

ABSTRACT

KAMORU, MERCEDES BRIANNA. Analysis of Postsecondary Health Science Students' Academic Buoyancy and Academic Motivation Levels Impact on Academic Continuation Intent (Under the direction of Dr. Michelle Bartlett).

Academic buoyancy refers to students' ability to cope with everyday challenges in educational settings. Buoyancy is essential as students navigate routine obstacles during their community college journey. This study investigated the correlational strength between academic buoyancy, academic motivation, and academic continuation intent among postsecondary health science career and technical education (CTE) students. The Academic Motivation Scale and the Academic Buoyancy Questionnaire were administered to postsecondary health science CTE students in health science programs sponsored by the North Carolina Community College System (NCCCS). This non-experimental research survey study investigated the effects of academic buoyancy, academic motivation, and demographics, including age, gender, ethnicity, and the likelihood of academic continuation intent. This research aimed to establish the need for further study of buoyancy and motivation concerning academic continuation intent, along with exploring intervention strategies to increase retention and perseverance in health science CTE students. This study used academic continuation intent to measure a student's intent to continue or transfer to a higher program; however, it is not limited to four-year degrees. An example is a dual-enrolled high school student intending to continue for a two-year degree. However, specific to this study, a student's intent to continue to a higher program would be a health science certificate or diploma-seeking student intending to continue for a diploma or associate in applied science degree or an associate in applied science degree-seeking student intending to continue to a health science bachelor degree.

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Analysis of Postsecondary Health Science Students' Academic Buoyancy and Academic
Motivation Levels Impact on Academic Continuation Intent.

by

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A dissertation submitted to the Graduate Faculty of
North Carolina State University in partial fulfillment of the
requirements for the degree of
Doctor of Education

Adult and Community College Education

Raleigh, North Carolina

2023

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DEDICATION

Jesus looked at them and said, “With man, this is impossible, but not with God; all things are possible with God.” - Mark 10:27

I dedicate this dissertation humbly to my mom, Diahanna Love; my Dad, Wayne Johnson; my step Dad, Corey Darden; my husband and best friend, Bolaji Kamoru, and our beautifully and wonderfully made children, Amelia and Amadeus Kamoru.

BIOGRAPHY

Mercedes Kamoru was born in Merced, California, and grew up in Raleigh, North Carolina. Mercedes always loved learning and began her postsecondary education by obtaining an Associate in Applied Science degree in Medical Assisting from ECPI University. After graduating with an Associate's degree, she became certified in her trade and began working full-time at Wake Medical Health and Hospitals. While working full-time, Mercedes pursued her Bachelor of Science degree in Healthcare Management from Colorado Technical University. The desire to obtain a leadership position as a service line manager encouraged Mercedes to pursue her Master of Science degree in Healthcare Management, which she also completed at Colorado Technical University. Soon after completing her Master of Science degree, Mercedes was granted the opportunity to transition from working full-time as a Certified Medical Assistant to working full-time as a Program Head and Instructor at a local community college. After one year of working at the local community college setting, Mercedes decided to return to college to begin working towards a doctorate degree. After completing her dissertation, Mercedes desires to continue inspiring and educating adult learners to achieve their educational goals.

ACKNOWLEDGMENTS

To whom much is given, much is required, and I thank God for His grace and strength throughout it all. Many sacrifices were made throughout my doctoral journey, and I am so grateful for everyone's support. First, I would like to exude gratitude to my dissertation chair, Dr. Michelle Elizabeth Bartlett, for her wisdom and support during this journey. You are indeed a gem; your passion for excellence is pure, and I am honored to have had your support every step of the way during this dissertation journey. I would also like to thank my other committee members: Dr. James Bartlett for taking the time to coach me through the research analysis process, Dr. Rolanda Mitchell for meeting with me, giving me scholarly advice, and connecting me with other scholars sharing the same passion, for CTE research, and Dr. Carrol Warren, for being an advocate of this program as my professor and cheerleader.

It would be impossible to have completed this doctoral journey without the support of my husband. BJ, I could not have achieved this journey without your love and support shown to our children and me. You gave me your blessing to begin this journey, and you have held my hand to the end; even when I wanted to quit, you spoke life into me and told me, "We don't quit around here; keep going."

To my sisters, Johanna, Courtney, Corisha, and Waynisha. I hope to continue to be a role model for whom you always look for guidance; I love you all immensely. To my nephew, Zamari, and nieces, Londyn, Tosin, Tolu, and Tobi, Aunty loves you, and I am here for you.

To my mother-in-love, Mummy Kamoru, your prayers from Nigeria are heartfelt here in America, E se Ma. To Bro Segun, Aunty Gbemi, and Uncle Gift, my family and I are grateful for your love, and we thank God for everything.

I also thank pastors John and Christiana Bamigbade for your Kingdom leadership. I appreciate you two for being prayerful with me and teaching life principles I will practice for a lifetime by God's grace. I also thank pastors Bisi and Toyin Tofade for leading the way and living by example; I pray my husband and I can walk in one day, as well as pastor Jeffrey and Lady Sandie Chapman.

I would like to thank my friends for their support; although we were distant, your love and excitement for my growth were evident. Crystal Hunter, I appreciate your understanding during this process; you understood the assignment. Jasmine Lee, I appreciate you checking in on me throughout this process and reminding me to get off the computer and outside and exercise.

I humbly thank Dr. Angela Moore Thomas for your steadfast belief in me. You invited me to your doctoral graduation in December 2021, and now I will invite you to mine in December 2023. Your outpouring of love and growth is inspiring and has been a guiding light for me during this process. I trust you will continue to exude excellence and uplift those blessed to rub shoulders with you. Dr. Levy Brown, you poured into me that one day at work, and on that day, I decided to give this doctoral thing at least a shot, and I am glad I did because what I learned during the process will live with me forever.

To my professional mentor, Dr. Tracy Mancini, thank you for your words of wisdom and uplifting spirit throughout this journey.

To my professional colleagues, Dr. Laurica Yancey, Dr. Antonio Jordan, Dr. Angela Washington, Stacey Soles, Erica Harper, Doug Harris, Sonja Williams, and Tonia Randolph, I appreciate your encouragement and support. Erica Harper, you are next.

To my family and friends whom I did not personally mention, thank you, and know that I love you all the same.

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CHAPTER ONE: INTRODUCTION

Introduction

Students in their first year of college need a degree of resilience to deal with the routine academic pressures and challenges encountered in college (Martin & Marsh, 2006; 2008a; 2008b). College life involves becoming accustomed to a new academic rigor and adapting to college-level courses. Some students can benefit from academic challenges such as the ones mentioned above, while others may find them debilitating (Tinto, 1975; Yeager & Dweck, 2012). Students unfamiliar with such difficulties demonstrate resilience in research, a well-known theory. Academic buoyancy is an emerging construct or phenomenon in postsecondary research. It defines a type of everyday resilience that demonstrates students' ability to bounce back after experiencing setbacks, stress, or decreases in self-confidence. This can be an everyday battle when attending college for the first time.

As a measure of student success, community college educators may have to take on the hard but necessary task of meeting students where they are and helping to move them to the next academic level (Børte et al., 2020; McIntosh & Rouse, 2009; U.S. Department of Education, 2008). In Allied Health Science programs, career pathways consisting of stackable credentials aligned with sequenced programs of study are being used as an effective method to target a student audience to career and technical education (CTE) programs and provide students with the opportunity to attain certification, diploma, or an associate in applied science degree. Credentials considered stackable are those that “are part of a series of credentials that can be accumulated over time and allow an individual to advance in their career” (U.S.

Department of Labor [DOL], 2012). Stackable credentials are sequential postsecondary awards that allow individuals to clearly and concisely outline the skills they will need to pursue a career path, according to the Community College Research Center (CCRC). In 2022, Lightcast released *Moving Up and Moving Forward: Advancing Mobility for Adult Learners*, which examines adult learners' postsecondary outcomes, specifically their upward mobility, which the authors define as having a salary after returning to postsecondary education higher than their baseline salary and above \$35,000 per year (Clochard et al., 2022). The report highlights that associate degrees in certain CTE fields, such as health care, grant more upward mobility than some bachelor's degrees specializing in business or psychology (Clochard et al., 2022).

As a result of all the opportunities presented, CTE educators have the unique opportunity of providing students with comprehensive and detailed information regarding the wide range of possibilities that one program can offer, both in the short and long run. Despite this, in an often competitive job market, especially in the healthcare field, best practice positions students toward sustained workforce success after obtaining their diploma. CTE programs aim to provide students with on-ramp education and the foremost career paths that will lead to students' short-term and long-term success and successful transition into the workforce after graduation. For example, a diploma-seeking student's intent may be to meet the diploma program's requirements and transition to the workforce immediately post-graduation with no intent to complete the Associate in Applied Science (AAS) degree, which is the highest certificate offered within the North Carolina Community College System (NCCCS). Additionally, educators focus on data-driven decision-making concerning retention to develop tools and strategies to increase student success. However, the effort may not be

efficient enough to meet every student's barrier. Siddiqi and Mikolowsky (2020) emphasize that tools alone do not drive progress; leaders and policymakers consider the human factor as part of the equation to explore best practices in terms of using such tools, as well as the student data that they generate, to progress towards different higher education goals, including increasing the statewide rates of postsecondary attainment (p. 1). As part of supporting the human component, educators' knowledge about cultivating students' ability to bounce back from the daily academic hardships that come with college responsibilities could increase one's buoyancy, enhancing adaptability skills academically and personally.

Academic Buoyancy

Educators can help students improve their academic buoyancy to succeed in college. Martin (2013) points out that academic buoyancy is the capacity for students to overcome setbacks, challenges, and difficulties that are part of everyday academic life. It emphasizes proactive, rather than reactive, approaches in the face of academic adversity. The most common disadvantages are:

- Students feel threatened, and their confidence is diminished when challenging homework results in poor academic performance.
- Student motivation and engagement decline due to anxiety about test taking or meeting coursework deadlines (Martin & Marsh, 2009).

According to Martin and Marsh (2009), buoyancy is a construct that concentrates on mitigating temporary difficulties encountered in college, such as the experience of isolated weak performance or isolated periods of poor performance. As Martin (2020) notes, motivation is among the most critical factors in academic success. Still, real academic

progress may only be recovered if students cannot manage their educational environment's everyday pressures, stress, adversity, and disappointments.

