one public four-year research institution and as a result may not be easily generalized (Stewart et al., 2015).

Student Entry Characteristics

Student entry characteristics, such as motivation, self-efficacy, empathy, affiliation needs, parental education, and anticipatory socialization have been identified as key determinants of initial and subsequent institutional commitment (Braxton et al., 2004). Non-traditional college students are a unique and diverse student population. They bring to the table a wide variety of strengths and challenges depending on the individual student. Non-traditional college students have been described as proactive, goal-directed, optimistic, and reflexive (Garrison & Gardner, 2012). A qualitative study explored the assets that first-generation students, a type of non-traditional student, at Utah State College possessed and utilized in the higher education setting (Garrison & Gardner, 2012). The participants were three female first-time, full-time students who met the first-generation college student criteria and were identified as low socioeconomic status (Garrison & Gardner, 2012). Data were collected from each of the participants in the form of one-on-one interviews that were conducted in a neutral setting by researcher (Garrison & Gardener, 2012). The researcher created audio recordings of the interviews and later transcribed them for coding purposes (Garrison & Gardner, 2012). The researcher also collected institutional data, such as high school GPA, SAT/ACT scores, and fall semester GPAs, to create a casebook for each participant (Garrison & Gardener, 2012). Data were analyzed using cross-case analysis. The researcher identified four assets that the participants possessed after careful coding and analysis of the data (Garrison & Gardner, 2012). The assets grouped under four distinct themes with identifiable attributes:

- Proactive: resourcefulness, self-reliance, strategic thinking.
- Goal-directed: practical realism, persistence, flexibility.
- Optimism: positivity, hopefulness, self-confidence.
- Reflexivity: insightfulness, compassion, gratitude, balance (Garrison & Gardner, 2012, p. 46).

The findings suggested that non-traditional students, particularly first-generation students from low socioeconomic backgrounds, utilize their personal assets to help them be successful in postsecondary settings (Garrison & Gardner, 2012). The researchers acknowledged the limitations of the study to include the sample size, single institution studies, and self-reported data (Garrison & Gardner, 2012). The researchers suggested that future research should be conducted to include a longitudinal approach with more robust sample from various types of postsecondary institutions (Garrison & Gardner, 2012).

Non-traditional students face many challenges including achievement gaps, socioeconomic struggles, and lack of support systems (Metha et al., 2011). A study conducted in 2011 compared first-generation college students, a type of non-traditional student, with continuing generation students (i.e., students whose parents have completed a college degree). The quantitative study utilized a questionnaire that was completed by participants, which was aimed at gleaning students' attitudes, opinions, and reasons for being in a university (Metha et al., 2011). Questions centered around seven themes and were measured with a seven-point Likert scale (Metha et al., 2011). The themes were level of involvement and participation in university activities; attitudes toward their employment; social life and relationships; general opinions about attending college; time management strategies; attitudes toward stress; and stress coping strategies (Metha et al., 2011). Marketing majors at a mid-sized public southwestern university

were tasked with recruiting five participants each (Metha et al., 2011). The final sample of 452 participants was found to be representative of the overall university population (Metha et al., 2011).

Results of the study showed that the non-traditional college students reported significantly lower family incomes and sources of college funding (Metha et al., 2011). The non-traditional students were more likely to work more hours per week and have higher levels of financial stress (Metha et al., 2011). The non-traditional students also were found to have lower levels of social and on-campus involvement (Metha et al., 2011). The non-traditional students reported differences in coping with stress and higher levels of overall stress (Metha et al., 2011). They also reported lower levels of social and academic satisfaction and lower GPAs (Metha et al., 2011).

The study was limited by not being longitudinal in nature and by the sample population originating at a single institution (Metha et al., 2011). Additional research could include multiple institutions and be longitudinal in nature (Metha et al., 2011). While these limitations existed, the study reflected the challenges faced by the non-traditional students at the institution that was studied and could serve as a guide for future research.

Academic Preparation

Non-traditional college students are often less academically prepared for the rigor of college (Gibbons & Woodside, 2014; Martinez, Sher, Krull, & Wood, 2009). Non-traditional college students are often enrolled in remedial coursework, which leaves them feeling as if they do not belong or are behind their peers (Gibbons & Woodside, 2014; Martinez et al., 2009). They have lower high school GPAs and lower SAT/ACT scores (Ishitani, 2006; Martinez et al., 2009). Non-traditional college students also exhibit less academic engagement in the classroom as

exhibited by frequency of their interaction with faculty, participation in class discussion, and asking meaningful questions (Martinez et al., 2009; Soria & Stebleton, 2012). This population of students had lower grades and enrolled in fewer credits (Martinez et al., 2009; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012).

Socioeconomic Standing

Ishitani (2016) reported that non-traditional college students are likely to come from the lowest family income quartile. These students struggle with financing their education and are dependent on financial aid packages that often include crippling debt at the conclusion of their studies (Martinez et al., 2009). Students and their families are left to determine whether the benefits of a college education outweigh the expense.

Roksa and Kinsley (2019) conducted a study of 728 first-time, full-time, low-income students enrolled in 8 four-year institutions. The researchers hoped to understand how family emotional and financial support were related to academic outcomes, such as persistence, grades, and credit accumulation (Roksa & Kinsley, 2019). Using logistic regression, the researchers found that emotional support, more than financial support, had a significant impact on students' academic outcomes (Roksa & Kinsley, 2019).

Chen and St. John (2011) conducted a quantitative study to determine what impact financial aid policies and practice had on students' academic success and persistence. The sample was derived from participants to the 1996 Beginning Postsecondary Students Survey (Chen & St. John, 2011). The final sample consisted of data from 6,383 students who enrolled in 422 colleges and financial indicators for 49 states (Chen & St. John, 2011).

Data were analyzed using multilevel approaches and descriptive statistics (Chen & St. John, 2011). The study found that students with a higher socioeconomic status were 55% more

likely to persist (Chen & St. John, 2011). In addition, the study found that social integration and institutional characteristics were associated with persistence (Chen & St. John, 2011).

Olbrecht, Romano, and Teigen (2016) conducted a quantitative study, using a regression analysis, to determine what impact money had on students' ability to stay enrolled in college. The participants were derived from a selective public liberal arts college in New Jersey who enrolled from 2010 to 2014 (Olbrecht et al., 2016). The researchers found that higher socioeconomic status was related to students' ability to persist (Olbrecht et al., 2016). The study also found that unmet financial aid increased student persistence, which the researchers suggested students' personal investment in their studies could be part of the retention puzzle (Olbrecht et al., 2016). Once non-traditional college students overcome obstacles and make an initial commitment to an institution, there still are a myriad of external and internal campus environmental factors that contribute to subsequent commitment leading to persistence until graduation (Braxton et al., 2004).

External Environments

Braxton and associates (2004) identified external environments that could impact student departure, such as finances, support, work, family, and community. Non-traditional college students are likely to work while in college, with many students attempting to hold full-time employment (Martinez et al., 2009; Metha et al., 2011). Research has indicated that students who are employed more than 19 hours a week tend to struggle with managing the demands of college and their employment (Woods & Froggé, 2017; Martinez et al., 2009; Metha et al., 2011). Working students have lower GPAs and are more likely to miss class or drop out of school to meet the demands of an employer (Metha et al., 2011).

Non-traditional college students often lack support from their families (Ishitani, 2006; Pike & Kuh, 2005). Family members may not understand or agree with a student's choice to attend college rather than immediately join the workforce (Woods & Froggé, 2017; Martinez et al., 2009; Metha et al., 2011). Families may place expectations of financial support from students while they are enrolled in college or after graduation (Woods & Froggé, 2017; Martinez et al., 2009; Metha et al., 2011). These external factors could contribute to the persistence of non-traditional college students.

External campus environments have an impact on whether students can be successful (Cox, Reason, Nix, & Gillman, 2014). For the purposes of the study, non-college life events were defined as those events outside the control of the institution and those events likely to affect students' relationships, routines, assumptions, or roles (Cox et al., 2014). Using data from 3,914 students from 28 institutions participating in the National Longitudinal Survey of Freshmen, the researchers employed logistic regression to examine the effects non-college life-events had on students' likelihood to graduate (Cox et al., 2014). Researchers identified variables for consideration, including demographics, test scores, GPA, residency on campus, and time that students spent in and out of class on various activities (e.g., studying and working; Cox et al., 2014). For the purpose of the study, non-college life-events operationalized as the death of a family member, financial constraints, and psychological issues (Cox et al., 2014). The dependent variable for the initial study was whether the students graduated in four years and a follow-up of graduation on six years was calculated (Cox et al., 2014).

Both descriptive statistics and logistic regression were used to analyze the collected data (Cox et al., 2014). Results of the analysis indicated that major life events were common and could negatively impact graduation of college students (Cox et al., 2014). Researchers suggested

that future retention and graduation research should consider the impact that non-college life-events can have on students' retention, progression, and graduation (Cox et al., 2014).

Martinez and associates (2009) conducted a study to determine which factors might mediate or moderate the attrition of first-generation college students, a type of non-traditional student. First-generation college students are students whose parents did not attend college and family background was identified as an external factor that could affect students' ability to persist (Braxton et al., 2004; Martinez et al., 2009). Researchers studied 3,290 students over the course of four years (Martinez et al., 2009). Martinez and associates (2009) analyzed data using event-history models. Data were collected from institutional reports that were provided by the university registrar over the course of four years or eight semesters (Martinez et al., 2009). The variables were parental education levels, attrition (i.e., nonenrollment), college entry characteristics, lack of funds, job status, alcohol use, drug use, academic challenges, and psychological distress (Martinez et al., 2009).

Results indicated that first-generation (non-traditional students) had lower ACT scores, fewer aspirations of college as a time to party, increase in desire to attend college to improve career opportunities, and lower aspirations to find a spouse in college (Martinez et al., 2009). They were more likely to work and tended to have lower GPAs (Martinez et al., 2009). The study also found that first-generation college students were at more risk of failing to persist in college (Martinez et al., 2009).

Internal Campus Environments

Braxton et al. (2004) identified internal campus environments that impact student departure as academic communities (e.g., learning communities and active learning) and the institutional environment (e.g., cost, integrity, and commitment to student welfare). Malcom

Knowles is renowned for his theory of adult learning referred to as andragogy (Knowles, 1973). He challenged educators to recognize that adult learners have very different needs when compared to children (Knowles, 1973). This theory is important to incorporate in the discussion of internal campus environments because classroom interaction and instruction is a key component of the nontraditional students' decision to remain enrolled. Knowles (1973) described that instruction aimed at adults should take into consideration that adults have developed a self-concept and that they need to be self-directed in their learning. Additionally, adult learners have rich life experiences and benefit from being able to draw from those experiences as they make connections to new material. Knowles (1973) also reminded educators that adults have a readiness to learn that differs from children and have different orientations to learning. Adults can apply their knowledge and are problem centered in their approach to learning. Classroom instruction should incorporate adult learners' needs and be sure they are met in the classroom as these internal campus environments will play a critical role in their decisions to persist through their programs.

Rizkallah and Seitz (2017) found that students at different stages in their academic career have different concerns that could directly affect their decisions to remain enrolled. The exploratory mixed methods study of 535 students in three southwestern universities with 67.5% of participants reporting to live off campus and worked 6 to 10 hours per week (31.6%) and 33% reported working more than 11 hours (Rizkallah & Seitz, 2017). The findings revealed that upper classmen began to express dissatisfaction, questioned the value of their investment in education, and exhibited lower motivation to perform when compared to other student populations (Rizkallah & Seitz, 2017). The researchers found that students had different levels of motivation and satisfaction throughout their academic careers and needs vary from stage to stage (Rizkallah

& Seitz, 2017). These findings are important to consider when addressing persistence in college after the first-year. Institutions should take steps to meet the needs of students across their academic careers to encourage persistence through to graduation.

Internal campus environments can be controlled, to some extent, by intentional programming. The researchers recommended that institutions pay attention to the relationship marketing philosophy of "acquire, keep, and grow customers as friends for life" and rethink recruiting and retention strategies so that student needs are met across the spectrum of their academic career to foster engagement and persistence (Rizkallah & Seitz, 2017). The study population was comprised of students who enrolled in the three southwestern institutions and thereby would have missed surveying students who had already made the decision to leave school (Rizkallah & Seitz, 2017). Excluding students who had already withdrawn or stopped out was a significant limitation, as their perspective may have yielded entirely different results.

Another study sought to determine whether institutional retention climate had an influence on the likelihood of persistence to degree completion (Oseguera & Rhee, 2009). The quantitative study utilized data from multiple sources to include the Cooperative Institutional Research Program's 1994 survey of incoming freshmen, the Higher Education Research Institutes' faculty surveys, institutional data, and Integrated Postsecondary Education Data System data (Oseguera & Rhee, 2009). Researchers sought to examine whether peer and/or faculty retention climate had any bearing on students' decisions to persist to graduation (Oseguera & Rhee, 2009). The study utilized a final sample of 37,006 undergraduate students attending 170 four-year colleges and universities and faculty responses from 245 institutions (Oseguera & Rhee, 2009). The dependent variable was identified as persistence to degree completion within six years or being enrolled in the same institution over the time period, to

include students who were actively enrolled (Oseguera & Rhee, 2009). Student-level independent variables included student background characteristics, high school achievement, students' reported intention to transfer, and educational aspirations (Oseguera & Rhee, 2009). Faculty-level independent variables included their perceptions on the institution's priority on teaching and learning, multicultural environments, and active learning (Oseguera & Rhee, 2009).

Researchers conducted hierarchical generalized linear models to review the data that were collected from the multiple measures (Oseguera & Rhee, 2009). Descriptive statistics were conducted on the student-level and institutional-level data that were collected (Oseguera & Rhee, 2009). The findings indicated that student-level variables were significantly associated with persistence (Oseguera & Rhee, 2009). Particularly, high school performance, SAT composite scores, living on campus, being White, being from a higher socioeconomic status, and having no plan to transfer had an impact on the students' persistence to degree completion (Oseguera & Rhee, 2009). The researchers found a significant relationship between peer institutional retention climate and students' persistence to degree, but they did not find a statistically significant relationship between student persistence and faculty's perception of institutional retention climate (Oseguera & Rhee, 2009).