Background of the Problem

A challenge U.S. community colleges face is that a substantial proportion of students attend to earn credentials yet make little progress toward certificate or degree attainment (Bailey et al., 2005). Career pathways were designed to support these students' progress and increase the possibility of college enrollment and completion to secure a good job despite the challenges faced during the journey (Giani & Fox, 2017). Stackable credentials were also designed to allow students to earn a short-term credential that would be valuable in the labor market if the student stopped college or needed to work full-time. Seamlessly, students could return to the institution to continue working toward a higher credential without losing credits (Bailey & Belfield, 2017). The low rates of stackable credential attainment in post-secondary CTE programs pose an opportunity for innovative, developing strategies to circumvent students dropping out before achieving the highest level of certificate attainment offered at the community college level. Research suggests that academic buoyancy indirectly affects academic achievement via autonomous motivation. This means that intrinsic motivation is a potential mechanism through which academic buoyancy may be associated with perceived academic achievement (Datu & Yang, 2021).

Problem Statement

Most research has demonstrated that adolescent students' academic buoyancy is linked to optimal outcomes such as academic achievement, engagement, and well-being (Datu & Yang, 2018; Martin, 2014; Martin et al., 2017). However, little research examines the

relationship between academic buoyancy and academic motivation and how they relate to a student's intent to continue in post-secondary health science CTE programs and achieve the highest academic attainment at most community colleges. Educators' increased knowledge could be useful as a relative measure and guide for institutional improvement, implementing diverse approaches to measuring student and institutional success. While a substantial body of research has consistently highlighted the positive correlation between adolescent students' academic buoyancy and desirable outcomes such as academic achievement, engagement, and overall well-being, a critical gap in the literature remains unaddressed (Datu & Yang, 2018; Martin, 2014; Martin et al., 2017). Specifically, there exists a need for more empirical investigations that delve into the intricate relationship between academic buoyancy and academic motivation. Moreover, this gap extends to the limited exploration of how these constructs collectively influence a student's intention to pursue post-secondary education in health science Career and Technical Education (CTE) programs, particularly at community colleges.

Addressing this research problem is important, as it delves into the crucial educational and career decisions students make. The pursuit of CTE programs in health sciences at community colleges not only has direct implications for individual students' academic pathways but also plays a pivotal role in addressing workforce needs in the healthcare sector. Understanding the intricate interplay between academic buoyancy, academic motivation, and students' intent to continue in such programs is paramount for educators, institutions, and policymakers.

The importance of addressing this research gap is further underscored by the potential benefits it offers to the field of education. Enhanced knowledge in this area can serve as a

valuable benchmark, aiding educators and institutions in measuring student success and institutional effectiveness. Armed with insights into how academic buoyancy and motivation impact students' decisions and outcomes in health science CTE programs; educators can tailor their approaches, implement targeted interventions, and refine educational strategies to foster greater student achievement, engagement, and persistence in these critical fields. Ultimately, bridging this research void holds promise for not only advancing academic scholarship but also guiding practical improvements in educational practices and policies, ultimately benefiting both students and society at large.

Purpose Statement

The overarching aim of this quantitative survey research study is to conduct a comprehensive investigation into the intricate dynamics between academic buoyancy and academic motivation while also considering the influential role of students' demographic characteristics (Marsh et al., 2017). Specifically, this research seeks to illuminate how these two pivotal constructs, academic buoyancy (Martin & Marsh, 2008) and academic motivation (Ryan & Deci, 2000), intersect and interact within the context of students' academic aspirations and career pathways.

This study will focus on a specific population within allied health science programs, an academic domain of great significance in addressing healthcare workforce needs (Frenk et al., 2010). The primary objective is to explore how academic buoyancy and academic motivation may impact students' intentions regarding their academic journey within this field. This exploration will encompass two distinct academic continuation pathways: first, the progression from a certificate program to an Associate of Applied Science (AAS) degree, and

second, the transition from an AAS degree program to a Bachelor of Science (B.S.) degree program in allied health sciences.

Moreover, this research endeavor also recognizes the influential role of demographic factors in shaping students' educational decisions and experiences (Riegle-Crumb et al., 2019). As such, the study will delve into how students' demographic characteristics, such as age, gender, ethnicity, and other relevant factors, may modulate the relationship between academic buoyancy, academic motivation, and their intent to pursue various academic pathways within the allied health sciences.

By pursuing this inquiry, the study aspires to provide valuable insights into the complex interplay of motivational factors that underlie students' academic choices. Furthermore, it aims to contribute empirical evidence that can inform educators, institutions, and policymakers regarding the factors influencing students' academic continuation decisions within allied health science programs (Kuh et al., 2006), offering a foundation for more informed program development and support initiatives.

Ultimately, this research has the potential to guide efforts aimed at optimizing educational pathways and enhancing the overall success and satisfaction of students pursuing careers in allied health sciences. Enrollment and completion rates are commonly used to measure success, but other means, such as personal or non-cognitive measures, may also be beneficial (Farrington et al., 2012). Non-cognitive measures include soft skills related to motivation, personality, and interpersonal interaction. Other measures grounding this dissertation study include academic buoyancy and academic motivation. Investigating the relationship between academic buoyancy and academic motivation and how they relate to students' demographics and academic continuation intent could enhance educators' servitude

practices supporting higher degree attainment (Turner & Lapan, 2002). A secondary aim of the study was to provide research to fill the existing gap in the literature related to academic buoyancy and academic motivation and how they relate to students' demographics and academic continuation intent in post-secondary health science CTE students.

Research Questions

This study addressed the following research questions:

1. What are the demographics, levels of academic buoyancy, academic motivation, and academic continuation intent in postsecondary health science CTE students?
2. Are there relationships between academic motivation, buoyancy, continuation intent, and student demographics in postsecondary health science CTE students as measured by the Academic Buoyancy Scale (ABS) and the Academic Motivation Scale (AMS)?
3. Do academic buoyancy, motivation, and demographic variables, including age, gender, and race/ethnicity, explain significant variance in academic continuation intent in postsecondary health science CTE students?

Theoretical Framework

Two theories related to academic buoyancy and academic motivation form the theoretical framework of this study: self-determination theory and resilience theory. Ryan and Deci (2000b) noted that in self-determination theory (SDT), individuals must meet their innate psychological needs for autonomy, competence, and relatedness to remain motivated and well. External factors of motivation, such as external rewards, play a positive role in motivating people to persist in challenging academic tasks. According to Masten and Reed

(2002), adaptive strategies can benefit students when dealing with adversity, which aligns with resilience theory.

Martin and Marsh (2008) suggest that daily academic setbacks and challenges are crucial to students' resilience in the academic environment. For students to succeed and achieve their academic goals, they must cultivate adaptability and positivity to cope with academic challenges. Specifically, this study explores the relationship between academic motivation and buoyancy regarding community college health science students' academic continuation intentions. Furthermore, in several studies, students who stay engaged academically and remain connected to their institutions are more likely to complete their education. Additionally, this study incorporates theories of retention and perseverance, which emphasize the importance of social and academic integration between students within an educational setting (Tinto, 1975; Pascarella & Terenzini, 2005). The self-determination, as mentioned earlier, resilience, retention, and perseverance perspectives will be integrated into this study's theoretical framework to investigate the relationships between academic motivation and buoyancy in predicting academic continuation intent.

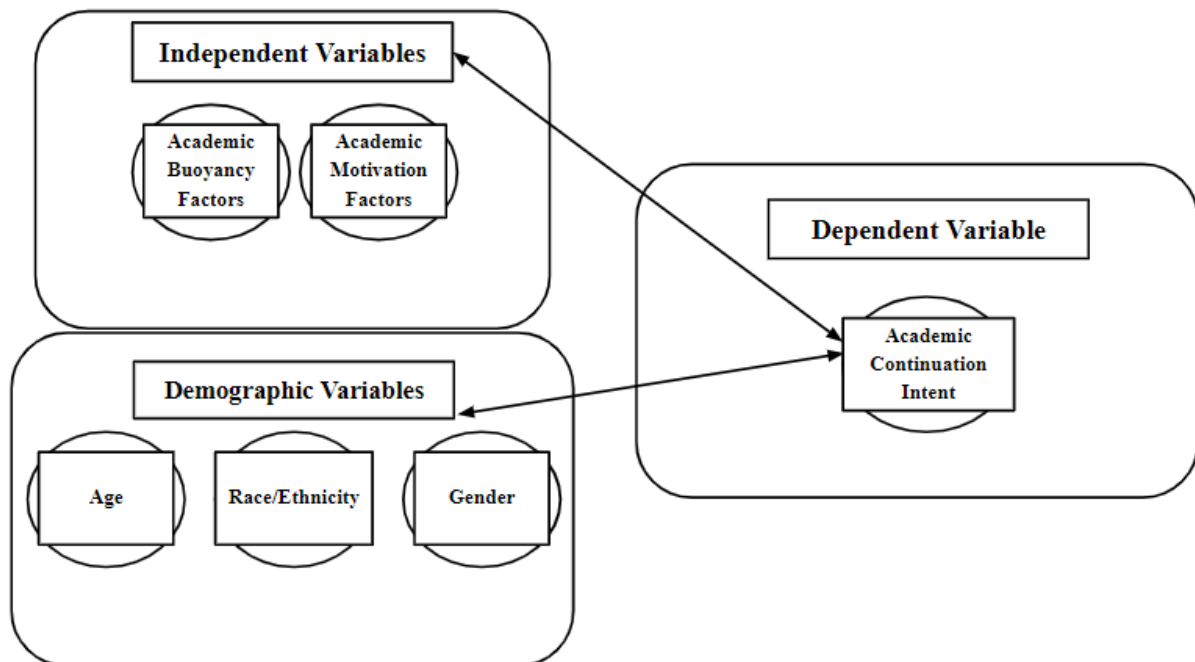
Conceptual Framework

This study's conceptual framework comprises independent, dependent, and demographic variables related to the abovementioned research questions. Together, this framework forms the scaffolding upon which this research is designed, providing a systematic and comprehensive approach to exploring the intricate relationships among the variables. Data collection would include allied health science students' demographic information, items from the Academic Buoyancy Scale (ABS) composed of 4 items (I am good at dealing with

setbacks at school, I think I am good at dealing with schoolwork pressures, I do not let a bad mark affect my confidence, I am good at dealing with setbacks at school (e.g., negative feedback on my work, poor results); the rating scale ranges from 1 (strongly disagree) to 7 (strongly agree), and items from the Academic Motivation Scale (AMS-C) to assess students' academic motivation levels composed of seven subscales assessing three types of intrinsic motivation (intrinsic motivation to know, to accomplish things, and to experience stimulation), three types of extrinsic motivation (external, introjected, and identified regulation), and amotivation. The dependent variable includes students' Academic Continuation Intent. Figure 1.1 illustrates the conceptual framework for this study.