Chen (2011) conducted a study on institutional characteristics, which contributed to conditions that reduce dropout risks. The study utilized longitudinal and hierarchical data to determine what institutional characteristics are related to college drop out over time (Chen, 2011). Data that were collected from the Beginning Postsecondary Students and Integrated Postsecondary Education Data System were analyzed using both descriptive statistics and multilevel event history model (Chen, 2011). Data were collected from 5,762 first-time, full-time students, degree-seeking students who were enrolled in 400 four-year institutions (Chen, 2011).

The researcher found that institutional investment in student services had an impact on students' likelihood to persist (Chen, 2011). The researcher found that financial aid packages had an impact on lower socioeconomic students' likelihood to persist (Chen, 2011). Researchers suggested that more work was necessary to identify what impact institutional characteristics have on student persistence (Chen, 2011).

Social Belonging and Academic Engagement

Non-traditional college students lack support systems at home, which further strengthens their need to form relationships at school (Shumaker & Wood, 2016). These students report feeling that they are navigating between two cultures while also trying to balance new academic expectations, work, and social obligations (Woosley & Shepler, 2011). The campus culture should provide opportunities for non-traditional students to engage with faculty and their peers inside and outside of the classroom (Burkholder et al., 2013; DeAngelo, 2014).

Non-traditional college students are less likely to engage on campus, often commuting to classes and leaving after classes for work or family obligations (Metha et al., 2011; Pike & Kuh, 2005; Soria & Stebleton, 2012). These students are less likely to perceive faculty and the institution as supportive of their development and well-being (Metha et al., 2011; Pike & Kuh, 2005; Soria & Stebleton, 2012).

Students' well-being, sense of belonging, mental health, and use of campus services impacts their ability to remain enrolled in college. Stebleton, Soria, and Huesman (2014) conducted a quantitative study with 58,017 participants across six large research institutions. The study sought to compare first-generation students' sense of belonging, mental health, and use of mental health services as compared to traditional students (Stebleton et al., 2014). Using the Student Experience in the Research University (SERU) instrument, data were collected and

analyzed using analysis of variance (Stebleton et al., 2014). Researchers found that first-generation college students reported lower sense of belonging, higher feelings of stress and depression, and lower use of campus mental health services when compared to traditional students (Stebleton et al., 2014). The researchers suggested that the results of the study were limited due to the self-reported data and the use of the SERU, as the measure was not intended to be a comprehensive measure of mental health (Stebleton et al., 2014). The researchers suggested that future research should include qualitative design so that researchers would be better able to understand the experiences of non-traditional students (Stebleton et al., 2014).

Dwyer (2017) conducted a mixed methods case study of 248 commuter students in Ireland. Researchers used focus groups, interviews, and a survey to collect data that were related to student-faculty interactions to determine if there was a relationship to persistence (Dwyer, 2017). The study found that high levels of student-faculty interactions were associated with high levels of educational commitment and were related to students' intentions to persist (Dwyer, 2017).

Hu (2011) conducted a study of engagement and persistence with students enrolled in postsecondary programs in Washington State. Data were collected from two rounds of surveys of cohort III in the Washington State Achievers program (Hu, 2011). The sample consisted of 832 students who were participants in the program (Hu, 2011). Logistic regression was used to analyze the data, and the results indicated that academic engagement was not statistically significantly correlated with persistence (Hu, 2011). Researchers also found that there was a significant relationship between social engagement and persistence with those students who were highly engaged socially the most likely to persist (Hu, 2011).

Table 5

Concept Analysis for Factors that Influence Persistence

Study	Purpose	Participants	Design/Analysis	Outcomes
Bowman et al., 2015	Study 1: To determine how persistence of effort and consistency of interest predict college outcomes, student intentions, and value of GRIT in admissions process. Study 2: Replication of study one with participants from both institutions	Study 1: 417 students from Bowling Green State University's psychology subject pool Study 2: 1,089 students from University of Wisconsin and 938 students from Bowling Green State University	Both studies: Survey of participants and Multiple Regression	Study 1: Perseverance of effort was positively associated with academic adjustment, college GPA, sense of belonging, college satisfaction, and intention to persist. Consistency of effort was not significantly associated with outcomes of satisfaction. Study 2: GRIT was positively correlated to college outcomes and intentions to persist. Perseverance of effort was more strongly correlated that consistency of effort.
Hodge et al., 2018	To determine relationships between demographic factors, academic engagement, and grit.	395 University students in Australia	GRIT scale administered/correlational analysis	A positive relationship was found between academic engagement, productivity, and grit.
Warden & Meyers, 2017	To evaluate the impact of nonintellective variables, such as grit, on academic achievement.	139 students	Multiple linear regression	No significant relationship between grit and academic achievement in first analysis. Second analysis revealed a marginal negative relationship between grit and GPA.
Muenks et al., 2017	To determine the effectiveness of grit measures as a predictive model of academic success.	203 high school students and 336 college students	MIRT models and multiple regression	Perseverance of effort was a better predictor of academic success than consistency of effort.
Gershenfeld et al., 2016	To determine if first-semester GPA was a predictor of persistence and graduation.	3,213 students enrolled in a public midwestern institution between 2004-2006	Descriptive statistics	First-semester GPA was found to be a statistically significant predictor of graduation. Students with first semester GPAs at 2.33 or below were at risk of never graduating.

Study	Purpose	Participants	Design/Analysis	Outcomes
Millea et al., 2018	To understand the factors that influenced student success.	12,812 first-time, full-time students enrolled in a public southeastern university	Probit analysis	Older students less likely to graduate. Small classes and higher first-semester GPAs were associated with higher graduation rates. Academic preparation and financial aid also had a significant impact on graduation.
Stewart et al., 2015	To examine effect of demographics, family characteristics, precollege and college academic performance have on persistence.	First-time, full-time and part-time freshmen enrolled Fall 2006 through Fall 2008	Ex post facto design and descriptive statistics	High school GPA and scholastic measures are the most reliable predictors of achievement and persistence.
Garrison & Garner, 2012	To explore assets of first-generation college students.	three first-generation college students	Exploratory qualitative/ interviews and institutional data	Identified four assets: proactive, goal directed, optimistic, and reflexive. First-generation college students use these assets to be successful in college.
Metha et al., 2011	To compare first-generation college students with continuing generation college students.	452 students enrolled in a public southwestern university	Quantitative/ Likert Scale	First-generation college students reported lower socioeconomic status, limited funding options for college, more likely to work, have high levels of financial stress, lower levels of social and campus involvement, and lower levels of academic and social satisfaction when compared to continuing generation college students.
Roksa & Kinsley, 2019	To understand how family emotional and financial support relate to academic outcomes (persistence, grades, and credit accumulation).	728 first-time, full-time, low-income students enrolled in 8 four-year institutions	Logistic regression	Emotional support had a more significant impact on academic outcomes than did financial support.

Study	Purpose	Participants	Design/Analysis	Outcomes
Chen, 2011	To determine what institutional characteristics might impact student persistence.	5762 first-time, full-time students across 400 institutions	Multilevel event history analysis	Institutional expenditures on student services and higher levels of financial aid had a significant impact on student persistence.
Chen & St. John, 2011	To determine what impact state financial polices had on student persistence and other academic outcomes.	6383 students enrolled in 422 colleges in 1996	Multilevel and descriptive	State financial aid policies had an impact on persistence.
Olbrecht et al., 2016	To determine impact that money had on student persistence.	Students who enrolled at a selective liberal arts college in New Jersey from 2010 to 2014	Logistic regression models	Family's ability to aid in finances had an impact on persistence. Academic performance also had an impact. Students' investment in their own education had an impact on persistence.
Cox et al., 2014	To examine effects of non-college life events on students' likelihood to graduate.	3,914 students who enrolled in 28 postsecondary institutions	Descriptive statistics and logistic regression	Major life events have a negative impact on students' likelihood to graduate.
Martinez et al., 2009	To determine factors that mediate and moderate attrition in first-generation college students.	3,290 students enrolled in large Midwestern public, research institution	Event history analysis	Parents' educational background influenced retention.
Rizkallah & Seitz, 2017	To explore factors that contribute to persistence at different points in students' academic careers.	535 students enrolled at three southwestern public institutions	Exploratory mixed methods	Students at different stages in their academic careers have different concerns that influence persistence to graduation.
Hu, 2011	To examine the relationship between different types of student engagement and persistence.	832 students who are participants in the Washington State Achievers program	Logistic regression	Social engagement was associated with persistence. Academic engagement was not associated with persistence.

Study	Purpose	Participants	Design/Analysis	Outcomes
Dwyer, 2017	To examine relationship between student-faculty interaction and persistence.	248 commuter students in Ireland	Mixed methods case study-questionnaire, focus groups, and interview	Student-faculty interaction was associated with intentions to persist and academic engagement in their programs.
Oseguera & Rhee, 2009	To determine whether institutional retention climate had influence on students' likelihood to persist to graduation.	37,006 undergraduates who enrolled across 174 institutions and 245 faculty	Hierarchical generalized linear models	Student-level variables were significantly associated with persistence. Peer institutional retention climate was significantly associated with persistence. Faculty perceptions of institutional retention climate were not significantly associated with persistence.
Stebleton et al., 2014	To compare first-generation college students' sense of belonging, mental health, and use of mental health services with traditional students.	58,017 students enrolled across six large research institutions	Quantitative/ Analysis of variance	First-generation college students were found to have lower sense of belonging, higher stress/depression, and lower use of mental health services.

Summary

Braxton and associates' (2004) theory of institutional departure guided this study and was built upon the premise that student entry characteristics, combined with initial institutional commitment, external environment and internal environment combine to inform students' subsequent institutional commitment and ultimately their persistence through their programs toward graduation. Historically, research regarding non-traditional students has been limited (Donaldson & Townsend, 2007; Kasworm, 1990; Langrehr et al., 2015). A content analysis of major journals revealed that most of the available research fails to address this population adequately (Donaldson & Townsend, 2007; Kasworm, 1990; Langrehr et al., 2015). Langrehr et al. (2015) reported that, of the literature available over a 21-year span, only 1% addressed non-traditional students and that the existing body of work was limited by its focus on quantitative methods and use of age as the primary characteristic used to identify non-traditional populations. This review of literature contains a predominance of quantitative research associated with persistence of non-traditional college students. The review revealed that existing research relies heavily on self-reported survey data that were collected during one semester. Few longitudinal studies on persistence, grit, and non-traditional student perceptions exist. Significant gaps in the literature exist regarding mixed methods study, which allows the researcher to paint a more complete picture of persistence, grit, academic mindset, and academic success of non-traditional college students (Creswell & Creswell, 2018). This study sought to fill these gaps in the literature using an explanatory mixed methods study involving longitudinal data collection.

Chapter III: Methodology

Non-traditional college students are more likely fail to complete their postsecondary programs when compared to traditional college students (Choy, 2001; Petty, 2014; Postsecondary National Policy Institute, 2018). Postsecondary institutions are being held accountable for retaining and graduating students (Complete College America, 2018; Ishitani, 2006; Thayer, 2000). Nationally, institutions are seeing a trend toward shifting the funding of postsecondary institutions to a performance-based model where the retention of students rather than enrollment count will have more of an impact on institutions' state and federal funding allocations *(*Ishitani, 2006, 2016; Metha et al., 2011; Postsecondary National Policy Institute, 2018*).* Additionally, the approaching decrease in available incoming freshmen, as demographics shift, will increase the need to retain recruited students and attract non-traditional students (Grawe, 2018). Understanding factors that influence persistence and lead to graduation for non-traditional students is critical for postsecondary institutions given the challenges ahead.

The purpose of this explanatory, sequential mixed methods study was to explain the relationship between grit, academic mindset, first-year college GPA, and persistence in non-traditional students who enrolled at a medium-sized state regional university in Georgia. This chapter includes clarification of the research design, role of the researcher, selection of participants, instruments employed, data collection, and data analysis.

Research Design

The study employed explanatory, sequential mixed methods design, which allowed the researcher to better understand the relationship between grit, academic mindset, first-year college GPA, and explain factors, which contribute to the persistence of non-traditional college students at a medium-sized public state university in Georgia. A mixed methods research design was

selected over other research methods because this design allowed for a more complete picture than quantitative or qualitative methods alone (Creswell & Creswell, 2018).

The review of literature found a predominance of quantitative research that has been conducted related to non-traditional students (Donaldson & Townsend, 2007; Langrehr et al., 2015). Few qualitative and fewer mixed methods studies were found (Bohl et al., 2017; Dwyer, 2017; Garrison & Gardner, 2012; Rizkallah & Seitz, 2017). The lack of mixed methods designs in the available literature was identified as a significant gap in the literature, and researchers suggested that future research should include qualitative methods and be longitudinal in nature (Donaldson & Townsend, 2007; Langrehr et al., 2015). The researcher elected to use a mixed methods research design to benefit the study by using quantitative methods to help strengthen the understanding of the relationships between the variables and aid in the interpretation of the qualitative data that were collected. The explanatory, sequential design is used when the researcher seeks to explain the quantitative results with qualitative findings (Creswell & Creswell, 2018). Phase 1 of explanatory, sequential mixed methods involved the collection and analysis of quantitative data, which were used to identify a purposeful sample for Phase 2, where qualitative data were used to help explain or clarify quantitative results (Creswell & Creswell, 2018). In this study, an explanatory, sequential mixed methods design was used to provide the researcher with a clearer picture of student persistence, the relationship between grit and academic mindset, and the relationship between grit and academic success as defined by first-year GPA.

Qualitative research is limited in its ability to explore phenomenon, instead quantitative methods are employed to examine relationships among variables (Creswell & Creswell, 2018). Variables are analyzed using statistical procedures in order to test theories, protect against bias,

and control for confounding variables (Creswell & Creswell, 2018). In this study, a quantitative correlational design was used to examine the relationship between grit and academic mindset and the relationship between grit and academic success as defined by first-year GPA, as well as the relationship between academic mindset and first-year GPA. The researcher hoped to understand what relationships existed so that deductive conclusions could be drawn about what role academic mindset, grit, and academic success had on the students' persistence in college.

Qualitative research is used to explore and understand the meaning that individuals who are being studied place on a problem (Creswell & Creswell, 2018). Through qualitative research, researchers utilize inductive reasoning to build emerging themes, interpret the meaning in the data, and focus on individual meaning and complex situations (Creswell & Creswell, 2018). In the qualitative portion of this study, the researcher conducted interviews as a part of instrumental case study design to explore factors related to persistence for non-traditional students (Baxter & Jack, 2008). Instrumental case study design is used when researchers hope to gain insight (Baxter & Jack, 2008).

Research Questions and Hypotheses

The research sought to examine the following questions:

1. What is the relationship between non-traditional college students' grit score and academic mindset?

   The researcher hypothesized that a relationship exists between non-traditional college students' academic mindset and grit scores or H_1: $\mu = k$. The null hypothesis was that there is no relationship between grit score and academic mindset or H_0: $\mu \neq k$.

2. What is the relationship between non-traditional college students' academic mindset and first-year college GPA?

The researcher hypothesized that a relationship exists between non-traditional college students' academic mindset and their first-year college GPA or H_1: $\mu = k$. The null hypothesis was that there is no relationship between academic mindset and first-year college GPA or H_0: $\mu \neq k$.

3. What is the relationship between non-traditional college students' grit score and first-year college GPA?

   The researcher hypothesized that a relationship exists between non-traditional college students' grit scores and their first-year college GPA or H_1: $\mu = k$. The null hypothesis was that there is no relationship between grit score and first-year college GPA or H_0: $\mu \neq k$.

4. What are the perceptions of non-traditional college students who persisted to earn a degree or credentials regarding their undergraduate experience?

The explanatory, sequential mixed methods research design aligned with the research questions by allowing for the collection and analysis of both quantitative and qualitative data (Appendix E). The quantitative data that were collected and analyzed from survey results combined with institutional data allowed the researcher to answer Research Questions 1, 2, and 3 through statistical analysis. The analysis of qualitative data that were collected from the interviews allowed the researcher to better understand the perceptions of students' undergraduate experiences for those participants who persisted to earn a degree or credentials to answer Research Question 4.

Role of the Researcher

The researcher was a full-time higher education administrator who worked directly in the field of student success at the state university that was selected for study. The researcher's

department was primarily responsible for retention of first-time, full-time students; however, retention of non-traditional undergraduate students was also considered to be part of her professional responsibilities. The researcher was a non-traditional college student who earned her associate's, bachelor's, and master's degrees as an adult while working full-time. She was the first person in her family to earn a degree and was the only member of her family to pursue education beyond the master's level.

Given the professional role of the researcher and her personal academic history, the researcher recognized the potential for bias in her interpretation of the qualitative data. The researcher remained cognizant of the idea that personal experiences as a non-traditional student could impact the way in which she engaged with the qualitative data and endeavored to approach the data from a neutral point of view. The researcher planned to have others review her interpretations, particularly those individuals who were involved in the dissertation process, such as the Committee Chair and Methodologist and other Committee Members.

Participants

The participants for this study were chosen purposefully from the population of students who enrolled at a southeastern regional state university and completed a survey administered to first-time, full-time freshmen in the fall of 2015. The survey included the Grit Scale and the Mindset Questionnaire *(Duckworth & Quinn, 2009; Dweck, 2006)*. In 2015, 244 students responded to the survey, which yielded a response rate of 27.7%. The researcher used institutional data to determine which students were aged 21 or older upon their entry to the institution. The researcher reviewed the 2015 dataset and consulted Banner Student Information Systems to identify the student ID, age at time of enrollment, cumulative GPA Spring 2016, enrollment in Fall 2016, cumulative GPA in Spring 2017, enrollment in Fall 2017, cumulative

GPA in Spring 2018, enrollment in Fall 2018, and additional comments made as to status in Fall 2019. This information was recorded as additional columns in an Excel Spreadsheet maintained confidentially by the researcher. Through review of the institutional data, eight students were identified as non-traditional and were included in the study. Presently, the available data are limited to age alone as an identification criterion for non-traditional students. The researcher would have liked to have broadened the selection criteria, but, given current limitations, that option was not possible.

The institution under study was a mid-sized public state university located in Southwest Georgia and was part of the University System of Georgia. The institution enrolled approximately 6,640 undergraduate students in the fall of 2018 and reported that approximately 60% of its undergraduate student population was characterized as non-traditional using age alone as a criterion. Many more students might meet other criteria that were identified in the literature review; however, such data were not available at the institution that was being studied (MacDonald, 2018; Postsecondary Policy Institute, 2018). The institution and its stakeholders would benefit from an understanding of the perceptions of non-traditional students due to the percentage of students who enroll from this population.

Instrumentation

Quantitative

The survey instrument (Appendices A, B, and C) was compiled by Pat Estes at Edgewood College in Madison, Wisconsin. The instrument was administered in 2015, as part of a collaborative research project on first-time, full-time freshmen for the state university and Edgewood College (IRB 15-093). The instrument contained non-cognitive scales from eight sources including The Short Grit Scale (Duckworth & Quinn, 2009), Academic Entitlement

Questionnaire (Kopp, Zinn, Finney, & Jurich, 2011), Academic Goal Questionnaire-Revised (Elliot & Murayama, 2008), Academic Self-efficacy Questionnaire (Chemers, Hu, & Garcia, 2001; Leach, Queirolo, DeVoe, & Chemers, 2003), Core Self-Evaluations Scale (Judge, Erez, Bono, & Thoreson, 2003), Mindsets Questionnaire (Dweck, 2006), and Perceived Cohesion Scale-Modified (Bollen & Hoyle, 1990). For the explanatory, sequential mixed methods study, the researcher selected data related to demographics, the Short Grit Scale, and Mindset Questionnaire from the 2015 dataset.

The Short Grit Scale (Appendix A) was developed and tested for internal consistency, test-retest reliability, consensual validity with informant-report versions, and predictive validity by Duckworth and Quinn in 2009. The final measure consisted of eight items (Duckworth & Quinn, 2009). Duckworth and Quinn (2009) developed this shorter and more reliable scale to measure grit, which is defined as perseverance of effort and passion for long term goals. The items that were related to perseverance of effort were items 1, 4, 6, 7, and 8, while items related to passion for long term goals were 2, 3, and 5. The instrument used a five-point Likert response scale where 1 represented not like me at all and 5 represented very much like me. Confirmatory factor analyses were used and determined that the Short Grit Scale (GRIT-S) showed content validity and maintained predictive validity (Duckworth & Quinn, 2009). The results indicated that the eight-item GRIT-S scale was both shorter and a stronger measure when compared to the 12-item GRIT-S scale (Duckworth & Quinn, 2009). GRIT-S was recommended as a reliable and valid measure of perseverance of effort and passion for long-term goals (Duckworth & Quinn, 2009).

The Mindset Questionnaire developed by Dweck (2006) was a 20-item scale with a four-item Likert-type response scale (Appendix B). The questionnaire sought to determine whether

respondents possess fixed or growth mindsets (Dweck, 2006). The responses were identified as 1 (Strongly Disagree), 2 (Disagree), 3 (Agree), and 4 (Strongly Agree). The items on the scale included statements that allowed individuals to identify beliefs about their own intelligence and whether it would be perceived as fixed or dynamic (Dweck, 2006). Fixed items included items 1, 4, 7, 8, 11, 12, 14, 16, 17, 18, and 20, while growth items included 2, 3, 5, 6, 9, 10, 13, 15, and 19 (Dweck, 2006). Information related to reliability and validity of this measure were not found despite the prevalence of use in educational research.

In addition to these specific scales, researchers also asked demographic questions (Appendix C) aimed at understanding students. Items included questions about students' area of residence; average course grades in high school; expectations of average course grades in first semester of college; whether the institution was a first, second, third, or other choice; whether students anticipated a major or career change; expected to make an average B grade; expected to transfer; anticipated regular communication with faculty; were concerned about paying tuition and how they planned to pay; whether or not students planned to work; their gender; racial classification; parents' level of education; anticipated level of degree completion; and expectation of how long it would take to complete their degree.

Qualitative

Using the quantitative data and the literature review, the researcher developed 14 interview questions as outlined in Appendix D for use during the qualitative portion of the study. The questions were designed to be open-ended. The open-ended questions encouraged the participant to provide more robust answers and allowed the researcher the opportunity to ask additional questions to clarify responses or pursue related topics introduced by the participants

(Creswell & Creswell, 2018). Table 6 displays the connection between the interview items, empirical literature, and the research questions.

Table 6

Qualitative Analysis Chart

Item	Research	Interview Question	Research Question
1. Family Education background	Fike & Fike, 2008; Garrison & Gardner, 2012; Hodge et al., 2018; MacDonald, 2018; Martinez et al.; 2009; Metha et al., 2011, Roksa & Kinsley, 2019; Stebleton et al., 2014; Stewart et al.; 2015	1	4
2. Employment Status	MacDonald, 2018; Millea et al., 2018	2	4
3. Resides on or off campus	MacDonald, 2018; Millea et al., 2018	3	4
4. Academic & Social Experience (high school)	Fike & Fike, 2008; Raju & Shumaker, 2015; Stewart et al., 2015	4	4
5. Academic & Social Expectations (college)	Attewell et al., 2011; Davidson & Holbrook, 2014; Fike & Fike, 2008; Gershenfeld et al., 2016; Hu, 2011; Raju & Shumaker, 2015; Warden & Meyers, 2017	5	4
6. Strength/Weaknesses	Dweck, 2006; Hodge et al., 2018; Mrazek et al., 2018; Yeager & Dweck, 2012	6	4
7. Work Ethic	Hodge et al., 2018; Muenks et al., 2017; Raju & Shumaker, 2015	7	4
8. Classroom Experiences	Bergman et al., 2014; Bowman et al.; 2015; Davidson & Holbrook, 2014; Rizkallah & Seitz, 2017	8	4
9. Mindset	Dweck, 2006; Mrazek et al., 2018; Yeager & Dweck, 2012	9	1, 4
10. Perceptions of College Experience	Bowman et al.; 2015 Chen, 2011; Chen & St. John, 2011; Dwyer, 2017; Oseguera & Rhee, 2009; Rizkallah & Seitz, 2017	10	4
11. Beliefs about faculty	Bergman et al., 2014	11	4
12. Value of Education	Cox et al., 2014; Olbrecht et al., 2016	12	4
13. Support Services Utilization	Attewell et al., 2011; Fike & Fike; 2008; Stebleton et al., 2014	13	4
14. Needs for additional services	Chen, 2011; Fike & Fike, 2008; Stebleton et al., 2014	14	4

Data Collection

In Fall 2015, 244 first-time, full-time students responded to a survey that included questions related to GRIT (Appendix A), academic mindset (Appendix B), and demographic data (Appendix C). In 2019, the dissertation student and chair received IRB approval (Appendix F) to review the survey data from the 2015 survey and collect additional institutional data related to participants' persistence, first-year GPA, and age at time of enrollment as part of the development of Chapter I for this research project. The researcher collected and recorded the following data in the Excel spreadsheet: students' ID number, cumulative GPA for Spring 2016, return status for Fall 2016, cumulative GPA for Spring 2017, return status for Fall 2017, cumulative GPA for Spring 2018, return status for Fall 2018, and the students' age at their time of enrollment. For the purpose of this study, students were considered non-traditional if they were age 21 or above in Fall 2015. Using the Banner Student Information System, the researcher accessed each students' individual record and recorded the pertinent information on an Excel spreadsheet for analysis using statistical procedures in SPSS program. From the 244 survey participants, a sample of eight students were identified as non-traditional students, using age as the criterion for selection, and were selected as participants in this study.

The researcher interviewed the non-traditional students who were identified as participants for the study. The researcher conducted and recorded the semi-structured interviews using Zoom. Interviews were expected to take approximately one hour. At the conclusion of each interview, the researcher recorded her thoughts related to the interview for later reflection and consideration. The recordings were used by the researcher to generate accurate transcripts of the interviews. Transcripts allowed for better qualitative analysis by providing a complete record of the interview data to accompany the field notes. The researcher created these transcripts rather

than contract with a third-party transcription service in order to be more familiar with the data prior to qualitative analysis process.

Data Analysis

Quantitative

Prior to analysis, the researcher conducted data cleaning to identify and eliminate errors in the data (Creswell & Creswell, 2018). The researcher created dummy coding to allow for analysis of categorical variables. Table 7 presents the dummy coding for continued enrollment. The dummy coding for the Grit-S measure used a five-point response scale with 1 representing *Not At All Like Me*, 2 representing *Not Much Like me*, 3 representing *Somewhat Like Me*, 4 representing *Mostly Like Me*, and 5 representing *Very Much Like Me*. The dummy coding for the Mindset Questionnaire used a four-point scale with 1 representing *Strongly Disagree*, 2 representing *Disagree*, 3 representing *Agree*, and 4 representing *Strongly Agree*. The dummy coding for the demographic items was extensive and is best displayed in table form, rather than in the narrative. The dummy coding for demographic items is displayed in Table 8 through Table 22.