Figure 1.1

Conceptual Framework Including Dependent, Independent, and Demographic Variables



The first research question seeks to determine the demographics, levels of academic buoyancy, levels of academic motivation, and academic continuation intent of postsecondary health science CTE students. Martin et al. (2010) suggest that five factors play a role in academic buoyancy: self-efficacy, planning, control, anxiety, and perseverance. However, specific to this study, academic buoyancy will be investigated as a holistic construct. Academic motivation (Vallerand et al., 1993, p. 1011) is composed of seven subscales assessing three types of intrinsic motivation (intrinsic motivation to know, to accomplish things, and to experience stimulation), three types of extrinsic motivation (external, introjected, and identified regulation), and amotivation. The dependent variable seeks to determine the academic continuation of intentions in postsecondary health science CTE students as measured dichotomously.

The objective of the second research question is to investigate if there is a relationship between academic buoyancy and academic motivation. Data will be analyzed using the descriptive statistical method (mean, standard deviation, and correlation coefficient) as measured by the ABS. Independent variables for the second research question would include the level of academic motivation factors derived from the seven subscales assessing three types of intrinsic motivation (intrinsic motivation to know, to accomplish things, and to experience stimulation), three types of extrinsic motivation (external, introjected, and identified regulation), and amotivation (interval data analyzed using the descriptive statistical method (mean, standard deviation, and correlation coefficient)) as measured by the AMS.

The third research question seeks to determine if academic buoyancy, academic motivation, and demographic variables will explain significant variance in academic continuation intent. The dependent variable for the third research question, academic

continuation intent, was measured dichotomously (intent or no intent). The academic buoyancy and motivation scales were measured on a 7-point Likert scale. The demographic variables are age, race/ethnicity, and gender.

Definition of terms

The following are definitions of key terms to explain how they relate to the study.

Amotivation. Individuals who do not perceive contingencies between outcomes and their actions. Individuals who are neither intrinsically nor extrinsically motivated (Vallerand et al., 1992).

Associate in Applied Science Degree (AAS). The Associate of Applied Science degree prepares graduates to enter a career by preparing graduates for the workforce postgraduation degree and is considered a terminal degree. The associate in applied science degree program is designed to lead the individual directly to employment in a specific career. (Koltai, 1984; AACC, 1998; Chase, 2011).

Academic Buoyancy. Students' ability to successfully deal with academic setbacks and challenges typical of ordinary school life is relevant to the more typical experience of isolated poor grades and "patches" of poor performance (Martin & Marsh, 2008).

Academic Motivation. Behaviors that are in some way related to academic functioning and success, such as how much effort students put forth, how effectively they regulate their work, which endeavors they choose to pursue, and how persistent they are when faced with obstacles (Schunk et al. 2008).

Academic Resiliency. Refers to the capacity of students to perform well in school despite a disadvantaged background (OECD 2011) or, more precisely, the heightened

likelihood of success in school despite environmental adversities brought about by early traits, conditions, and experiences (Wang et al. 1994).

Career and Technical Education (CTE). Career and Technical Education (CTE) provides students with the academic and technical skills, knowledge, and training necessary to succeed in future careers and to become lifelong learners. CTE prepares these learners for the world of work by introducing them to workplace competencies and making academic content accessible to students by providing it in a hands-on context. Funding is provided through the federal Perkins legislation to help colleges enhance their CTE programs (Spell, 2016).

Health Sciences (community college). Health sciences in the community college refer to interdisciplinary programs that prepare students for careers in health, wellness, and medical fields, encompassing theoretical knowledge and practical training tailored to meet the needs of the community and local healthcare employers (Cohen et al., 2013).

Intrinsic Motivation. Engaging in an activity for the satisfaction the experience brings. Intrinsically motivated people do so to accomplish, know, or experience stimulation (Vallerand et al., 1992). Deci (1995) noted that it “is the heart of creativity, responsibility, healthy behavior, and lasting change” (p. 9).

Intrinsic Motivation-To Know. refers to the engagement in an activity ‘for the pleasure and satisfaction that one experiences while learning, exploring, or trying to understand something new’ (Vallerand et al. 1992, p. 1005). This type is representative of intrinsic motivation in education since it relates to constructs such as curiosity, exploration, and the epistemic need to know and understand (typical in educational settings).

Intrinsic Motivation-Towards Accomplishment. is defined as engagement in an activity for the pleasure and satisfaction derived when trying to excel, to reach a new standard, or to

create something new. Individuals with IM toward accomplishment focus on the process rather than the outcome of an activity and seek to feel competent and creative

Intrinsic Motivation-To-Experience stimulation. represents involvement with an activity for the experience of fun, excitement, and positive sensations (Vallerand et al. 1992).

Stackable Credentials. Stackable credentials—sequential postsecondary awards that allow individuals to progress on a career path—can enhance the labor market prospects of middle-skill workers (Bailey & Belfield, 2017).

External Regulation. Such behaviors are performed to satisfy an external demand or obtain an externally imposed reward contingency. External regulation is the only kind of motivation recognized by operant theorists (e.g., Skinner, 1953), and it is this type of extrinsic motivation that was typically contrasted with intrinsic motivation in early lab studies and discussions.

Extrinsic Motivation-Introjected Regulation. Introjection describes a type of internal regulation that is still quite controlling because people perform such actions with the feeling of pressure to avoid guilt or anxiety or to attain ego-enhancements or pride. Put differently, introjection represents regulation by contingent self-esteem. A classic form of introjection is ego involvement (Nicholls, 1984; Ryan, 1982), in which a person performs an act to enhance or maintain self-esteem and the feeling of worth.

Extrinsic Motivation-Integrated Regulation. Integration occurs when identified regulations have been fully assimilated into the self. This occurs through self-examination and bringing new regulations congruent with one's other values and needs. The more one internalizes the reasons for an action and assimilates them to the self, the more one's extrinsically motivated actions become self-determined.

Organization of the Study

This quantitative survey study is structured into five chapters. The first chapter introduced the importance of resilience and the benefits academic buoyancy can present when students demonstrate the ability to bounce back after experiencing setbacks, stress, or decreases in self-confidence in an academic setting when attending college for the first time. It is important to note that this study focuses primarily on post-secondary health science CTE students. The chapter also provided background on the research problem, including the problem statement, the purpose of the research study, the research questions, and an overview of the theoretical and conceptual framework. Finally, the study includes the definitions of terms and a conclusion. Chapter two of this study includes a review of the literature explaining the theories that explain the theoretical framework of this study, including academic buoyancy and academic motivation. Chapter three will present the survey study's methodology and usage, data collection techniques, instrumentation, the instruments' validity, and ethical considerations. Chapter four will include the study's findings from the analyzed data that would answer the three research questions of this study. Finally, chapter five provides an overview of the study, including recommendations for future research studies.

Chapter Summary

This chapter overviews academic buoyancy, academic motivation, and academic continuation intent in CTE health science programs. The problem underlying this study is academic buoyancy, motivation, and how they relate to a student's intent to continue in post-secondary education programs toward achieving the highest level of academic attainment, which, at the community college level, is the associate in applied science degree or intentions

of an allied health bachelor of science degree. Based on the problem and purpose, the study had three research questions. The chapter presented the importance of CTE health science programs in higher education and a brief discussion of improved academic perseverance and attainment by acknowledging the understanding of the role of academic buoyancy and motivation on students' continuation intent.

CHAPTER 2: LITERATURE REVIEW

Introduction

This literature review provides an overview of the theoretical framework grounding this dissertation study. This literature review contains five sections: The first section will explain the importance of the associate in applied science (AAS) degree. The second section will summarize the resilience theory and related academic resilience and buoyancy concepts. The third section will summarize the self-determination theory, the related academic motivation concept, and motivational orientations. The fourth section will explain the difference between academic resilience and buoyancy, and the fifth section will summarize the literature review.

An associate in applied science (AAS) degree is an important achievement in a student's educational journey (Bailey et al., 2015). However, everyday challenges in academic settings arise on this journey, causing some students to drop out before crossing the finish line (Kuh, 2003; Pascarella & Terenzini, 2005; Credé & Phillips, 2011). Many postsecondary CTE programs and others alike measure student success using statistical data. Other means, such as personal or non-cognitive measures, may also be beneficial. For example, research suggests that educators can help students improve their academic buoyancy to succeed in college. Martin (2013) points out that academic buoyancy is the capacity for students to overcome setbacks, challenges, and difficulties that are part of everyday academic life. It emphasizes proactive, rather than reactive, approaches in the face of academic adversity. Moreover, as mentioned in Chapter 1, the problem that U.S. community colleges face is that many students attend to earn credentials but make little progress toward that certificate or degree. This

literature review provides research for the existing gap in the literature related to this topic concerning post-secondary CTE students in health science programs in the North Carolina Community College System.

Importance of the AAS degree in Postsecondary Education

The North Carolina Community College System is critical to the state's economy (McKinney, 2022). Wyner (2019) mentions that aspiring students consider community college an affordable career path or an on-ramp to an AAS degree. The Associate of Applied Science is one of the community college's most popular degrees, designed to provide students with real-life workforce training (Digest of Education Statistics, 2022) and access toward upward mobility (Jenkins & Fink, 2015). The American Association of Community Colleges (AACC) reports that the AAS degree attainment is important to the community and workforce, as the postsecondary CTE AAS programs are developed to recognize this dual possibility and to encourage students to recognize the long-term career possibilities that continued academic study will create (AACC, 1998). Students have the potential to earn an AAS degree in a wide variety of career paths, such as medical assisting, automotive technology, or nursing. The AAS degree is primarily offered at community colleges, technical schools, and vocational schools nationwide.

The American Junior College, Cohen, and Brawer (2014) define the junior college as, ... “any institution accredited to award the associate in arts or sciences as its highest” degree (p.5-6). Similarly, this would also apply to the associate in applied science. North Carolina, passed in 1957, specified that “most of the programs offered within the Community College System are designed to prepare individuals for entry-level technical positions in business and

industry with an associate of applied science degree” Kisker et al. (2013) points out that in 1957 North Carolina was one of the first acts that were passed providing state funding for community colleges. It was passed specifically to prepare aspiring students for entry-level positions. Most postsecondary CTE AAS programs lead graduates into the workforce as entry-level healthcare professionals. In 2019-2020, health professions and related programs in the CTE area were two of the three largest conferred associate degree fields in the nation (NCES, 2022). Additionally, the literature on postsecondary career and technical education aligns with this study's research associate in applied science degree attainment allows completers to earn more in the workforce when compared to those who have no postsecondary education and have the potential to earn a baccalaureate degree after degree attainment or in the future.