Table 7

Dummy Coding for Continued Enrollment

Enrollment	Yes	No
Fall 2016	1	0
Fall 2017	1	0
Fall 2018	1	0
Fall 2019	1	0

Table 8

Dummy Coding for Demographic Item 9.2

Item	Urban Area	Suburban	Small Town	Rural
Which of the following describes the area that you consider to be your hometown?	1	2	3	4

Table 9

Dummy Coding for Demographic Items 9.3 and 9.4

Item	A or A+	A-	B+	B	B-	C+	C	C-	D
What was your average course grade in high school?	9	8	7	6	5	4	3	2	1
Realistically, what do you expect your average course grade to be at the end of your first college semester?	9	8	7	6	5	4	3	2	1

Table 10

Dummy Coding for Demographic Item 9.5

Item	First Choice	Second Choice	Third Choice	Less Than Third Choice
Is this state university your…?	4	3	2	1

Table 11

Dummy Coding for Demographic Item 9.6

Item	Location	Specific Degree Program or Faculty Member	Academic Reputation	Peer or friend influence	Parent Influence	Financial Aid	Other
What was your primary reason for attending state university?	1	2	3	4	5	6	7

Table 12

Dummy Coding for Demographic Item 9.7

Item	No Chance	Very Little Chance	Some Chance	Very Good Chance
What is your best guess as to chances that you will: (mark one for each item).				
Change major field.	1	2	3	4
Change career choice	1	2	3	4
Make at least a "B" average	1	2	3	4
Transfer to another college/university before graduation.	1	2	3	4
Communicate regularly with your instructors/professors.	1	2	3	4

Table 13

Dummy Coding for Demographic Item 9.8

Item	Parental and Family Support	Personal Savings	Employ-ment	Scholarship Grants	Student Loans
How do you plan to pay for college tuition and other expenses?	1	2	3	4	5

Table 14

Dummy Coding for Demographic Item 9.9

Item	None	Some	Major
Do you have any concerns about your ability to finance your college education?	1	2	3

Table 15

Dummy Coding for Demographic Item 9.10

Item	1-10 Hours	11-20 Hours	21-30 Hours	31-40 Hours	More Than 40 Hours	I don't plan to work during the school year
How many hours do you plan on working per week during your first semester in college?	1	2	3	4	5	6

Table 16

Dummy Coding for Demographic Item 9.11

Item	Male	Female
Which gender do you identify most with?	1	2

Table 17

Dummy Coding for Demographic Item 9.12

Item	American Indian or Alaskan Native	Asian	Black or African American	Hispanic	Hawaiian or Other Pacific Islander	White or Caucasian	Other
What is your race or ethnic identification? (Check all that apply.)	1	2	3	4	5	6	7

Table 18

Dummy Coding for Demographic Item 9.13

Item	College Dorm or Residence Hall	Other On Campus Facilities (Not A Dorm)	Off Campus, Not At Home	At Home
Where do you plan to live while attending college?	1	2	3	4

Table 19

Dummy Coding for Demographic Item 9.14

Item	Yes	No
Did either of your parents attend college?	1	0

Table 20

Dummy Coding for Demographic Item 9.15

Item	No, neither my mother nor my father completed college	Yes, but only my mother completed college	Yes, but only my father completed college	Yes, both my mother and father completed college
Did your parents complete college?	1	2	3	4

Table 21

Dummy Coding for Demographic Item 9.16

Item	Dummy Code
What is the highest level of education you ever expect to complete?	
Some College (No Degree Awarded)	1
Associate (A.A.) Degree or Equivalent	2
Bachelor's (B.A., B.S., etc.) Degree	3
Master's (M.A., M.S., etc.) Degree	4
Ph.D. or Ed.D.	5
M.D., D.D.S, D.V.M, or D.O.	6
LL.B. or J.D. (Law)	7
B.D. or M.Div. (Divinity)	8
Other (please specify)	9

Table 22

Dummy Coding for Demographic Items Question 9.17

Item	3 or less years	4 years	5 years	6 years	More than 6 years
In how many years do you expect to complete this undergraduate degree?	1	2	3	4	5

Descriptive statistics, including mean, standard deviation, and range, were conducted for each variable, and presented in a table form. For Research Question 1, the two variables were the students' GRIT-S scores and the students' Mindset Scores from the 2015 dataset. For Research Question 2, the two variables with students' Mindset Scores and first-year cumulative GPA (i.e., Cumulative GPA Spring 2016). For Research Question 3, the two variables were the students' GRIT-S scores and the first-year cumulative GPA (i.e., Cumulative GPA Spring 2016). In order to answer Research Question 1, the researcher analyzed quantitative data using Pearson's *r*, which allowed the researcher to determine if a relationship existed between students' grit score and academic mindset. For Research Question 2, the researcher analyzed quantitative data using Pearson's *r,* which allowed the researcher to determine if a relationship existed between mindset and first-year GPA for the eight students who were identified as non-traditional in the dataset. For Research Question 3, the researcher analyzed quantitative data collected using Pearson's *r,* which allowed the researcher to determine if a relationship exists between grit and first-year GPA for the eight students who were identified as non-traditional in the dataset. The results of Pearson's *r* were presented using a scatterplot and descriptive information (Field, 2013). Pearson's *r* or the correlation coefficient was used to determine if a relationship existed between variables and to identify the strength of the relationship (Field, 2013). The closer the *r* value is to

1, the stronger the relationship, and relationships between variables can be positive or negative (Field, 2013). Strong correlations are those coefficient values that are above .5, while moderate correlations are coefficient values between .3 and .5. Weak correlations are coefficient values between .1 and .3 (Field, 2013).

Qualitative

To answer Research Question 4, the researcher analyzed the qualitative data from interviews using hand coding to identify emerging themes. Hand coding allowed the researcher to identify and categorize the interview data. The coding process allowed the researcher to identify the central themes contributing to non-traditional college students' success in persisting from year to year toward graduation (Creswell & Creswell, 2018). Once the emerging themes were identified, the researcher discussed the perceptions that contributed to the persistence of non-traditional college students.

Trustworthiness in qualitative research is comprised of credibility, dependability, confirmability, and transferability (Connelly, 2016; Shenton, 2004). Credibility is best established by adoption of research methods that are well established, an understanding of the culture of the participating institution, random sampling, triangulation, tactics to encourage honesty, iterative questioning, negative case analysis, debriefing sessions, peer review, reflective commentary, background of the investigator, member checks, thick descriptions of the area under study, and examination of previous findings (Shenton, 2004). In this study, the researcher established credibility by utilizing established research design, which was an explanatory, sequential mixed methods design (Creswell & Creswell, 2018). Part of the development of this research project included a robust examination of the literature in the field and the examination of multiple empirical studies that were conducted from the quantitative, qualitative, and mixed

methods research paradigms (Shenton, 2004). Additionally, the researcher was uniquely positioned as a graduate student, staff, and faculty member at the institution, which provided invaluable understanding of the institutional culture and the population of students who were being studied. The researcher further established credibility through triangulation using complete transcripts of the interviews that were conducted along with field notes and accepted coding methods to determine whether the findings match reality (Shenton, 2004). The researcher encouraged honest response to interview questions by conducting the interviews in a neutral location and ensuring the participants of their anonymity. The researcher also provided a detailed report of the findings and sought external review by the dissertation committee, which included the methodologist, to further establish credibility (Shenton, 2004).

Dependability is established by the consistency of the data over time and maintenance of consistency of conditions over time (Connelly, 2016; Shenton 2004). In this study, dependability was maintained by the consistent use of field notes, recordings, and format for interview. Confirmability is established by the degree to which findings could be replicated and are consistent (Connelly, 2016; Shenton, 2004). In this study, the researcher outlined clear procedures as to anticipated methods, which could allow for replication to establish confirmability of the findings.

Transferability is established by the clear identification of the number of organizations that took part in the study, any restrictions in the type of people who contributed data, number of participants, data collection methods, number and length of sessions, and time period over which the data were collected in order to paint a rich picture of the findings for use in other settings (Connelly, 2016; Shenton, 2004). In this study, transferability was limited by the study focus on one institution. However, the institution was part of the University System of Georgia, and as a

result, the findings could be generalized amongst other institutions of similar nature within the system (Shenton, 2004). Additionally, transferability was further established by limiting the participants in the study to those students who were identified as non-traditional college students over the course of time at the institution (Shenton, 2004). The study was designed so that the quantitative data that were collected in 2015 allowed for the researcher to interview selected participants later in time, which added to the transferability of the findings (Shenton, 2004). The qualitative data were collected in 2020 and 2021, which allowed the participants in the qualitative portion of the study to reflect over time and better respond to the interview questions (Shenton, 2004). The data collection methods were consistent and easily replicated (Shenton, 2004). The researcher generated recordings and transcripts of the sessions, which were conducted in the virtual setting. Replication of the work in multiple institutions and geographical areas would add to the transferability of the findings beyond the University System of Georgia (Shenton, 2004).

Integration

The explanatory, sequential mixed method design of the study allowed for integration in the design, methods, and reporting stages of the study (Fetters, Curry, & Creswell, 2013). Integration enhances the value of the findings by increasing the validity of the quantitative data and generalizability of the qualitative data (Fetters et al., 2013). In this study, the researcher integrated the study by connecting the quantitative and qualitative data using the participants who completed the quantitative portion of the study as participants in the qualitative portion of the study. The researcher merged the collected data during analysis, comparison, and reporting of the findings (Fetters et al., 2013). Integration allowed the researcher to make connections between the findings, reviewed literature, and build recommendations for future research and

best practices for encouraging persistence for non-traditional students in the postsecondary education setting (Fetters et al., 2013).

Summary

The explanatory, sequential mixed methods study examined the relationships between grit, academic mindset, and first-year GPA and explored the concepts related to persistence for non-traditional college students. In Fall 2015, 244 first-time, full-time freshmen participated in a survey, which included items related to academic mindset and grit. Additional institutional data were collected in 2019 regarding those students who were surveyed. Eight students were identified as non-traditional based on being aged 21 or older and were selected as the participants in this study. In order to examine the relationship between grit, academic mindset, and academic success, quantitative statistical analysis was employed using the survey results and institutional data to answer Research Questions 1, 2, and 3. In order to explore the concepts related to students' persistence, interviews were conducted, and analysis of the qualitative data were conducted to answer Research Question 4.

Chapter IV: Findings

This explanatory, sequential mixed methods study was designed to explore the relationship between grit, academic mindset, first-year college GPA, and persistence in non-traditional college students at a medium-sized public university in Georgia. In the quantitative portion of this study, correlational design was used to examine the relationship the between grit and first-year college GPA in first-time, full-time non-traditional college students, to examine the relationship between academic mindset and first-year college GPA, and to examine the relationship between academic mindset and grit in non-traditional first-time, full-time college students. Interviews were conducted in the qualitative portion of this study to explore factors related to persistence for first-time, full-time non-traditional college students at the state university (Baxter & Jack, 2008).

There were four research questions that the study sought to answer:

1. What is the relationship between non-traditional college students' grit score and academic mindset?

   The researcher hypothesized that a relationship exists between non-traditional college students' academic mindset and grit scores or H_1: $\mu = k$. The null hypothesis was that there is no relationship between grit score and academic mindset or H_0: $\mu \neq k$.

2. What is the relationship between non-traditional college students' academic mindset and first-year college GPA?

   The researcher hypothesized that a relationship exists between non-traditional college students' academic mindset and their first-year college GPA or H_1: $\mu = k$. The null hypothesis was that there is no relationship between academic mindset and first-year college GPA or H_0: $\mu \neq k$.

3. What is the relationship between non-traditional college students' grit score and first-year college GPA?

   The researcher hypothesized that a relationship exists between non-traditional college students' grit scores and their first-year college GPA or H_1: $\mu = k$. The null hypothesis was that there is no relationship between grit score and first-year college GPA or H_0: $\mu \neq k$.

4. What are the perceptions of non-traditional college students who persisted to earn a degree or credentials regarding their undergraduate experience?

Collecting and analyzing both quantitative and qualitative data allowed the researcher a more complete picture of the relationship between students' persistence, first-semester GPA, grit, and academic mindset to answer the four research questions.

Participants

For the quantitative portion of this explanatory, sequential mixed method designed study, eight non-traditional participants were identified from those individuals who completed a survey in the fall of 2015, which was conducted with first-time, full-time students. Students were identified as non-traditional if they were at least 21 years of age. For the qualitative portion of the study, three of the eight students identified in the quantitative portion of the study agreed to be interviewed during the recruitment phase of data collection. Also, during the qualitative recruitment process, the researcher learned that one of the eight students who were identified as a potential participant was deceased as of Fall 2016. The three students who agreed to participate in the qualitative portion of the student were all females. Two students were White, and one student was Black. Of the three, one student was still enrolled and expected to graduate Spring 2021, while the other two students stopped out but expressed interest in one day returning to the

university setting. One of the stopped-out students was working on obtaining certifications for Heating, Ventilation, and Air Conditioning while the other was pursuing equine stunt work in the film industry. Demographic data for all participants is presented in the Table 23.

Table 23

Demographic Data

Item	Range	Min	Max	*M*	*SD*
Age in Fall 2015	20	21	41	28.63	7.328
GPA SP 2016	3.39	0.33	3.72	2.05	1.20
GPA SP 2017	3.02	0.33	3.55	1.09	1.08
GPA SP 2018	2.90	0.33	3.35	1.87	1.03

Findings

Research Question 1

In order to answer Research Question 1, what is the relationship between non-traditional college students' grit score and academic mindset, the researcher conducted statistical analysis using a Pearson's *r*. The mean grit score was 31.88 with a standard deviation of 7.22. The mean of the academic mindset score was 42.38 with a standard deviation of 7.98. The results indicated that there was a negative, moderate correlation between grit score and academic mindset, $r = -.373$, $N = 8$, $p = .362$. A scatterplot summarizes the results (Figure 2). Overall, there was a moderate correlation between grit score and academic mindset score. As academic mindset scores increased, grit scores decreased.

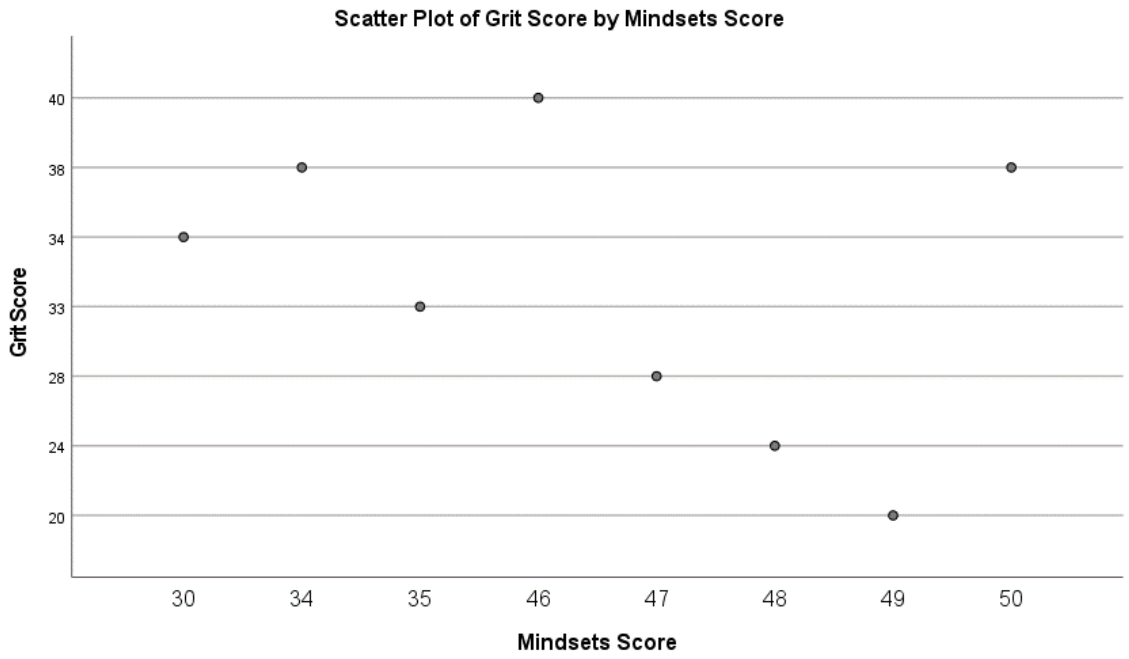


Figure 2. Scatter Plot of Grit Score by Mindset Scores.

Research Question 2

In order to answer Research Question 2, what is the relationship between non-traditional college students' mindset and first-year college GPA*, the researcher conducted statistical analysis by computing a Pearson's r.* The mean of the academic mindset score was 42.38 with a standard deviation of 7.98. The mean first-year GPA was 2.05 with a standard deviation of 1.19. The researcher determined that there was a negative, weak correlation between academic mindset and first-year academic GPA, r = -.281, N = 8, p = .500. A scatterplot (Figure 3) summarizes the results. Overall, there was a weak correlation between academic mindset scores and first-year GPA, as mindset scores increased, first-year GPAs decreased.

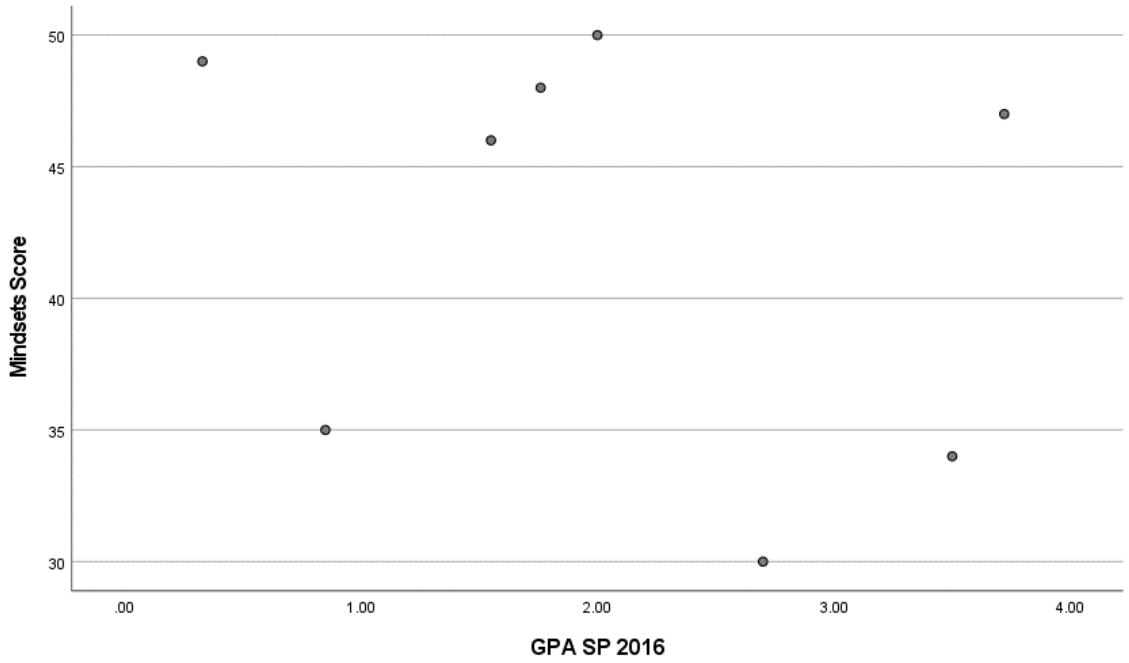


Figure 3. Scatter Plot of Mindset Score by GPA.

Research Question 3

In order to answer Research Question 3, what is the relationship between non-traditional college students' grit score and first-year college GPA*, the researcher conducted statistical analysis by computing a Pearson's r. The mean of the grit scores was 31.88 with a standard deviation of 7.22. The mean first-year GPA was 2.05 with a standard deviation of 1.19. The researcher determined that there was a positive, moderate correlation between grit score and first-year academic GPA, r = .343, N = 8, p = .405. A scatterplot (Figure 4) summarizes the results. Overall, there was a moderate, positive correlation between grits score and first-year GPA, as grit scores increased so did first-year GPAs.*

Figure 4. Scatter Plot of Grit Score by GPA.

Research Question 4

In order to answer Research Question 4, what are the perceptions of non-traditional college students who persisted to earn a degree or credentials regarding their undergraduate experience, the transcripts of the three interviews conducted were reviewed on three separate occasions using hand coding to identify emerging themes by hand. There were five emerging themes identified. Participants reported productive academic mindset, family support, flexibility of course offerings, supportive faculty, and affordability as driving factors that would encourage their persistence to degree completion. Each of the participants reported that they had limited to no interaction with other students from a social perspective and that social experiences were not a priority for them. Table 24 is a summary of the emerging themes and their frequencies.

Table 24

Emerging Themes

Emerging Themes	Frequencies
Productive Academic Mindset	2
Supportive Faculty	3
Family Support	3
Flexibility of Course Offerings	3
Supportive Family	3

Productive Academic Mindset. Most participants indicated that they had a productive academic mindset, which contributed to their success. Participant 1 stated, "if I open my mind to it, I can most definitely do it…you know sometimes it's hard and…you have to start over and go back to the basics and try to build from there" (Transcript, p. 4, line 21). Participant 2 perceived that everyone learns differently, and some things are harder to pick up for some people, while Participant 3 shared, "…it's definitely growth…I love to change so if I can be rewarded with information that will broaden what I believe or it is in contrast to it with actual facts, I am open to it" (Transcript, p. 4, line 33).

Family Support. Each of participants mentioned family support as a factor. Participants 1 and 3 enjoyed financial support and emotional support from family as a contributing factor to their potential success. Participant 1 mentioned that her dad, who has a PhD, helped her with paying for textbooks in that first semester. Participant 3 specifically stated that family support allowed her to remain enrolled and contributed to her approaching graduation. Participant 2 mentioned family as well and shared that she now works in the Heating, Ventilation, and Air Conditioning trade for her dad's business alongside her brother. She was pursuing certificates associated with this trade, which could be as a direct result of the influence of her family. She

pointed out that, while not university level, trades have value as an avenue toward postsecondary training.

Flexible Course Offerings. Two of the participants discussed their appreciation for online options and flexible scheduling and wished more opportunities existed. Participant 2 said, "I had to work so driving to campus from Crawford, Alabama was difficult. I wish that more online options had been available. I might have been able to continue" (Transcript, p. 8. line 18). Participant 3 mentioned online options as one potential modality, but she also suggested that students have more choice in how they take courses. Her recommendation was to have more options for students for each course, stating "options to attend virtually, online only, or in the classroom and be able to choose which option is right for you", suggesting that hi-flex options should continue to be available to non-traditional students (Transcript, p. 5, line 12). Participant 1 also mentioned online options or more flexible offerings; however, this same student expressed interest in creative courses with hands-on learning opportunities, which tends to be more difficult for instructors to deliver online. She preferred those hands-on experiences to courses that are more quiz and exam-based, expressing a desire for "free-range learning" like what she experienced as a homeschooled student.

Supportive Faculty and Staff. Each of the participants referenced one or more supportive faculty who they credited for helping keep them on track. Participant 1 mentioned instructors who provided hands-on experiences and kept the class engaged through creative instruction over those instructors who expected regurgitation of facts. Participant 2 mentioned a faculty member who helped her navigate a particularly disturbing situation involving sexual assault by classmate. Participant 3 referenced two faculty members in the department as instrumental in her success. She did not believe that all faculty or staff were caring and described

her experience with support services as “pretty much garbage”, particularly regarding advising and financial aid (Transcript, p. 7, line 7). She stated, “I had to figure out a lot of stuff myself, and it’s probably after I made a mistake” (Transcript, p. 7, line 10). Despite perceived struggles with support services, interestingly Participant 3 was still enrolled and expected to graduate in the Spring 2021.

Affordable Options. Each of the students mentioned cost as a concern. Participant 1 specifically referenced tuition, fees, and course materials, such as textbooks, as being incredibly expensive. Participant 2 mentioned that she could not afford to not work full-time, which made attending college difficult for her. Participant 3 referenced financial aid and being in debt as the only means she might have had to participate in higher education. Participant 3 also suggested that the institution was not affordable for the region and that if the reputation of the institution had not been part of her decision to attend, she would have made other choices.

Integration

When considering the results from the quantitative data and the qualitative data, integration is a critical piece of understanding the findings (Fetters et al., 2013). A moderate negative, correlation was identified between academic mindset scores and grit scores. A weak correlation was found with academic mindset and first-year GPA, while a positive, moderate correlation was found between first-year GPA and grit. However, grit and mindset were closely associated with the qualitative data, more so than first-semester GPA. There was no interview question that directly addressed first-year GPA, instead there was a more open-ended question that allowed students the opportunity to reflect on their academic performance overall. The negative correlation between mindset and grit was somewhat surprising given the interview findings, which suggested that determination and completing long-term goals were important to

all participants who were interviewed. The correlation between first-year GPA and mindset corresponded to some of the interview responses that suggested that those participants who were interviewed understood the need to study, work toward goals, and persist despite setbacks. Each of the participants mentioned having a positive academic mindset, understanding that some topics or subjects might be more difficult than others.

Table 25

Integration

Qualitative Themes	Quantitative GPA/Mindset	Quantitative GPA/Grit	Quantitative Grit/Mindset
Productive Academic Mindset	X	X	X
Supportive Faculty			X
Family Support			X
Flexibility of Course Offerings			X
Supportive Family			X

Note. X indicates a direct relationship.

Summary

Findings for Research Question 1 indicated a moderate, negative correlation between grit score and mindset score. Findings for Research Question 2 indicated a weak, negative correlation between academic mindset and first-year college GPA. Findings for Research Question 3 indicated a moderate, positive correlation between the grit score and first-year GPA. The findings for Research Question 4 reflected that students perceived that having a productive academic mindset, family support, supportive faculty and staff, flexible course offerings, and affordability had a positive impact on their persistence in postsecondary education. Chapter V analyzed these findings using the reviewed literature.

Chapter V: Discussion

Summary of the Study

This explanatory, sequential mixed methods study explored the relationship between grit, academic mindset, first-year college GPA, and perceptions related to persistence in non-traditional college students at a medium-sized public university in Georgia. Utilizing survey data that were collected from first-time, full-time students in Fall 2015, researchers sought to answer the following research questions:

1. What is the relationship between non-traditional college students' grit score and academic mindset?
2. What is the relationship between academic mindset and first-year college GPA?
3. What is the relationship between non-traditional college students' grit score and first-year college GPA?
4. What are the perceptions of non-traditional college students who to persisted to earn a degree or credentials regarding their undergraduate experience?

Using the 2015 dataset, researchers collected additional data and identified eight non-traditional students, using age 21 or older as the criterion for participation in this study. In the quantitative portion of this study, correlational design was used to examine the relationship the between grit and first-year college GPA in first-time, full-time non-traditional college students, the relationship between academic mindset and first-year college GPA, and the relationship between academic mindset and grit in non-traditional first-time, full-time college students. Semi-structured interviews were conducted, and the transcripts created were analyzed using hand coding in the qualitative portion of this study. The analysis of the transcripts was used to explore

factors related to persistence for first-time, full-time non-traditional college students at a state university. Collecting and analyzing both quantitative and qualitative data allowed the researcher to gain a more complete understanding of the relationship between first-semester GPA, grit, and academic mindset and students' perceptions in order to answer the four research questions. Results indicated a negative, moderate relationship between grit scores and mindset scores, a weak, negative relationship between academic mindset and first-year college GPA, and a positive, moderate relationship between grit scores and first-year GPA. Furthermore, the students perceived that having a productive academic mindset, family support, supportive faculty and staff, flexible course offerings, and affordability could be factors influencing their persistence in postsecondary education settings.

Analysis of the Findings

The findings for Research Question 1 indicated a moderate, negative relationship between grit score and mindset score existed. As academic mindset scores increased, participants' grit scores decreased. These finding were not expected given the available literature that was associated with academic mindset and grit score. Typically, as academic mindset is higher, one would expect to see grit scores increase because both of these constructs are often associated with academic success and persistence (Bowman et al., 2015; Duckworth et al., 2007; Dweck, 2006; Hodge et al., 2018; Mrazek et al., 2018; Muenks et al., 2017; Yeager & Dweck, 2012).

Bowman and associates (2015) conducted two studies at two different public institutions in Kentucky and Wisconsin. The second study was a replication of the first study at a larger institution. In Study 1, perseverance of effort was associated positively with academic adjustment, college GPA, sense of belonging, college satisfaction, and intention to persist.

Consistency of effort was not associated significantly with outcomes of satisfaction. In Study 2, both aspects of grit were correlated positively to college outcomes and intentions to persist, and perseverance of effort had a stronger relationship than consistency of effort. Additionally, Duckworth and associates (2007, 2016) found that students who exhibited grit were more likely to be successful in the educational setting and that success could not be contributed to talent. She conducted experiments with cadets at West Point and with participants in the National Spelling Bee as she developed the concept of grit. Furthermore, Hodge and associates (2018) found a positive relationship between grit and academic engagement with 395 university students in Australia. Muenks and associates (2017) conducted a study with high school and university students where they found the perseverance of effort to be a better predictor of academic success than consistency of effort. Only one study in the review of literature failed to support a relationship between grit and academic success. Warden and Myers (2017) found no relationship in an initial analysis, and a secondary analysis indicated only a marginal relationship.

Academic mindset was found to be associated with academic success and persistence by Mrazek and associates (2018). The researchers conducted five studies, and each study produced similar results. The researchers concluded that interventions could have a positive impact on the development of growth mindsets, which were related to self-regulation, persistence, and appraisal of fatigue (Mrazek et al., 2018). Likewise, Yeager and Dweck (2012) found that interventions aimed at improving students' growth mindset were effective and could foster resilience in the educational setting and reduce social stress. Findings for Research Questions 2 indicated a weak, negative correlation between academic mindset and first-year GPA. As academic mindset scores increased, participants' first-year college GPAs decreased. Again, these findings were unexpected given the relationship between academic or growth mindset and

academic success that was evident in the literature (Mrazek et al., 2018; Yeager & Dweck, 2012).