Academic Achievement

Datu and Yuen, 2008, presented academic buoyancy as an important factor in students' academic outcomes. Academic buoyancy is students' ability to successfully deal with academic setbacks and challenges typical of ordinary school life (e.g., poor grades, competing deadlines, exam pressure) (Martin & Marsh, 2008). In the context of this study, health science postsecondary students often encounter high stress situations and demanding academic workloads. Datu and Yuen (2018) reported findings from different studies, suggesting that higher levels of academic buoyancy are positively associated with educational outcomes, which include higher motivation, engagement in a student's program of study, and, ultimately, higher academic achievement, which in this study could be classified as a students' positive academic continuation intentions.

Resilience Theory

Resilience theory explores how individuals, communities, and systems adapt, recover, and grow in the face of adversity or highly stressful situations, which ultimately explores the ability to maintain or regain functionality despite challenges (Masten, 2001). Researchers studying resilience have identified several ways to support competency, particularly in adversity-filled environments. While resource-focused strategies support primary prevention efforts, risk-focused techniques attempt to improve developmental outcomes by reducing or eliminating initial adversity exposure. Process-focused treatments aim to preserve, activate, or restore the fundamental adaptive mechanisms that underlie development, including attachment, mastery motivation, and the ability to adjust attention, emotion, behavior, and arousal in response to the demands of the environment (Yates et al., 2015).

Academic Resilience

As for the concept's evolution, general resilience underpins academic resilience. Resilience is a multidimensional and dynamic process because it encompasses many factors. Masten (2001) defines resilience "as a class of phenomena characterized by good outcomes despite serious threats to adaptation or development" (p. 228). Although there is no universal definition of the term, the literature shows that the definition of resilience and its meaning may have some overlap and may interact between disciplines. For example, in the field of health sciences, Kunzler et al. (2020) define resilience "as maintaining or regaining mental health during or after significant adversities such as a potentially traumatizing event, challenging life circumstances, a critical life transition, or physical illness." Additionally, this study focuses on resilience in the educational, also referred to as academic, context. Wang and

Gordon (1994) define educational resilience as “the heightened likelihood of success in school and other life accomplishments, despite environmental adversities. Martin and Marsh (2009) mention that academic resilience describes a student's ability to overcome severe or chronic hardships over time that are seen as significant attacks on academic processes and attrition.

Academic Buoyancy

To date, there is a plethora of research and data on academic buoyancy concerning the K–12 population of students. The problem is the lack of research on how postsecondary students cope with their daily academic expectations and disappointments while on their college journey. Moreover, research on this topic may be nonexistent considering postsecondary health science CTE students. The academic buoyancy construct provides a fairly new avenue of investigation into these critical student behaviors. Academic buoyancy is subtly but importantly different from resilience. According to Martin (2013), the research concerning academic resilience focuses on ethnic groups found in high-level adverse conditions. Academic buoyancy, a notion of resilience, refers to a student's ability to persevere in the face of academic challenges and setbacks. Within the literature concerning academic buoyancy, there is a growing consensus concerning academic resilience, failing to take into account the multitude of students who endure difficulties, stresses, and setbacks as part of everyday life while on their academic journey (Morales, 2000; Waxman et al., 2003; Rutter, 2012). According to current discoveries in positive psychology, positive aspects of people's lives may address less adaptive aspects, which aligns with the buoyancy notion that achieving long-term psychological growth and well-being by maintaining a positive outlook is possible. Positivists broaden and build theory using this notion of good emotions (Martin &

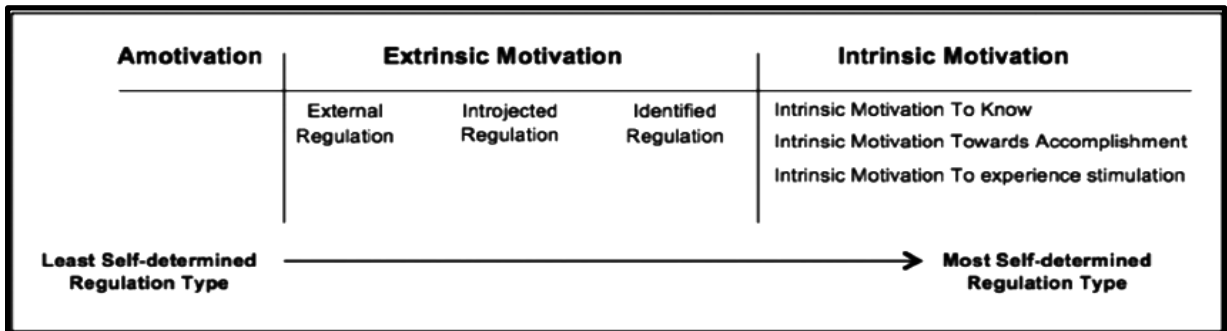
Marsh, 2006; Fredrickson, 1998). Building on one's abilities and embracing proactive rather than reactive responses to setbacks and difficulties are essential to academic buoyancy. Additionally, it emphasizes the importance of healthy social environments in college; adaptive interpersonal skills, motivation, engagement, and constructive interests are needed for success while on an educational journey (Liem & Martin, 2011). The term "academic buoyancy" is more in line with positive psychology approaches that aim to better comprehend the health outcomes of academic adversities as opposed to the term academic resilience, which tends to be reserved for hi-level academic adversity cases.

Self-Determination Theory

Self-determination theory was first defined by Deci and Ryan in 1985, focusing on internal and external motivation orientations. The orientations distinguish between intrinsic and extrinsic motivation. Intrinsic motivation refers to the satisfaction that promotes enjoyment without consequence. An example would be reading a book about statistics because statistics is enjoyable, and reading about it is self-satisfying. The implication is that the reader is reading it for a statistics course, and the professor will present an assessment of the subject matter. Extrinsic motivation refers to doing an activity to achieve an external outcome. For example, reading the statistics book to pass an exam.

Figure 2.1.

The Continuum of Motivation Types in Self-Determination Theory



Note. Adopted from A taxonomy of human motivation (Ryan & Deci, 2000a, p. 61).

Figure 2.1 provides a visual representation of each facet of motivation as delineated within the self-determination theory. This comprehensive framework outlines the various forms of motivation that drive human behavior, offering a structured depiction for better understanding. Each type of motivation from the self-determination theory is seen in Figure 2.1 and explained in more detail below.

Amotivation. Amotivation represents a state where a learner does not have the intention to act. According to Ryan and Deci (2000a), an individual's actions do not display intentionality or personal causation in such a state. It is a state where neither intrinsic nor extrinsic motivators play a role (Vallerand et al., 1992). This lack of motivation can stem from beliefs: not seeing value in an activity, not feeling skilled enough, or believing that the activity will not produce the desired result (Deci et al., 1991). Students who believe their abilities are static and limited, a perspective known as a "fixed mindset," as described by Yeager and Dweck (2012), see no reason to exert effort because they fail to see the connection between their actions and any intrinsic or extrinsic rewards.

Figure 2.1 systematically classifies extrinsic motivation into three distinct categories, providing a framework that distinguishes these forms. Each type serves as a unique driver of behavior and is differentiated by its source and the nature of the rewards or incentives associated with it. These categories encompass external regulation, introjected regulation, and identified regulation, each with nuances and implications. By categorizing extrinsic motivation, researchers and practitioners can more effectively analyze and address the various external factors influencing individuals' behaviors and choices. Each of those three types will be described in more detail below.

External Regulation. Refers to actions performed in response to external pressures or for rewards from external sources, such as parents or teachers. For example, when parents offer money for good grades, it falls under this category. Deci and Ryan (2000a) describe external regulation as actions seen as externally controlled, focusing solely on outside factors.

Another instance might be someone taking on a task, mainly driven by the desire for social praise or to avoid potential criticism.

Introjected Regulation. Refers to actions that are performed to prevent feelings of guilt or anxiety or to bolster feelings of pride. In this context, individuals act to affirm their self-worth. Although these motivations come from within, they are not fully internalized and still focus on external pressures or perceived judgments (Deci & Ryan, 2000a). Another example would include when a person might commit to a regular exercise regime, not out of the pleasure it brings, but to keep feelings of guilt at bay about neglecting their health.

Identified Regulation. At this stage, individuals see their actions as personally significant, aligning with their intrinsic values. For instance, a medical assisting student learning about the anatomy and physiology of the human heart because she believes it aligns

with her future medical assisting career is exhibiting identified regulation. She understands and identifies with the importance of her learning. Individuals with a higher identified regulation type recognize its values and believe that their behavior aligns with their personal or academic goals.

Intrinsic motivation in an individual represents the behavior of doing an activity for itself and the pleasure and satisfaction derived from participating (Deci, 1975; Deci & Ryan, 1985). As outlined in Figure 2.1, intrinsic motivation is categorized into three types.

Intrinsic Motivation-To Know. Refers to individuals' innate drive to learn, understand, and acquire knowledge. Pure curiosity drives someone to explore a topic without any external reward (Deci & Ryan, 1985). This motivation is about the pleasure of learning something new, driven purely by curiosity (Ryan & Deci, 2000b). An example of intrinsic motivation-to know would be a retiree learning a new language driven by the joy that they find in learning, not because it is a necessity.

Intrinsic Motivation-Toward Accomplishment. Refers to the internal drive to achieve, to master a task, or to meet personal standards of excellence. It is not about external validation but the inner sense of fulfillment from achieving a personal goal (Deci & Ryan, 1985). An example of intrinsic motivation-towards accomplishment would be a doctoral student dedicated to achieving their dream of obtaining a doctoral degree. Some doctoral students may look forward to the external accolades, but others do it for personal accomplishment; the latter would exemplify intrinsic motivation-toward accomplishment.

Intrinsic Motivation-To Experience Stimulation. Refers to experience stimulation as the drive that leads individuals to engage in activities that provide sensory or emotional excitement. It is the chase for feelings, experiences, or sensations that are pleasurable or

thrilling (Deci & Ryan, 2000b). An example of intrinsic motivation-to experience stimulation would be someone listening to classical music, not because they necessarily enjoy it, but because of the emotional connection of relaxation.

The Difference between Academic Resilience and Academic Buoyancy

Academic resilience and buoyancy are distinct conceptions due to the differences in relative samples, operational factors, and interventions, as well as their link to varying levels of academic adversity (Martin & Marsh, 2009). Both academic resilience and buoyancy protect against chronic underperformance, but only buoyancy protects against specific incidents of low performance (e.g., poor grades). Resilience defends against anxiety and sadness, while buoyancy protects against low levels of stress and a lack of confidence (Martin & Marsh, 2008a).

Self-report Likert scales are used to gauge academic resilience and buoyancy. Six items compose the Academic Resilience Scale (ARS), of which a 4-item subset makes up the complete Academic Buoyancy Scale (ABS), indicating potentially confusing factors at play. Academic resilience and academic buoyancy have both been found to share the same 5-C model of motivational determinants. Figure 2.1 illustrates the 5-C model of determinants for academic buoyancy and resilience.