Findings for Research Question 3 indicated a moderate, positive correlation between grit score and first-year GPA. As participants' grit scores increased, their first-year GPA increased. These findings aligned with the literature that was associated with grit and first-year GPA. Studies indicated a relationship between grit and academic success (Bowman et al., 2015; Dweck, 2007; 2016; Hodge et al., 2018; Muenks et al., 2017). Studies also revealed the importance of first-year GPA on student persistence. Bowman and associates (2015) showed that there was a connection between grit and first-year GPA and intent to persist. Millea and associates (2018) found that first-year GPA increased students' rate of graduation within six years. In addition, Gershenfeld and associates (2016) also found first-year GPA to have a relationship with academic success and was a statistically significant predictor of graduation for the participants in the study.

The findings for Research Question 4 reflected that students perceived that having a productive academic mindset, family support, supportive faculty and staff, flexible course offerings, and course affordability had an impact on their persistence in postsecondary education. These findings aligned with the theoretical framework of Revised Theory of Student Departure in Commuter College and Universities (Braxton et al., 2004).

Braxton and associates (2004) described decisions to persist as a complex interplay between multiple factors as outlined in the theoretical framework of the study. The framework describes students' decisions to persist to be related to student entry characteristics, external campus environments, internal campus environments, and commitment to the institution (Braxton et al., 2004). Student characteristics include described as family background, grit,

academic mindset, motivation, self-efficacy, empathy, and socialization (Braxton et al., 2004). External environments include work, finances, support, family, and community (Braxton et al., 2004). Internal campus environments include academic communities and institutional environment, such as cost, integrity, and institutional commitment to student welfare (Braxton et al., 2004). Each of these constructs interact to influence students' continued commitment to the institution (Braxton et al., 2004).

Academic mindset and grit are student entry characteristics, which are outside of the control of the institution *(*Braxton et al., 2004). Most of the participants who were interviewed described their mindset as productive, clearly describing a desire to persist toward their goals, and an attitude that hard work brings rewards (Dweck, 2006). Participant 3 particularly described a gritty approach to academics, dedicating the time and energy to complete her program of study in the face of adversity (Duckworth, 2016). She was the only student still enrolled and actively working toward her degree. Unlike the other two interviewees, she did not let external campus environments, such as work or family obligations, hinder her progress *(*Braxton et al., 2004*)*. Each of the interviewees mentioned family support and financial obligations as critical, which again connects to both internal (i.e., cost) and external campus environments (Braxton et al., 2004). Roksa and associates (2019) also found an important connection between family support at the emotional level and students' ability to persist in their postsecondary studies.

Lastly, commitment to the institution and internal campus environments can be reflected in a desire for flexible course offerings, affordability, and supportive faculty and staff *(Braxton et al., 2004)*. Some studies found that students required significant financial aid support and higher levels of student support services to be instrumental in students' ability to persist (Chen, 2011; Chen & St. John, 2011). The interviewees had a positive impression of the faculty and staff for

the most part, wished for more flexible course offerings, and a decreased cost associated with attendance. Dwyer (2017) found a connection between intentions to persist and faculty and student interaction. Again, only one out of the three interviewees were still enrolled, which could indicate that the needs of the other two interviewees were not being met by the institution.

Limitations of the Study

This study was limited by the number of participants, and the selection method of the participants. It was also limited by the focus on one institution, which affects the ability to generalize the results to other institutions. This study was further limited by the choosing age as the only identifying factor in selecting the non-traditional population from survey participants. Additionally, time could be a concern for this study. Original data were collected in 2015, and interviews were conducted in 2020 and 2021. While this span of time does allow for a longitudinal view, six years is a significant amount of time to have passed for students who stopped out and moved on from the institution. Students' perceptions may have been influenced by the amount of time that has passed. As a result, the information provided during interviews may not represent students' perceptions accurately when they made decisions about persisting or stopping out.

Recommendations for Future Research

The findings of this study imply that continued research is needed in the area of retention of non-traditional college students. This study found a moderate, positive relationship between grit and first-year GPA, which indicated that cultivating grit in students could encourage success and persistence. Additional mixed methods research that focuses on the relationship between grit and first-year GPA could be conducted with non-traditional students across multiple institutions, using a more varied criterion for participant selection to better examine the effect of grit on

academic success as defined by first-year GPA (Duckworth et al., 2007; Gershenfeld et al., 2016; Kasworm, 1990; Langrehr et al., 2015).

This study found a moderate, negative relationship between academic mindset and first-year GPA, which was surprising, given the work currently underway in the state's university system associated with academic mindset (Complete College Georgia, 2019). Considerable resources are dedicated to cultivating an academic mindset in faculty, staff, and students as part of the University System of Georgia's Momentum Approach initiatives. These findings, limited by the small sample, suggested that additional work needs to be conducted to determine the true effects of academic mindset on persistence and academic success with the non-traditional population of students within the university system and beyond.

Furthermore, this study found a weak, negative correlation between academic mindset and grit. The terms, grit and academic mindset, are often used interchangeably or in conjunction with one another. Additional work needs to be conducted to better understand the two constructs, their differences, and which of the two might be a better predictor of persistence and academic success (Duckworth, 2016; Duckworth et al., 2007; Dweck, 2006; Yeager & Dweck, 2012*).*

The qualitative portion of the study found that students perceived that productive academic mindset, family support, supportive faculty and staff, flexible course offerings, and course affordability were factors that could have impact on their persistence in postsecondary education. Additional mixed methods research with a larger and more varied sample could be conducted to confirm these results (Duckworth et al., 2007; Gershenfeld et al., 2016; Kasworm, 1990; Langrehr et al., 2015). If these factors contribute to persistence, institutions could strive to cultivate productive academic mindset, encourage family, faculty, and staff support, along with addressing flexibility and cost as they move forward.

Implications of the Study

The researcher found that students' perceptions about persistence centered around five themes, which were productive academic mindset, family support, support from faculty and staff, flexible course offerings, and affordability. The selected institution and other institutions could investigate ways in which they might address these concerns through programming, faculty and staff training, being more family friendly, and through intentional course scheduling, such as courses that allow students to choose whether they attend in person or remotely. This flexibility could help develop students' sense of belonging by allowing them to be on campus when they are able instead of forcing them to choose one modality at the beginning of the term. In addition, the selected institution and other institutions might consider reviewing the cost of attendance and look for ways in which they could make college more affordable. The Complete College Georgia (2019) programming supports more accessible and affordable postsecondary options.

The results indicated that a moderate, positive relationship existed between non-traditional students' grit and first-year GPA, which leads the researcher to suggest that the selected institution and other institutions consider ways in which they might cultivate grit so that students' first-year GPA could be improved. Duckworth (2016) suggested that opportunities that are designed to spark interest, encourage practice, and provide purpose and hope can help individuals become grittier. In the classroom, interventions might look like challenging assignments that are supported through structure and constructive feedback, with multiple opportunities to improve the work and impact the outcome. First-year GPA has been found to be a significant predictor of academic success and persistence (Gershenfeld et al., 2016; Millea et al., 2018). Despite the weak, negative correlation found between mindset scores and first-year GPA in this study, students interviewed stated having a productive mindset as instrumental in

their ability to persist. The findings associated with academic mindset and first-year GPA suggested that the institution could continue efforts to promote a positive academic mindset in non-traditional students (Dweck, 2006; Yeager & Dweck, 2012). The moderate, negative relationship found between mindset and grit, while surprising, could influence the selected institution and other researchers to continue examining these concepts. They are interrelated and are similar concepts, so better understanding the nuances could help leaders develop appropriate interventions that could improve student outcomes (Duckworth, 2016; Dweck, 2006; Mrazek et al., 2018; Yeager & Dweck, 2012*).*

Conclusion

Retention of non-traditional college students is a concern as institutions move into the next five years, facing a demographic shift that will limit the number of traditional students available to attend college (Grawe, 2018). Non-traditional students have been difficult to define and retain (MacDonald, 2008). Identification of factors that lead to persistence of non-traditional students benefits the students, the institutions where they enroll, and society at large. Students who are well-educated are better able to participate in a global economy, have more earning power, are better prepared to contribute to democracy, and are better able to raise the next generation of adults who can continue to contribute positively.

This study's results indicated that a relationship existed between academic mindset, grit, and first-year GPA and identified perceived factors that could contribute to persistence in non-traditional students. While the study had significant limitations, due to sample size, selection method, span of time between the quantitative and qualitative data collection, and focus on one institution, these results could be used as a springboard for further study. Furthermore, the results could inform current practice and policy for non-traditional college students at the institution

where the research was conducted. Continued study of this student population will be critical as institutions move into and through the expected demographic shift. Postsecondary institutions that can retain and graduate non-traditional students will be more likely to survive the demographic shift (Grawe, 2018). Institutions that evolve to better serve non-traditional students will emerge as leaders in working with new populations of students and will be better able to support all students as a result of their efforts.

References

Aljohani, O. (2016). A comprehensive review of the major studies and theoretical models of student retention in higher education. *Higher Education Studies, 6*(2), 1-18.

Attewell, P., Heil, S., & Reisel, L. (2011). Competing explanations of undergraduate noncompletion. *American Educational Research Journal, 48*(3), 536-559. doi: 10.3102/0002831210392018

Baxter, P., & Jack, S. (2008). Qualitative case student methodology: Study design and implementation for novice researchers. *The Qualitative Report, 13*(4), 544-559. Retrieved from https://nsuworks.nova.edu/tqr/vol13/iss4/2

Bean, J. (1980). Dropouts and turnover: The synthesis and test of a causal model of student attrition. *Research in Higher Education, 12*(2), 155-187.

Bohl, A., Haak, B., & Shrestha, S. (2017). The experiences of non-traditional students: A qualitative inquiry. *The Journal of Continuing Education, 65*(1), 166-174.

Bollen, K., & Hoyle, R (1990). Perceived cohesion: A conceptual and empirical examination. *Social Forces, 69*(2), 479-504. doi: 10.2307/2579670

Bowman, N., Hill, P., Denson, N., & Bronkema, R. (2015). Keep on truckin' or stay the course? Exploring grit dimensions as differential predictors of educational achievement, satisfaction, and intentions. *Social Psychological and Personality Science, 6*(6). doi: 10.1177/1948550615574300

Braxton, J. M., Hirschy, A. S., & McClendon, S. A. (2004). Understanding and reducing college departure. *ASHE-ERIC Higher Education Report, 30*(3), XI-97.

Burkholder, G. J., Lenio, J., Holland, N., Seidman, A., Neal, D., Middlebrook, J., & Jobe, R. (2013). An institutional approach to developing a culture of student persistence. *Higher Learning Research Communications, 3*(3), 16-39.

Carnegie Foundation. (2017). *Size and Setting Classification Description.* Retrieved from http://carnegieclassifications.iu.edu/classification_descriptions/size_setting.php

Chemers, M., Hu, L., & Garcia, B. (2001). Academic self-efficacy and first-year college student performance and adjustment. *Journal of Educational Psychology, 93*(1), 55-64. doi: 10.1037//0022-0663.93.1.55

Chen, R. (2011). Institutional characteristics and college student dropout risks: A multilevel event history analysis. *Research in Higher Education, 53*(1), 487-505. doi: 10.1007/s11162-011-9241-4

Chen, R., & St. John, E. (2011). State financial policies and college student persistence: A national study. *The Journal of Higher Education, 82*(5), 629-660.

Choy, S. (2001). *Students whose parents did not go to college: Postsecondary access, persistence, and attainment* (NCES 2001-126). Washington, DC: U.S.

Department of Education, National Center for Education Statistics. Retrieved from http://nces.ed.gov/pubs2001/2001126.pdf

Complete College America (2018). *American dreams are powered by college completion.* Retrieved from https://completecollege.org/

Complete College Georgia (2016). *About Complete College Georgia.* Retrieved from https://completega.org/content/about-complete-college-georgia

Complete College Georgia (2019). *The momentum year.* Retrieved from https://completegeorgia.org/momentum-year

Connelly, L. (2016). Understanding research: Trustworthiness in qualitative research. *MEDSURG Nursing*, *25*(6), 435.

Congressional Research Service. (2018). *The Higher Education Act (HEA): A primer.* Retrieved from https://fas.org/sgp/crs/misc/R43351.pdf

Cox, B., Reason, R., Nix, S., & Gillman, M. (2014). Life happens (outside of college): Non-college life-events and students' likelihood of graduation. *Research in Higher Education, 57*(1), 823-844. doi: 10.1007/s11162-016-9409-z

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Thousand Oaks, CA: Sage Publications, Inc.

Davidson, J., & Holbrook, W. (2014). Predicting persistence for first-time undergraduate adult students at four-year institutions using first-term academic behaviors and outcomes. *The Journal of Continuing Education, 62*(1), 78-89.

DeAngelo, L. (2014). Programs and practices that retain students from the first to the second year: Results from a national study. *New Directions for Institutional Research, 2013*(160), 53-75. doi:10.1002/ir.20061

Donaldson, J., & Townsend, B. (2007). Higher education journals' discourse about adult undergraduate students. *The Journal of Higher Education, 78*(1), 27-50. Retrieved from ERIC Database. (EJ745954)

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology, 9*(1), 1087-1101.

Duckworth, A. (2016). *GRIT: The power of passion and perseverance.* New York, NY: Scribner.

Duckworth, A., & Quinn, P. (2009). Development and validation of the Short Grit Scale (Grit-S). *Journal of Personality Assessment, 91*(2), 166-174. doi: 10.1080/00223890802634290

Dweck, C. (2006). *Mindset: The new psychology of success.* New York, NY: Ballantine Books.

Dwyer, T. (2017). Persistence in higher education through student-faculty Interactions in the classroom of a commuter institution. *Innovations in Education and Teaching International, 54*(4), 325-334. doi: 10.1080/14703297.20151112297

Elliot, A., & Murayama, K. (2008). On measurement of achievement goals: Critique, illustration, and application. *Journal of Educational Psychology, 100*(3), 613-628. doi: 10.1037/0022-0663.100.3.613

Fetters, M., Curry, L., & Creswell, J. (2013). Achieving integration in mixed methods Designs: Principles and practices. *Health Services Research, 48*(6.2), 2134-2156. doi: 10.1111/1475-6773.12117

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). Los Angeles, CA: Sage Publishing, Inc.

Fike, D., & Fike, R. (2008). Predictors of first-year student retention in the community college. *Community College Review, 36*(2), 68-88. doi: 10.1177/0091552108320222.

Forbus, P., Newbold, J., & Mehta, S. (2011). A study of non-traditional students and traditional students in terms of their time management behaviors, stress factors, and coping strategies. *Academy of Educational Leadership Journal, 15*(1), 109-125.

Garrison, N. J., & Gardner, D. S. (2012, November). *Assets first generation students bring to the higher education setting.* Paper presented at the Association for Study of Higher Education (ASHE), Las Vegas, NV.

Gershenfeld, S., Ward Hood, D., & Zhan, M. (2016). The role of first-semester GPA in predicting graduation rates of underrepresented students. *Journal of College Student Retention: Research, Theory, & Practice, 17*(4), 1-20. doi: 10.1177/1521025115579251

Gibbons, M. M., & Woodside, M. (2014). Addressing the needs of first-generation college students: Lessons learned from adults from low-education families. *Journal of College Counseling, 17*(1), 21-36.

Grawe, N. (2018). *Demographics and the demand for higher education.* Baltimore, MD: Johns Hopkins University Press.

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. doi: 10.1007/s11162-017-9474-y

Hu, S. (2011). Reconsidering the relationship between student engagement and persistence in college. *Innovation Higher Education, 36*(1), 97-106. doi: 10.1007/s10755-010-9158-4

Institute for Higher Education Policy. (2018). *A pivotal moment in higher education policy: Reauthorization of the higher education act IHEP analysis of U.S. House of Representatives proposals: The promotion real opportunity, success and prosperity through education act and the aim higher act.* Retrieved from http://www.ihep.org/sites/default/files/uploads/prosper-aha_ihep_analysis_final.pdf

Ishitani, T. (2006). Studying attrition and degree completion behavior among first-generation college students in the United States. *Journal of Higher Education, 77*(5), 861-885.

Ishitani, T. (2016). First-generation students' persistence at four-year institutions. *College and University, 91*(3), 22-32.

Judge, T., Erez, A., Bono, J., & Thoreson, C. (2003). The core self-evaluation scale: Development of a measure. *Personnel Psychology, 56*(1), 303-331.

Kasworm, C. (1990). Adults in higher education: A review of past research perspectives *Review of Educational Research, 60*(3), 345-372. Retrieved from https://www.jstorg.org/stable/1170758

Knowles, M. (1973). *The adult learner: A neglected species.* Houston, TX: Gulf Publishing Company. Retrieved from ERIC Database. (ED084368)

Kopp, J., Zinn, T., Finney, S., & Jurich, D. (2011). The development and evaluation of the academic entitlement questionnaire. *Measurement and Evaluation in Counseling and Development, 44*(2), 105-129. doi: 10.1177/0748175611400292

Kreighbaum, A. (2018). *Seeking votes on PROSPER, GOP appears to come up short.* Retrieved from https://www.insidehighered.com/news/2018/06/14/no-movement-prosper-act-after-gop-vote-count

Langrehr, K., Phillips, J., Melville, A., & Eum, K. (2015). Determinants of non-traditional student status: A methodological review of the research. *Journal of College Student Development, 56*(8), 876-881. Retrieved from https://muse.jhu.edu/article/603988

Leach, C. W., Queirolo, S. S., DeVoe, S., & Chemers, M. (2003). Choosing letter gradeevaluations: The interaction of students' achievement goals and self-efficacy. *Contemporary Educational Psychology, 28*(4), 495–509. doi: 10.1016/S0361-476X(02)00058-9

Martinez, J. A., Sher, K.J., Krull, J. L., & Wood, P. K. (2009). Blue-collar scholars?: Mediators and moderators of university attrition in first-generation collegestudents. *Journal of College Student Development, 50*(1), 87-103.

MacDonald, K. (2018). A review of literature: The needs of non-traditional students in postsecondary education. *Strategic Enrollment Management Quarterly, 5*(4), 159-164.

Millea, M., Willis, R., Elder, A., & Molina, D. (2018). What matters in college student success? Determinants of college retention and graduation rates. *Education, 138*(4), 309-322.

Miller, N. (2014). Non-traditional student graduation rate benchmarks. *The Journal of Continuing Higher Education, 62*(1), 141-151.

Muenks, K., Wigfield, A., Yung, J. S., & O'Neal, C. (2017). How true is grit? Assessing its relations to high school and college students' personality characteristics, self-regulation, engagement, and achievement. *Journal of Educational Psychology, 109*(5), 599-620. doi: 10.1037/edu0000153

Mrazek, A., Ihm, E., Molden, D., Mrazek, M., Zedelius, C., & Schooler, J. (2018). Expanding mindsets: Growth mindsets of self-regulation and the influences on effort and perseverance. *Journal of Experimental Social Psychology, 79*(1), 164-180. doi: 10.1016/j.jesp.2018.07.003

National Student Clearinghouse Research Center (2018). *Persistence and retention.* Retrieved from https://nscresearchcenter.org/snapshotreport33-first-year-persistence-and-retention/

Olbrecht, A., Romano, C., & Teigen, J. (2016). How money helps keep students in college: The relationship between family finances, merit-based aid, and retention in higher education. *Journal of Student Financial Aid, 46*(1), 2-16.

Oseguera, L., & Rhee, B. (2009). The influence of institutional retention climate on student persistence to degree completion: a multilevel approach. *Research in Higher Education, 50*(1), 546-569. doi: 10.1007/s11162-009-9134-y

Petty, T. (2014). Motivating first-generation students to academic success and college completion. *College Student Journal, 48*(1), 133-140.

Pike, G., & Kuh, G. (2005). First- and second- generation college students: A comparison of their engagement and intellectual development. *The Journal of Higher Education, 76*(3), 276-300.

Postsecondary National Policy Institute. (2018). *Factsheets: First-generation Students.* Retrieved from http://pnpi.org/first-generation-students/

Raju, D., & Shumaker, R. (2015). Exploring student characteristics of retention that lead to graduation in higher education using data mining. *Journal of College Student Retention, 16*(4), 563-591. doi:10.2190/CS.16.4.3e

Reason, R. (2009). An examination of persistence research through the lens of a comprehensive conceptual framework. *Journal of College Student Development, 50*(6), 659-682.

Rifkin, J. (2018). *Aim higher act is house democrats' main proposal to reform higher education and financial aid.* Retrieved from https://govtrackinsider.com/aim-higher-act-is-house-democrats-main-proposal-to-reform-higher-education-and-financial-aid-6eda4dbccde9

Rizkallah, E., & Seitz, V. (2017) Understanding student motivation: A key to retention in higher education. *Scientific Annals of Economics and Business, 64*(1), 45-57. doi: 10.1515/saeb-2017-0004.

Roksa, J., & Kinsley, P. (2019). The role of family support in facilitating academic success of low-income students. *Research in Higher Education, 60*(4). 415-436. doi: 10.1007/s11162-018-9517-z

Shenton, A. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*(2004), 63-75. doi:10.3233/EFI-2004-22201

Shumaker, R., & Wood, J. L. (2016). Understanding first-generation community college students: An analysis of covariance examining use of, access to, and efficacy regarding institutionally offered services. *Community College Enterprise, 22*(2), 9-17.

Sloan, C. (2013). Teenagers in the ivory tower: engaging and retaining traditional college students. *Change: The Magazine of Higher Learning, 45*(2), 35-39. doi: 10.1080/00091383.2013.764263

Soria, K. M., & Stebleton, M. J. (2012). First-generation students' academic engagement and retention. *Teaching in Higher Education, 17*(6), 673-685. doi: 10.1080/13562517.2012.666735

Spady, W. (1970). Dropouts from higher education: An interdisciplinary review and synthesis. *Interchange, 1*(1), 64-85.

Spady, W. (1971). Dropouts from higher education: Towards an empirical model. *Interchange, 2*(3), 38-62.

State University (2018a). *CSU facts & figures 2018: Enrollment by age group.* [redacted]: Author. Retrieved from [redacted]

State University (2018b). *CSU facts & figures 2018: Fall enrollment.* [redacted]: Author. Retrieved from [redacted]

State University (2020a). *CSU facts and figures 2020: Retention rates of full-time entering freshmen.* [redacted]: Author. Retrieved from [redacted]

State University (2020b) *CSU facts and figures 2020: Graduation rates of full-time entering freshmen.* [redacted]: Author. Retrieved from [redacted]

Stebleton, M., Soria, K., & Huesman, R. (2014). First-generation students' sense of belonging, mental health, and use of counseling services at public research universities. *Journal of College Counseling, 17*(1), 6-20. doi: 10.1002/j.2161-1882.2014.00044.x

Stephens, N. M., Fryberg, S. A., Markus, H. R., Johnson, C. S., & Covarrubias, R. (2012). Unseen disadvantage: How American universities' focus on independence undermines the academic performance of first-generation college students. *Journal of Personality and Social Psychology, 102*(6), 1178-1197. doi: 10.1037/a0027143

Stewart, S., Lim, D. H., & Kim, J. (2015). Factors influencing persistence for first-time students. *Journal of Developmental Education, 38*(3), 12-20.

The Pell Institute. (2003). *Do you know Trio? A Trio history fact sheet.* Retrieved from http://www.pellinstitute.org/downloads/trio_clearinghouse-The_Early_History_of_the_HEA_of_1965.pdf

The Pell Institute. (2016). *Indicators of higher education equity in the United States: 2016 historical trend report.* Retrieved from http://www.pellinstitute.org/downloads/publications-Indicators_of_Higher_Education_Equity_in_the_US_2016_Historical_Trend_Report.pdf

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*(1), 89-125.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd. ed.). Chicago, IL: University of Chicago Press.

Tinto, V. (1997). Classrooms as communities. *Journal of Higher Education, 68*(6), 659-623.

Tinto, V. (1998). Colleges as communities: Taking research on student persistence seriously. *The Review of Higher Education, 21*(2), 167-177.

Tinto, V. (2012). *Completing college: Rethinking institutional action.* Chicago, IL: University of Chicago Press.

U.S. Department of Education. (2015). *Fact sheet: Focusing higher education on student success.* Retrieved from https://www.ed.gov/news/press-releases/fact-sheet-focusing-higher-education-student-success

U.S. Department of Education, National Center for Education Statistics. (2015). *Demographic and enrollment characteristics of non-traditional undergraduates: 2011-2012.* Retrieved from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2015025

U.S. Department of Education, National Center for Education Statistics. (2018). *Digest of Education Statistics.* Retrieved from https://nces.ed.gov/programs/digest/d18/tables/dt18_303.50.asp?current=yes

U.S. Department of Education, National Center for Education Statistics. (2018). *First generation students: College access, persistence, and post bachelor's outcomes* (NCES 2018-421). Retrieved from: https://nces.ed.gov/pubs2018/2018421.pdf

U.S. Department of Education, National Center for Education Statistics. (2018). *The condition of education 2018 (NCES 2018-144).* Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=40

U.S. Department of Education, National Center for Education Statistics. (2019). *The condition of education 2019 (NCES 2019-144).* Retrieved from https://nces.ed.gov/pubs2019/2019144.pdf

U.S. Department of Labor. (2017). *Unemployment rates and earnings by educational attainment*. Retrieved from https://www.bls.gov/emp/ep_chart_001.htm

Warden, D., & Myers, C. (2017). Non intellective variables and non-traditional college students: A domain-based investigation of academic achievement. *College Student Journal, 51*(3), 380-390.

Woods, K., & Froggé, G. (2017). Preferences and experiences of traditional and non-traditional university students. *The Journal of Continuing Education, 65*(1), 94-105.

Woosley, S. A., & Shepler, M. A. (2011). Understanding the early integration experiences of first generation college students. *College Student Journal, 45*(4), 700-714.

White House. (2016). *Education: Knowledge and skills for the jobs of the future.* Retrieved from https://obamawhitehouse.archives.gov/issues/education/higher-education

Yeager, D., & Dweck, C. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist, 47*(4), 302-314. doi:10.1080/004611520.2012.722805

Appendices

Appendix A

GRIT-S

Q2.1 Please respond to the following 8 items. Be honest - there are no right or wrong answers!

[Grit: (GRIT-S; Duckworth & Quinn, 2009)]

	Not like me at all (1)	Not much like me (2)	Somewhat like me (3)	Mostly like me (4)	Very much like me (5)
New ideas and projects sometimes distract me from previous ones.	❍	❍	❍	❍	❍
Setbacks don't discourage me.	❍	❍	❍	❍	❍
I have been obsessed with a certain idea or project for a short time but later lost interest.	❍	❍	❍	❍	❍
I am a hard worker.	❍	❍	❍	❍	❍
I often set a goal but later choose to pursue a different one.	❍	❍	❍	❍	❍
I have difficulty maintaining my focus on projects that take more than a few months to complete.	❍	❍	❍	❍	❍
I finish whatever I begin.	❍	❍	❍	❍	❍
I am diligent. *Definition: 1.) Constant in effort to accomplish something; attentive and persistent in doing anything, 2.) Done or pursued with persevering attention; painstaking*	❍	❍	❍	❍	❍

Appendix B

Mindset Questionnaire

Q7.1 Below are several statements about you with which you may agree or disagree. Using the response scale below, indicate your agreement or disagreement with each item using the 4-point scale below (1 = Strongly Disagree and 4 = Strongly Agree). **Be honest - there are no right or wrong answers!**

[Mindsets Questionnaire: (Dweck, 2006)]

	Strongly Disagree (1)	Disagree (2)	Agree (4)	Strongly Agree (4)
Intelligence is something people are born with that can't be changed.	❍	❍	❍	❍
No matter how intelligent you are, you can always be more intelligent.	❍	❍	❍	❍
You can always substantially change how intelligent you are.	❍	❍	❍	❍
You are a certain kind of person, and there is not much that can be done to really change that.	❍	❍	❍	❍
You can always change basic things about the kind of person you are.	❍	❍	❍	❍
Musical talent can be learned by anyone.	❍	❍	❍	❍
Only a few people will be truly good at sports - you have to be "born with it."	❍	❍	❍	❍
Math is much easier to learn if you are male or maybe come from a culture who values math.	❍	❍	❍	❍
The harder you work at something, the better you will be at it.	❍	❍	❍	❍
No matter what kind of person you are, you can always change substantially.	❍	❍	❍	❍
Trying new things is stressful for me and I avoid it.	❍	❍	❍	❍
Some people are good and kind, and some are not - it's not often that people change.	❍	❍	❍	❍
I appreciate when people, parents, coaches, teachers give me feedback about my performance.	❍	❍	❍	❍
I often get angry when I get negative feedback about my performance.	❍	❍	❍	❍
All human beings are capable of learning.	❍	❍	❍	❍
You can learn new things, but you can't really change how intelligent you are.	❍	❍	❍	❍
You can do things differently, but the important parts of who we are can't really be changed.	❍	❍	❍	❍
Human beings are basically good, but sometimes make terrible decisions.	❍	❍	❍	❍
An important reason why I do my school work is that I like to learn new things.	❍	❍	❍	❍
Truly smart people do not need to try hard.	❍	❍	❍	❍

Appendix C

Demographic Questions

Q9.1 Demographic Questions

Q9.2 Which of the following describes the area that you consider to be your hometown?