Martin and Marsh have used academic resilience and buoyancy interchangeably throughout their studies, making different ideas implausible and ambiguous (Martin, Colmar, et al., 2010). As Martin (2013) stated, academic buoyancy and academic resilience are separate constructs, as academic resilience mediates the indirect effect of academic buoyancy

on significant maladaptive outcomes but does not influence its direct effect on low-level impediment outcomes.

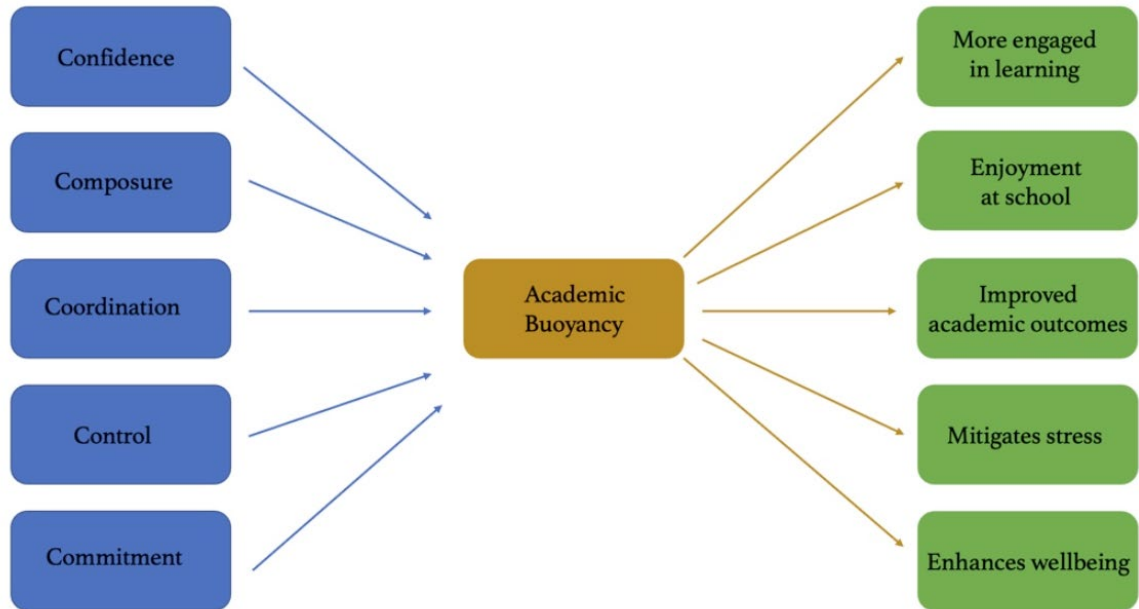
In their scholarly work, Martin, Colmar, and their academic collaborators in 2010 frequently employed the terms "academic resilience" and "academic buoyancy" interchangeably, inadvertently blurring the distinction between these two concepts. This practice, in turn, has raised concerns about the precision and clarity of discussions surrounding these critical constructs in the field of educational psychology.

However, Martin's scholarly contribution in 2013 has been pivotal in resolving this conundrum. He illuminated the fact that academic resilience and academic buoyancy are not synonymous; they represent distinct and separate concepts. To illustrate, consider academic resilience as an intermediary construct akin to a mediator in a complex process. It operates between academic buoyancy and the emergence of significant adverse outcomes in the educational context. In simpler terms, academic buoyancy, which revolves around maintaining a positive outlook and staying afloat academically, indirectly affects significant academic challenges through its impact on academic resilience. Conversely, when it comes to minor obstacles, academic buoyancy does not wield a direct influence.

Martin's scholarly work has effectively disentangled the conceptual intricacies surrounding academic resilience and buoyancy. This clarification has not only enhanced the theoretical foundation of educational psychology but also equipped educators and scholars with a more nuanced understanding of how these constructs function within the academic milieu. Furthermore, it has empowered educators with practical insights and strategies to foster resilience and positive academic attitudes among students, especially when they encounter diverse challenges in their educational journeys.

Figure 2.2

Martin and Marsh's 5-C Model



According to Martin et al. (2010), the 5-C model consists of five motivational determinants, which the research also highlights as predictors. These predictors serve as essential indicators of academic buoyancy and play a critical role in understanding students' ability to navigate academic challenges effectively. Furthermore, the literature reveals that the five predictors stem from five factors: high self-efficacy, high planning, high persistence, low anxiety, and low, uncertain control, each of which contributes to a student's overall capacity to maintain a positive and resilient academic disposition. Table 1.1 provides a comprehensive overview of these predictors, including the factors and their definitions as detailed in Martin and Marsh's seminal work in 2006. It offers a valuable reference for researchers and educators seeking to delve into the intricacies of academic buoyancy.

Table 1.1

Predictors of Academic Buoyancy, including the Factors and Definitions

Factor	Predictor	Definition
High self- efficacy	Confidence	Student's belief in their competence to complete work.
High Planning	Coordination	Students' ability to pursue help when necessary to better manage themselves and their tasks.
High persistence	Commitment	Student's ability to remain determined and resist procrastination throughout adversity.
Low anxiety	Composure	The extent to which students can remain calm in anxiety-provoking situations.
Low uncertain control	Control	The extent to which students take control of their work, both in failures and successes throughout their learning,

The 5Cs are the third area researched, as they consist of possible interventions that educators can utilize to enhance students' ability to attain daily academic resiliency on their academic journey. The factors of academic buoyancy consist of the 5 C's linked to positive outcomes and could improve academic perseverance.

Chapter Summary

This research study's literature review provided evidence of the importance of postsecondary CTE education, which emphasizes attaining the highest level of academic attainment in the community college setting. Additionally, the literature review spoke to the importance of daily academic resilience in students' educational journeys. Martin, A.J., & Marsh, H. (2009) mention that academic resilience describes a student's ability to get through severe or chronic hardships over time that are seen as significant attacks on academic processes and attrition. More importantly, the literature mentions the plethora of research and data on academic buoyancy concerning the K–12 population of students and very few of the post-secondary CTE student population, revealing the need for this study. Chapter 2 reviews the literature on the importance of AAS attainment in CTE, showing the impact on the student's educational trajectory, upward mobility, and the workforce. Chapter 2 concluded with a review of positive physiological literature that influences a positive outcome in supporting educators to help postsecondary students cultivate the ability to self-motivate and bounce back from the daily academic hardships that come with college enrollment, especially in postsecondary education.

CHAPTER 3: RESEARCH METHODOLOGY

Introduction

This study investigated the influence between academic buoyancy, academic motivation, and students' academic continuation intent. The dependent variable in the study was academic continuation intent. As mentioned throughout the study, it is essential to remember the operational definition of academic continuation intent, which measures a health science student's intention to continue for an associate in applied science degree or an allied health bachelor of science degree. The independent variables examined were academic buoyancy and academic motivation.

Additionally, this chapter describes the variables used in the study and their statistical organization by research question. This chapter concludes with an overall description of the research design, respondents, sample, sampling method, instrumentation and validity, data collection, data analysis, and ethical considerations.

Research Design

The study's research methodology included implementing a non-experimental survey research design. Creswell and Creswell (2017) explain that survey design provides a quantitative description of trends, attitudes, and opinions of a population or tests for associations among variables of a population by studying a sample of that population (p. 147). Convenience sampling was applied to study the relationship between academic buoyancy, motivation, and continuation intent of currently enrolled health science students. The survey included a combination of demographic variables and two instruments: one to measure

academic buoyancy and one to measure academic motivation factors. Trochim (2006) stressed the importance of survey research as a vital measurement area in applied social research. Using a survey research design for the study provided data collection within an academic semester at a reasonable cost. This statement aligns with Dillman (2006) when mentioning the cost minimization of questionnaire administration " ... once electronic data collection systems have been developed" (p. 353). This study had a correlational design, with correlations used to describe and measure the relationship between two or more variables or sets of scores (Creswell & Creswell, 2012; 2018).

Furthermore, correlational research serves various functions, including prediction, establishing validity and reliability, and theory verification (Neuman, 2014). The undergirding of this correlational design was a binomial logistic regression. Fávero et al. (2023) mention that the binary logistic regression model can be applied when the phenomenon under study presents itself dichotomously and the researcher wants to estimate the probability of an event's occurrence defined between two possibilities. Therefore, this study's research design technique was the most effective approach because it predicts a dichotomous dependent variable given one or more independent variables and measures relationships among several variables. The research design for this study is, therefore, appropriate given that the study seeks to describe a specific population sample.

Research Questions

In this study, a quantitative survey design examined the relationship between academic buoyancy and academic motivation, considering students' academic continuation intent among

postsecondary health science CTE students. The following research questions will guide the study:

Research Question 1: What are the demographics, levels of academic buoyancy, academic motivation, and academic continuation intent in postsecondary health science CTE students?

Research Question 2: Are there relationships between academic motivation, buoyancy, continuation intent, and student demographics in postsecondary health science CTE students as measured by the Academic Buoyancy Scale (ABS) and the Academic Motivation Scale (AMS)?

Research Question 3: Do academic buoyancy, academic motivation, and demographic variables, including age, gender, and race or ethnicity, explain a significant amount of variance (meaningful relationship) in academic continuation intent in postsecondary health science CTE students?

Population and Sample

The target population for this study was currently enrolled postsecondary CTE health science students. Health science programs are structured to educate students seeking certificates, diplomas, or associate degrees (Cohen et al., 2014). The sample for this study was selected from the NCCCS health science programs, focusing on health science programs, including AAS degree pathways, but not limited to a bachelor of health science degree. To avoid ethical issues within the process of research, Creswell and Creswell (2017) mention gaining local permission from respondents by identifying gatekeepers for support (p. 88). The health science deans would act as gatekeepers, inviting respondents to the study. The

gatekeeper's information would be retrieved by a reliable source named the Health Sciences Dean within the NCCCS. Recruiting respondents through gatekeepers has been widely discussed in qualitative research; however, surveying through gatekeepers can also be important for quantitative studies (Lamprianou, 2022). North Carolina State University IRB approval was granted on July 7, 2023. The survey letter, including the survey link and informed consent, was sent to 58 health science program directors in the NCCCS, including one health science director from a private institution, on July 13, 2023, via email requesting support to forward to their students. The survey was closed on August 5, 2023, with only 21 responses. None of the 21 responses were usable due to the surveys being incomplete. I spoke with my supervisor, who holds the title of an NCCCS health science dean, to get support to send to the other NCCCS health science deans to forward to their students. IRB was amended to include a gift and approved on August 28, 2023. The health sciences deans forwarded the survey letter, including the survey link and informed consent, to their students on September 7, 2023. There were 181 responses collected, and the responses were no longer accepted after October 3, 2023. Of the 181 responses, 76 were deleted due to the surveys being incomplete, leaving only 105 data entries available for analysis.