- ❍ Urban area (population more than 50,000)
- ❍ Suburban (Population 20,000 - 50,000)
- ❍ Small Town (population 10,000 - 19,999)
- ❍ Rural (population less than 10,000

Q9.3 What was your average course grade in high school?

- ❍ A or A+
- ❍ A-
- ❍ B+
- ❍ B
- ❍ B-
- ❍ C+
- ❍ C
- ❍ C-
- ❍ D

Q9.4 Realistically, what do you expect your average course grade to be at the end of your first college semester?

- ❍ A or A+
- ❍ A-
- ❍ B+
- ❍ B
- ❍ B-
- ❍ C+
- ❍ C
- ❍ C-
- ❍ D

Q9.5 Is Edgewood College your:

- ❍ First choice
- ❍ Second choice
- ❍ Third choice
- ❍ Less than third choice

Q9.6 What is your primary reason for attending Edgewood College? (Please select one)

- ❍ Location of Edgewood College
- ❍ Specific degree program or faculty member available at Edgewood College
- ❍ Academic reputation of Edgewood College
- ❍ Peer / Friend influence
- ❍ Parent influence
- ❍ Financial Aid
- ❍ Other (please specify): _____

Q9.7 What is your best guess as to the chances that you will: (Mark one for each item)

	No chance	Very little chance	Some chance	Very good chance
Change major field	❍	❍	❍	❍
Change career choice	❍	❍	❍	❍
Make at least a "B" average	❍	❍	❍	❍
Transfer to another college/university before graduation.	❍	❍	❍	❍
Communicate regularly with your instructors/professors	❍	❍	❍	❍

Q9.8 How do you plan to pay for college tuition and other expenses? (Check all that apply):

- ❑ Parental and family support
- ❑ Personal Savings
- ❑ Employment
- ❑ Scholarship or Grants
- ❑ Student Loans

Q9.9 Do you have any concern about your ability to finance your college education?

- ❍ None (I am confident that I will have sufficient funds)
- ❍ Some (but I probably will have enough funds)
- ❍ Major (not sure I will have enough funds to complete college)

Q9.10 How many hours do you plan on working per week during your first semester in college?

- ❍ 1-10 hours
- ❍ 11-20 hours
- ❍ 21-30 hours
- ❍ 31-40 hours
- ❍ More than 40 hours
- ❍ I don't plan to work during the school year

Q9.11 Which gender do you identify most with?

- ❍ Male
- ❍ Female

Q9.12 What is your race or ethnic identification? (Check all that apply):

- ❍ American Indian or Alaskan Native
- ❍ Asian
- ❍ Black or African American
- ❍ Hispanic
- ❍ Hawaiian or Other Pacific Islander
- ❍ White
- ❍ Other (please specify): _____

Q9.13 Where do you plan to live while attending college this year?

- ❍ College dorm or residence hall
- ❍ Other on-campus facilities, not a dorm
- ❍ Off-campus, not at home
- ❍ At home

Q9.14 Did either of your parents attend college?

- ❍ Yes
- ❍ No

Answer If *Did either of your parents attend college? (Q9.14)* "**Yes**" Is Selected

Q9.15 Did your parents complete college?

- ❍ No, neither my mother nor father completed college
- ❍ Yes, but only my mother completed college
- ❍ Yes, but only my father completed college
- ❍ Yes, both my mother and father completed college

Q9.16 What is the highest level of education you ever expect to complete?

- ❍ Some college (no degree earned)
- ❍ Associate (A.A.) degree or equivalent
- ❍ Bachelor's (B.A., B.S., etc.) degree
- ❍ Master's degree (M.A., M.S., etc.)
- ❍ Ph.D. or Ed.D.
- ❍ M.D., D.D.S., D.V.M. or D.O.
- ❍ LL.B. or J.D. (Law)
- ❍ B.D. or M.Div. (Divinity)
- ❍ Other (please specify): _____

Q9.17 In how many years do you expect to complete this undergraduate degree?

- ❍ 3 or less years
- ❍ 4 years
- ❍ 5 years
- ❍ 6 years
- ❍ more than 6 years

Appendix D

Interview Questions

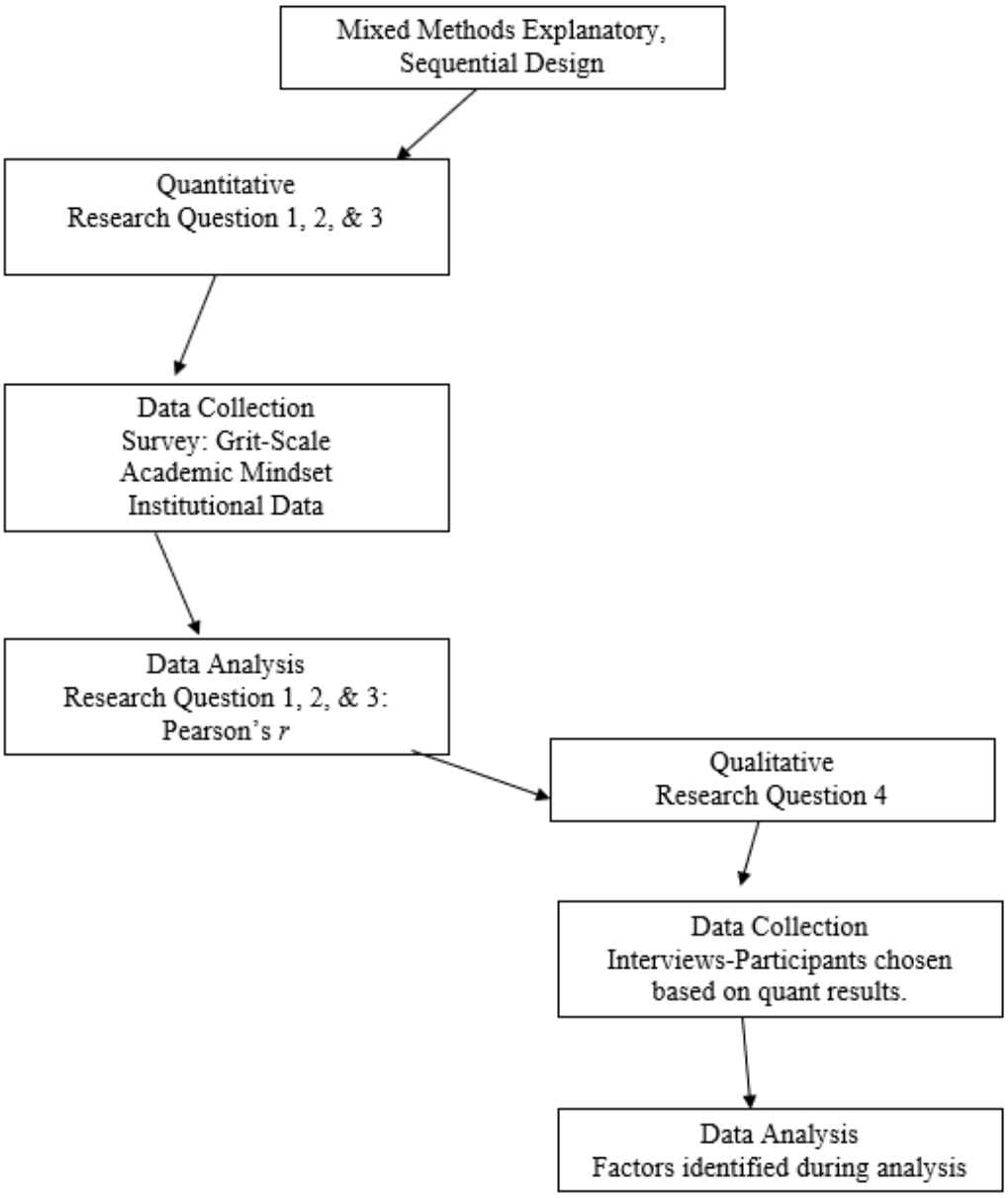
Interview Questions

1. Did either of your parents attend college? Did either of your parents graduate with a certificate or degree? How about your siblings?
2. Were you employed while enrolled in school? If so, how many hours per week did you work (on average)?
3. Do/Did you live on or off campus?
4. Tell me about your high school experience academically and socially.
5. Tell me about your college experience academically and socially.
6. What would you say are your strengths and weaknesses?
7. Tell me about your work ethic.
8. Tell me about your ideal learning environment.
9. How would you describe your academic mindset?
10. Are there factors that lead to your continued enrollment? (or not, depending on the interviewee)
11. Do/did you believe that faculty and staff care(d) about you as a student?
12. Do/did you find value in higher education? Why?
13. Which campus services did you use, such as-library, advising, tutoring, career center?
14. Are there services you wish your institution had offered that it did not?

Appendix E

Research Design Alignment Chart

Research Design Alignment Chart



Appendix F

IRB Approval

IRB Approval

From: CSU IRB <irb@columbusstate.edu>
To: Jennifer, me, CSU Institutional Review Board
Date: Mon, Feb 4, 2019, 3:54 PM

Institutional Review Board
State University

Date: 2/4/19
Protocol Number: 19-038 (cp 16-095)
Protocol Title: GRIT Follow-up Study
Principal Investigator: Jennifer Brown
Co-Principal Investigator: Melissa Young

Dear Jennifer Brown:

The State University Institutional Review Board or representative(s) has reviewed your research proposal identified above. It has been determined that the project is classified as exempt under 45 CFR 46.101(b) of the federal regulations and has been approved. You may begin your research project immediately.

Please note any changes to the protocol must be submitted in writing to the IRB before implementing the change(s). Any adverse events, unexpected problems, and/or incidents that involve risks to participants and/or others must be reported to the Institutional Review Board at irb@columbusstate.edu or (706) 507-8634.

If you have further questions, please feel free to contact the IRB.

Sincerely,

Amber Dees, IRB Coordinator

Institutional Review Board
State University

Appendix G

Informed Consent Form

Informed Consent
Form

You are being asked to participate in a research project conducted by Melissa Young, a doctoral student in the College of Education and Health Professions at State University. The study is supervised by Dr. Jennifer L. Brown, Associate Professor of Educational Foundations, in the College of Education and Health Professions at State University.

I. Purpose:

The purpose of this project is to determine if there is a relationship between students' grit, academic mindsets, first-year college GPA, and persistence for non-traditional students who attend(ed) State University.

II. Procedures:

If you decide to participate, you will be asked to be interviewed by Mrs. Young in a virtual setting via Zoom. The interview will last approximately one hour. You will be asked some questions related to your experiences at State University. You will also be asked some questions related to your life experiences. With your permission, the interview will be recorded, and Mrs. Young will create some field notes for later analysis. You will not be asked to provide your name on the recording, and you can leave your video camera off, if you would prefer. After the interview, a transcript of the interview will be created for analysis. The data from this project may be used for future research related to persistence of students like you.

III. Possible Risks or Discomforts:

You may experience anxiety or discomfort related to the interview process. You will be able to take a break if desired. You will be provided with information related to counseling services if you express distress.

IV. Potential Benefits:

There are no direct benefits for you, but your experiences could improve student support services at State University.

V. Costs and Compensation:

You will receive $25.00 via PayPal after completing the interview.

VI. Confidentiality:

Your responses to the interview questions will be kept confidential. At no time will your actual identity be revealed. I will assign a random numerical code to your responses. Anyone who helps me transcribe your responses will only know you by this code.

Recordings, transcripts, and field notes will be kept in a secure office with keyed access, in my possession. Electronic records will be stored on a password protected computer in my office. The recording will be erased 7 years after my dissertation has been accepted for publication. The transcript, without your name, will be kept for 7 years after my dissertation has been accepted for publication.

VII. Withdrawal:

Your participation in this research study is voluntary. You may withdraw from the study at any time, and your withdrawal will not involve penalty or loss of benefits.

For additional information about this research project, you may contact the Principal Investigator, Melissa Young at [redacted] If you have questions about your rights as a research participant, you may contact State University Institutional Review Board at irb@columbusstate.edu.

I have read this informed consent form. If I had any questions, they have been answered. By signing this form, I agree to participate in this research project.

_____ _____

Signature of Participant Date

Appendix H

Recruitment Emails

First Recruitment Email

Dear Participant,

My name is Melissa Young, and I am a doctoral student at State University in the College of Education. The purpose of the study will be to determine if there is a relationship between grit, academic mindsets, first-year college GPA, and persistence for non-traditional students who attend(ed) State University.

I am emailing to ask you to participate in a virtual interview related to your experiences as a non-traditional college student at State University. If you choose to participate in the study, you will receive compensation in the amount of $25.00. The interview will take approximately one hour and will be held virtually via Zoom.

If you have any questions, please contact me at [redacted] or my dissertation committee chairperson Dr. Jennifer Brown at [redacted]. Thanks for your time and consideration.

Best,

Melissa Young
Doctoral Student
State University

Second Recruitment Email

Dear Participant,

My name is Melissa Young, and I am a doctoral student at State University in the College of Education. The purpose of the study will be to determine if there is a relationship between grit, academic mindsets, first-year college GPA, and persistence for non-traditional students who attend(ed) State University.

I am emailed you last week to ask you to participate in a virtual interview related to your experiences as a non-traditional college student at State University. I wanted to reach out again and invite you to take part in this study. If you choose to participate in the study, you will receive compensation in the amount of $25.00. The interview will take approximately one hour and will be held virtually via Zoom. We would like to learn from as many students as possible as we endeavor to better serve our non-traditional student populations.

If you have any questions, please contact me at [redacted] or my dissertation committee chairperson Dr. Jennifer Brown at [redacted]. Thanks for your time and consideration.

Best,

Melissa Young
Doctoral Student
State University