The convenience sampling technique is defined in research as selecting respondents based on their accessibility or proximity to the researcher (Etikan, 2016). One of the most significant advantages of convenience sampling is that fewer resources are required, and it is more cost-effective (Ko et al., 2023). Inferential statistics are based on more accurately predictive probabilities with higher sample sizes. The more respondents in a study, the more protected the study results are from the influences of random error, which a researcher cannot control (Emerson, 2015).

Instrumentation

This study used two instruments with additional survey questions around demographics, and the current program of study. The two instruments are the *Academic Buoyancy Scale (ABS)*, developed by Martin and Marsh (2008), and the *Academic Motivation Scale-College (AMS-C 28)*, developed by Vallerand et al. (1992), both instruments together comprising 32 items.

Academic Buoyancy Scale (ABS)

The Academic Buoyancy Scale (ABS) was adopted by Martin and Marsh (2008). A 7-point Likert scale measures academic buoyancy using four items from 1 (Strongly Disagree) to 7 (Strongly Agree). This survey investigated how students cope with daily hassles and setbacks that may arise during their studies (e.g., "I'm good at dealing with setbacks — bad marks, negative feedback on my work"; 4 items): Students' ability to deal effectively with setbacks, challenges, stress, and pressure that occur in their everyday school life (i.e., academic buoyancy) was assessed through four items. For the completeness of this study, all academic buoyancy items were presented in the appendix. This scale is reliable from internal consistency and test-retest perspectives (Time 1 Cronbach's $\alpha = .80$; Time 2 Cronbach's $\alpha = .82$; test-retest $r = .67$) (Martin & Marsh, 2008, p. 63). Table 2.1 shows the four items on the Academic Buoyancy Scale, including the descriptions for each question.

Table 2.1.

Academic Buoyancy Scale (ABS) Factors & Descriptions

Academic Buoyancy Scale	Description
Question # 1	“I'm good at dealing with setbacks (e.g., bad mark, negative feedback on my work).”
Question # 2	“I don't let study stress get on top of me.”
Question # 3	“I think I'm good at dealing with schoolwork pressures.”
Question # 4	“I don't let a bad mark affect my confidence”

Note. Adopted from the Academic Buoyancy Scale (Martin & Marsh, (2008).

Academic Motivation Scale (AMS-C 28)

The AMS-C 28 (Academic Motivation Scale for College) was adapted from Vallerand et al. (1992). It comprised 28 items subdivided into seven subscales assessing intrinsic motivations (intrinsic motivations to know, accomplish things, and experience stimulation), extrinsic motivations (external, introjected, identified), and amotivation. There was an initial validation of the AMS-C 28 conducted in French. Based on the French version of the AMS (named the Echelle de Motivation in Education, or EME), the AMS has been translated into English and validated. This instrument was found to have similar reliability as the French version, with a coefficient of internal consistency of 76 to 82. In addition, the test-retest results were also considered acceptable, with a variance at the pretest of 71 to 83 and a mean

correlation between the test and retest of 79 (Vallerand et al.,1992, p. 1012). These results confirm internal consistency. Validity tests of the scale's French and English versions were positive. The confirmatory factor analysis of the seven-factor model corresponding to seven subscales revealed a Goodness of Fit Index (GFI) of .94, an Adjusted Goodness of Fit Index (AGFI) of .91, and a Normed Fit Index (NFI) of .93 (Vallerand et al.,1992, p.1011).

Table 2.2 below presents a comprehensive overview of the Academic Motivation Scale for College Students (AMS-C 28), which comprises a total of 28 items categorized into seven distinct academic motivation factors. These factors offer a detailed insight into the diverse dimensions of motivation within the academic context, shedding light on the multifaceted nature of students' drive and commitment to their studies. By organizing these items into these specific factors, researchers and educators gain a structured framework to assess and analyze the various elements contributing to students' motivation levels. This categorization not only facilitates a more in-depth understanding of the underlying motivational dynamics but also enables the development of targeted interventions and strategies to enhance student's academic motivation and overall educational experiences.

Table 2.2.

Item Numbers from the Academic Motivation Scale (AMS-C 28)

Academic Motivation Factors	Item Numbers from Survey that Measure Specific Style
Intrinsic motivation - to know	# 2, 9, 16, 23
Intrinsic motivation - toward accomplishment	# 6, 13, 20, 27
Intrinsic motivation - to experience stimulation	# 4, 11, 18, 25
Extrinsic motivation - identified	# 3, 10, 17, 24
Extrinsic motivation - introjected	# 7, 14, 21, 28
Extrinsic motivation - external regulation	# 1, 8, 15, 22
Amotivation	# 5, 12, 19, 26

Note. Adopted from the Academic Motivation Scale (AMS-C 28) College Version.

The two instruments are the Academic Buoyancy Scale (ABS), developed by Martin & Marsh (2008), and the Academic Motivation Scale-College (AMS-C 28), developed by Vallerand et al. (1992), comprising 32 items. The first question on the survey asks the respondents to select the health science program they are currently pursuing, followed by one

question regarding their academic continuation intent and demographics, including gender, age, race, and ethnicity. Lastly, the survey has two optional questions. The first optional question requests additional information that the respondents believe would enhance educational leaders' understanding of their academic buoyancy and motivation as students in the NCCCS. The final question offered respondents the option to enter a drawing for a chance to win one of two \$50 electronic Amazon gift cards as compensation for their participation. The survey item distribution details are located in Table 2.3.

Table 2.3.

Survey Item Distribution

Survey Section	# of items	Range of Items
Program of Study	1	1
Academic Continuation Intent	1	2
Academic Buoyancy	4	3-6
Academic Motivation	28	7-32
Demographic Variables	4	33-36
Total Items	36	

Note. Optional questions are not listed in the table.

Validity and Reliability for the Academic Buoyancy Scale (ABS)

Various research studies have demonstrated the validity and reliability of the ABS across different student populations, including those in primary, secondary, and post-secondary education. There is good test-retest reliability and internal consistency with the ABS, indicating it is a reliable measure of academic buoyancy (Martin, 2008). Cronbach's alpha coefficient for ABS is reliable from internal consistency and test-retest perspectives (Time 1 Cronbach's $\alpha = .80$; Time 2 Cronbach's $\alpha = .82$; test-retest $r = .67$) (p. 63). The construct validity reveals a positive correlation exists between academic achievement, academic self-efficacy, and academic motivation in the ABS. In contrast, a negative correlation does not exist between academic stress and anxiety and the ABS. Additionally, the criterion validity of the ABS demonstrates good criterion validity, as it can predict academic achievement over time and distinguish between high-performing and low-performing students. The reliability for academic buoyancy factor loadings and Cronbach's alpha is below in Table 2.4.

Table 2.4

Reliability for Academic Buoyancy Factor Loadings and Cronbach's Alpha

Academic Buoyancy Scale	Factor Loadings
“I'm good at dealing with setbacks (e.g., bad mark, negative feedback on my work)”	67/71
“I don't let study stress get on top of me”	67/63

Table 2.4 (continued)

“I think I'm good at dealing with schoolwork pressures”	77/78
“I don't let a bad mark affect my confidence”	72/74
Cronbach's Alpha	80/82
Test-retest r	.67

Note 1. Factor loadings (time 1/time 2).

Note 2. Decimals omitted.

Note 3: All loadings were significant at $p < 0.05$.

Validity and Reliability for the Academic Motivation Scale (AMS-C 28)

In survey research, reliability, and validity do not necessarily mean reliability, and validity means little if the measure is unreliable (Nardi, 2016, p. 63). Research has consistently demonstrated the validity and reliability of the AMS-C 28 across different college student populations. The AMS-C 28 has been found to have good internal consistency and test-retest reliability, as previously mentioned in this chapter, indicating that it is a reliable measure of academic motivation over time (Vallerand et al., 1992). The AMS-C 28's Cronbach's alpha coefficient varied from 0.71 to 0.90 in several analyses, showing good internal consistency. The test-retest confirmed the AMS-C 28's reliability. The research data indicate a correlation between 0.68 and 0.90. According to research by Vallerand et al. (1992), evidence suggests a positive connection between the validity of the AMS-C 28 and academic performance, academic self-efficacy, and academic engagement, as well as a negative

correlation with procrastination and academic disengagement. In addition to distinguishing between high- and low-achieving learners and evaluating academic advancement, the instrument offers an essential criterion of validity. The reliability of academic motivation, including Cronbach's alpha, can be found below in Table 2.5, providing a robust assessment of the internal consistency and stability of the motivation measures employed in the study.

Table 2.5

Reliability for Academic Motivation

Academic Motivation Subscale	Cronbach's Alpha
Intrinsic motivation - to know	0.714
Intrinsic motivation - toward accomplishment	0.781
Intrinsic motivation - to experience stimulation	0.797
Extrinsic motivation – identified	0.620
Extrinsic motivation – introjected	0.608
Extrinsic motivation - external regulation	0.769
Amotivation	0.775

Table 2.5 *Reliability for Academic Motivation* as Found in Vallerand, R. J., Pelletier, L. G., Blais, M. R., Brière, N. M., Senécal, C. B., & Vallières, É. F. (1993) *Academic Motivation*

Scale (AMS-C 28) College (CEGEP) Version Educational and Psychological Measurement, 52 (53), 1992-1993.

Survey Research

Nardi (2014) emphasized that survey research involves asking a sample of individuals—a population—questions and then analyzing their responses to collect information about their lives (p. 72). The Academic Buoyancy Scale (ABS) and Academic Motivation Scale (AMS-C 28) were compiled and developed into a web-based survey. The survey was created using a web-based program called Qualtrics. The web survey was initially created as a Word document and converted to an online version. This study used data from a survey administered to the 58 community colleges in the NCCCS, including one private health sciences college offering allied health diploma and degree pathways. The survey covered five areas: program of study, academic continuation intent, academic buoyancy scale, academic motivation scale, and student demographics, including two optional questions. Qualtrics is the online tool where the researcher compiled, developed, and distributed the survey by email to the gatekeepers to forward to the respondents. Email was the appropriate form to conduct self-administered survey questionnaires (Nardi, 2003). Such an instrument proved to be an efficient tool for studying large samples of respondents and collecting data quickly (Nardi, 2003, p. 59).

Data Collection

The North Carolina State University Institutional Review Board (IRB) requested that the community college's IRB approve the survey research study under minimal risk. Data

collection began on July 13, 2023, and the last recorded and completed survey was on October 3, 2023. The survey was closed on October 3, 2023. To encourage a seamless data collection process for the respondents, the consent highlighted the study rationale, including confidentiality of the information provided to the researcher. The consent within the survey, including a cover page, includes the researcher's appreciation for the respondents' time to participate in the survey study, guided steps on how to access the survey, and risks were provided to all gatekeepers to forward to all respondents. Subsequently, before the respondents were able to proceed with the survey, they were advised, "By clicking next, you are stating that you have read the informed consent and have been given opportunities to ask questions via email or phone concerning the research, and consent to participate in the study." The survey was emailed to all North Carolina Community College System health science deans, including a health sciences director at a private institution, requesting support to forward to currently enrolled health science students. Respondents were given specific instructions on how to complete the survey successfully. Respondents' confidentiality was maintained via the researcher's Qualtrics secure site, which only the researcher had access to for this study.

More importantly, the researcher saved all data and secured it on a password-protected personal laptop where no one else could access any respondents' information. This study's data collection process occurred in eleven steps, as shown in Table 2.6.

Table 2.6.

Data collection steps for this study

Numerical Order	Steps in the Process
Step 1	Identified gatekeepers
Step 2	Received approval from NCSU IRB
Step 3	Requested permission from gatekeepers to distribute research online survey link with embedded consent via email
Step 4	Sent out invitation letters via email to approved gatekeepers for informed consent, including an online survey link
Step 5	Sent Consent and Survey Link to Agreeing gatekeepers to forward to Participating Students
Step 6	Sent Second Request Letter and Survey Link to gatekeepers to forward to Participating Students
Step 7	Sent Thank You Follow-Up Email
Step 8	Sent Compensation Awards to Winners
Step 9	Import data into SPSS and perform descriptive analysis
Step 10	Dummy the demographics

Table 2.6 (continued)

Step 11	Transformed instrument subscales and recoded into different variables
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Data Analysis

The study's data analysis was conducted using the latest Statistical Package for Social Sciences (SPSS) version. Descriptive statistics were analyzed to report the mean, standard deviation (SD), and frequency for the first research question variables: the Academic Buoyancy subscale score, Academic Motivation sub-scale score, and demographic variables. The Likert scales were analyzed using Pearson Correlation for the second research question variables, including the Academic Buoyancy subscale score and Academic Motivation subscale score, to determine the strength of the relationship between academic buoyancy and academic motivation. The final data analysis applied the Binary Logistic Regression for the third and final research question variables, including the Academic Buoyancy subscale score, Academic Motivation subscale score, demographic variables, and intent/no intent. The intent/no intent variable was analyzed as a nominal dichotomous, requiring a binary logistic regression analysis to address the research question. Table 2.7 will provide a data analysis table illustrating the steps taken during the data analysis. Creswell and Creswell (2017) recommend that researchers present the steps during the data analysis (p. 156)

Table 2.7.

Data Analysis Steps in Numerical Order

Numerical Steps	Data Analysis
Step 1	Perform Preliminary Data Analysis (observing missing data, detecting outliers, and testing assumptions)
Step 2	Identify Variables
Step 3	Enter Data into SPSS
Step 4	Perform Descriptive Analysis
Step 5	Perform Pearson Correlation and Binary Logistic Regression
Step 6	Present the Results

Table 2.7 Data analysis steps in numerical order. as found in Creswell, J. W., and Creswell, J. D. (2017). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. SAGE Publications.

Table 2.8.

Data Analysis Procedures

Research Question	Statistical Analysis
1	Descriptive (Means, <i>SD</i> , Frequencies, Percents)
2	Correlations
3	Regression

Ethical Considerations

Ethical considerations were taken for this study, including obtaining the appropriate IRB approval, confidentiality of respondents, and data handling. Before the data collection for this study commenced, IRB approval was obtained from North Carolina State University. The researcher protected all respondents' confidentiality. Their privacy was maintained via the researcher's Qualtrics secure site, which only the researcher could access for the duration of this study. More importantly, the researcher kept all data saved and secured using a password-protected personal laptop where no one else could access any respondents' personal information. Post the dissertation final defense and with the dissertation chair's approval, all data was erased from the researcher's personal laptop, and the Qualtrics database was deleted. Lastly, to further protect the privacy of all respondents, the researcher did not request the

respondents to enclose their name, student ID, or any other identifying information on the survey or at any point in this research study.

Chapter Summary

The chapter provided the methodology for the research study. Additionally, the chapter discussed the collection process, the data analysis steps, and the timeline to conduct the research study. Finally, the chapter explained the validity and reliability of the two instruments used in the study, including those that had support in the literature. Chapter four will present the findings of this research study.

CHAPTER 4: FINDINGS

Introduction

This study examined the relationship between academic buoyancy and academic motivation and how they relate to students' demographics and academic continuation intent. This chapter presents data analysis and findings among community college health science students in the NCCCS. This chapter examines how the data was analyzed to answer the study's research questions:

Research Question 1: What are the demographics, levels of academic buoyancy, levels of academic motivation, and academic continuation intent in postsecondary health science CTE students?

Research Question 2: Are there relationships between academic motivation, buoyancy, continuation intent, and student demographics in postsecondary health science CTE students as measured by the Academic Buoyancy Scale (ABS) and the Academic Motivation Scale (AMS)?

Research Question 3: Do academic buoyancy, academic motivation, and demographic variables, including age, gender, and race/ethnicity, explain a significant amount of variance (meaningful relationship) of academic continuation intent in postsecondary health science CTE students?

Data were collected in Qualtrics using items requesting the respondents's program of study, intent to enroll, the *Academic Buoyancy Scale (ABS)*, developed by Martin and Marsh (2008), and the *Academic Motivation Scale-College (AMS-C 28)*, developed by Vallerand et al. (1992), and demographic variables. The *Academic Buoyancy Scale (ABS)* included four

items that measured respondents' reactions to everyday academic challenges using a 7-point Likert scale, which ranged from 1 to 7 to assess academic buoyancy with 1 (strongly disagree), 2 (disagree), 3 (somewhat disagree), 4 (neither agree nor disagree), 5 (somewhat agree), 6 (agree), and 7 (strongly agree). *Academic Motivation Scale-College (AMS-C 28)* included 28 items, which assesses seven motivational constructs: intrinsic motivation-to know, intrinsic motivation-toward accomplishment, intrinsic motivation-to experience stimulation, extrinsic motivation-identified, extrinsic motivation-introjected, extrinsic motivation-external regulation, and, amotivation. The survey responses used a 7-point Likert scale that ranged from 1 (does not correspond at all), 2 (corresponds very little), 3 (corresponds a little), 4 (corresponds moderately), 5 (corresponds enough), 6 (corresponds a lot), and 7 (corresponds exactly).

Research Questions & Findings

Research Question 1: What are the demographics, levels of academic buoyancy, levels of academic motivation, and academic continuation intent in postsecondary health science CTE students? To answer the research question, each analysis component was structured systematically, investigating each component-demographics, academic buoyancy, academic motivation, and academic continuation intent. Academic buoyancy comprises four items, and academic motivation has seven factors, each of which will be analyzed separately.

Demographics

The demographic information collected in the study serves as a crucial component for conducting a more comprehensive and nuanced analysis of the research findings. These

demographic characteristics encompass key factors such as gender, age, race, and ethnicity. These can significantly impact the study's outcomes and offer valuable insights into potential patterns or variations within the respondents' sample. Table 3.1 serves as a detailed repository of this demographic data, providing frequencies and percentages for each characteristic, thereby affording researchers a clearer understanding of the composition of the study's respondents group and aiding in interpreting research outcomes through a lens of diversity and representation.

Table 3.1

Frequency and Percent of respondents' Gender, Age, and Race/Ethnicity

	Respondents	
	<i>F</i>	%
Gender		
Female	92	87.6
Male	8	7.6
Chose to not identify	3	2.9
Chose to not report	2	1.9
	Total 105	100
Age Range		
18-25	62	59.0

Table 3.1 (continued)

26-33	15	14.3
34+	25	23.8
Chose to not identify	1	1.0
Chose to not to report	2	1.9
Total	105	100
Race		
American Indian	1	1.0
Asian	1	1.0
Black	15	14.3
White	72	68.6
Chose not to identify	14	13.3
Chose to not to report	2	1.9
Total	105	100
Ethnicity		
Hispanic/Latino	23	21.9
Not Hispanic/Latino	76	72.4
Chose not to identify	4	3.8

Table 3.1 (continued)

Chose to not to report	2	1.9
Total	105	100

Note. Each respondent did not complete all demographic questions.

The respondents in the study were comprised of a total frequency of ($f=105$, 100%) where 7.6% ($n = 8$) were male, 92% ($n = 87.6$) were female, 2.9% ($n = 3$) chose not to identify, and only 1.9% ($n = 2$) did not report gender. Of the respondents, both American Indian or Alaska Native and Asian were 1% ($n = 1$). Of the respondents, 14.3% ($n = 15$) were Black or African American. Of the respondents, the majority of the responses were White ($n = 72$, 68.6%); of the respondents, 13.3% ($n = 14$) chose not to answer race, and only 1.9% ($n = 2$) did not report race. Of the respondents, 21.9% ($n = 23$) were Hispanic or Latino or of Spanish Origin, and the majority of the respondents were Not Hispanic or Latino or of Spanish Origin ($n = 76$, 72.4%), and of the respondents, only ($n = 2$) did not report ethnicity. The demographics were recoded as dummy variables for the regression analysis in this chapter in Table 4.6 Logistic Regression Coefficients Predicting Continuation Intent.

Academic Buoyancy

The Academic Buoyancy Scale consists of questions gauging students' ability to cope with daily academic pressures and setbacks. The data analysis comprised of $N = 105$ respondents. Each question was rated on a scale ranging from 1.0 (strongly disagree) to 7.0 (strongly agree). Question one on the academic buoyancy scale, I do not let study stress get on

top me, has a reported mean of 3.84, suggesting a slightly neutral agreement and an *SD* of 1.777, indicating that respondents had varied experiences with study stress. Question two, I think I am good at dealing with schoolwork pressures, reported a range of 3.88, closer to the neutral point and the highest standard deviation (*SD* = 1.833), indicating that respondents varied feelings regarding handling schoolwork pressures. Question three, I do not let a bad mark affect my confidence, reported a range of 4.92 and a minor standard deviation (*SD* = 1.472), reporting that the respondents' responses clustered around the average. Question four, I am good at dealing with setbacks at school (e.g., bad marks, negative feedback on my work), reported a range of 4.70, suggesting that students believe that they can handle setbacks at school relatively well and an (*SD* = 1.664) indicating a moderate diverse spread in responses among respondents. On average, the respondents strongly agreed with; I do not let a bad mark affect my confidence ($M = 4.92, SD = 1.472$), agreed with “I am good at dealing with setbacks at school (e.g., bad mark, negative feedback on my work) ($M = 4.70, SD = 1.664$), and reported on average a neutral reaction to I do not let study stress get on top me ($M = 3.84, SD = 1.777$), and I think I am good at dealing with school work pressures ($M = 3.88, SD = 1.833$) statements. The Academic Buoyancy Scale is a validated and widely used instrument designed to assess students' capacity to withstand and rebound from academic setbacks while maintaining a positive and resilient attitude in the face of challenges.

Table 3.2*Minimum, Maximum, Mean, and Standard Deviation of Respondents' Academic Buoyancy*

	Respondents				
	<i>N</i>	MIN	MAX	<i>M</i>	<i>SD</i>
Academic Buoyancy Scale					
I do not let study stress get on top of me.	105	1.0	7.0	3.84	1.777
I think I am good at dealing with schoolwork pressures.	105	1.0	7.0	3.88	1.833
I do not let a bad mark affect my confidence.	105	1.0	7.0	4.92	1.472
I am good at dealing with setbacks at school (e.g., bad marks, negative feedback on my work).	105	1.0	7.0	4.70	1.664

Note. Neutral reaction averages around 4.0 indicate neutral reactions to the statements.

Academic Motivation

Academic motivation includes the seven factors that highlight distinct facets of motivation. By reporting each individually, researchers and educators can pinpoint specific aspects of motivation that may need attention. This granularity enables targeted interventions,

ensuring that specific motivational challenges are addressed directly (Vallerand et al., 1992).

The summated scale consists of multiple items designed to tap into a single construct, with respondents indicating their level of agreement on a predefined scale. The total scores for each construct represent the sum of responses to these items, providing a comprehensive measure of each motivational type.

Table 3.3 reports the descriptive statistics of academic motivation, including the number of items and minimum, maximum, mean, and standard deviation of respondents' academic motivation.

Table 3.3

Number of Items, Minimum, Maximum, Mean, and Standard Deviation of Respondents' Academic Motivation

	Respondents				
	Number of Items	MIN	MAX	<i>M</i>	<i>SD</i>
Intrinsic motivation - to know	4.0	4.0	28.00	20.9	5.7
Intrinsic motivation - toward accomplishment	4.0	4.0	28.00	19.4	5.8
Intrinsic motivation - to experience stimulation	4.0	4.0	27.00	13.3	6.4
Extrinsic motivation – identified	4.0	4.0	28.00	23.6	4.5
Extrinsic motivation introjected	4.0	4.0	28.00	20.8	6.0

Table 3.3 (continued)

Extrinsic motivation - external regulation	4.0	4.0	28.00	21.1	5.5
Amotivation	4.0	4.0	28.00	21.1	5.5

Note. Item numbers associated with each construct are as follows: Intrinsic motivation - to know (#2, 9, 16, 23), Intrinsic motivation-toward accomplishment (#6, 13, 20, 27), Intrinsic motivation-to experience stimulation (#4, 11, 18, 25), Extrinsic motivation-identified (#3, 10, 17, 24), Extrinsic motivation-introjected (#7, 14, 21, 28), Extrinsic motivation-external regulation (#1, 8, 15, 22), and Amotivation (#5, 12, 19, 26). Likert scale 7-point Likert scale that ranged from 1 (does not correspond at all), 2 (corresponds very little), 3 (corresponds a little), 4 (corresponds moderately), 5 (corresponds enough), 6 (corresponds a lot), and 7 (corresponds exactly).

Intrinsic and extrinsic motivational constructs were assessed using a structured summated scale survey. Intrinsic motivation-to know the summated scale, captured in items #2, 9, 16, and 23, reported a ($M = 20.9333$, $SD = 5.69289$). Intrinsic motivation - toward accomplishment items #6, 13, 20, 27, reported a ($M = 19.4286$, $SD = 5.76771$), and intrinsic motivation - to experience stimulation items #4, 11, 18, 25, reported ($M = 13.3143$, $SD = 6.37953$). Intrinsic motivation to know and Intrinsic motivation toward accomplishment have the highest summated score of (Maximum = 28.0) for intrinsic motivations. Extrinsic motivation identified items #3, 10, 17, and 24, reported ($M = 23.5714$, $SD = 4.46106$). Extrinsic motivation-introjected, items #7, 14, 21, 28 reported ($M = 20.8476$, $SD = 6.01565$), and extrinsic motivation-external regulation, items #1, 8, 15, 22 reported ($M = 21.0571$, $SD =$

5.54324). Of particular note, the amotivation construct comprising items #5, 12, 19, and 26 indicated a generally low motivational level with a score ranging from 4.0 to 16.0 and a mean score of 5.4952 ($SD = 2.89603$). Among the constructs, extrinsic motivation–identified recorded the highest summated score, whereas amotivation exhibited the lowest.

Academic Continuation Intent

This study examined students' intentions to pursue advanced degrees in the health sciences after completing their current program of study. The table below offers a detailed view of respondents' enrollment inclinations.

Table 3.4

Frequencies and Percentages of Respondents' Intent to Enroll

	Respondents	
	<i>F</i>	%
Intent	59	56.2
No Intent	23	21.9
Undecided	23	21.9

The respondents in the study were comprised of a total frequency of ($f=105$, 100%), where 56.2% ($f = 59$) formed the majority, expressing academic continuation intent. Only 21.9% ($f = 23$) reported certainty of no academic continuation intent, and 21.9% ($f = 23$) of the respondents were uncertain about their future academic continuation intent. While a majority of respondents lean towards academic continuation intent, a significant proportion

remains undecided. The data underscores the importance of understanding students' academic inclinations and providing adequate resources and information to guide the undecided in making informed choices about their academic future.

Research Question 2: Are there relationships between academic motivation, buoyancy, continuation intent, and student demographics in postsecondary health science CTE students as measured by the Academic Buoyancy Scale (ABS) and the Academic Motivation Scale (AMS)? Table 4.5 provides the correlation analysis to discern the relationship between academic motivation, buoyancy, continuation intent, and student demographics among postsecondary CTE health science students.

Table 3.5

Research Question 2: Pearson Correlation Analysis

Variable	1	2	3	4	5	6	7
1. total_MOTIVATION	-	.232*	.153*	-.010	-.010	.107	-.038
2. total_AB		-	.082	.122	-.120	.098	.028
3. Continuation Intent			-	.076	.105	.045	-.043
4. Female				-	-.182	.157	.059
5. White					-	.145	-.237*
6. trad_age						-	.347**
7. Hispanic							-

Note. *Correlation is significant at the 0.05 level (2-tailed), **Correlation is significant at the 0.01 level (2-tailed).

A two-tailed Pearson (r) correlation among selected variables. The values in Table 3.5 represent the strength and direction of the relationship between the variables. Several key findings emerged. There was a strong positive and statistically significant Pearson correlation found between total_MOTIVATION and continuation intent ($r = .153$, $p < .05$), indicating that students with higher total_MOTIVATION scores are more likely to have continuation intent; no other statistically significant correlations were observed for continuation intent. A small positive and statistically significant ($r = .232$, $p < .05$) existed between total_MOTIVATION and total_AB. No significant significance was observed with the demographic variables (female, white, trad_age, or Hispanic). Total_AB reported no significant significance with any of the other variables in the study, including continuation intent. The strongest correlation reported a strong positive correlation between trad_age and Hispanic ($r = .347$, $p < .01$).

Research Question 3 Do academic buoyancy, academic motivation, and demographic variables, including age, gender, and race/ethnicity, explain a significant amount of variance of academic continuation intent in postsecondary health science CTE students? Table 4.6 reports the effects of academic buoyancy, academic motivation, and demographic variables on the likelihood that postsecondary health science CTE students intend to continue their academic endeavors post-completion of their current program of study.

Table 3.6*Logistic Regression Coefficients Predicting Continuation Intent*

	<i>B</i>	S.E.	Wald.	<i>Df</i>	<i>p</i>	Exp(B)
Female(1)	.42	.66	.41	1	.52	1.52
White(1)	.19	.51	.13	1	.72	1.20
trad_age(1)	.27	.50	.29	1	.59	1.31
Hispanic(1)	-.08	.60	.02	1	.90	.92
total_IMTK	-0.20	.07	.07	1	.80	.98
total_IMTA	-.05	.07	.52	1	.47	1.05
total_IMTES	-0.28	.05	.37	1	.54	0.97
total_EMID	0.07	0.07	0.92	1	0.34	1.07
total_EMIN	0.11	0.08	1.94	1	0.16	1.11
total_EMER	-0.12	0.06	4.10	1	0.04*	0.89
total_AMOT	-0.19	0.09	0.04	1	0.84	0.98
total_AB	0.01	0.05	0.35	1	0.85	1.01

Note: Dummy coded variables are denoted with (1), p-values: values ≤ 0.05 suggest statistical significance and are denoted with *.

The Binomial logistic regression reports that females are 1.52 times more likely to continue their academic endeavors after completing their current program of study than males. However, this result is not statistically significant, $p = .52$, and males did not have a high representation, which could influence the observed results reported in Table 3.6. The race category was dummy-coded, with white being the reference category compared to non-white students. The data reported that white students are 1.20 times more likely to continue their education post-completion of their current program of study. However, this demographic variable result was not statistically significant, $p = .72$. Moreover, the non-white student group did not have a high representation, which could influence the observed results reported in Table 4.6 and their generalizability to a broader diverse population. Age was dummy coded for the regression reporting that traditional-age students were 1.31 times more likely to continue their education post-completion of their current program of study than non-traditional students; however, traditional-age results were not statistically significant, $p = .59$. Ethnicity was the last demographic variable within the regression that was dummy-coded to Hispanic, and the results indicated that Hispanic students were .92 less likely to continue their education post-completion of their current program of study than non-Hispanic students. However, this result was not statistically significant, $p = .90$. It should be noted that the non-Hispanic student group did not have a high representation, which could influence the observed results reported in Table 4.6 and their generalizability to a broader diverse population. No demographics (gender, race, age, or ethnicity) were significant predictors of academic continuation intent, nor was significance established in most academic variables.

Intrinsic motivation to know (total_IMTK) reported for every one-point increase on the total_IMTK subscale of the Academic Motivation Scale (AMS-C), which uses a 7-point

Likert scale, the odds of academic continuation intent decreases by 1.9% ($\text{Exp}(B) = 0.98$). However, this was not statistically significant, $p = .80$. Intrinsic Motivation to Accomplish (total_IMTA) reported for every one-point increase on the total_IMTA scale of AMS-C, measured on a 7-point Likert scale, the odds of academic continuation intent increased by 5.1% ($\text{Exp}(B) = 1.05$). However, this was not statistically significant, $p = .470$. Intrinsic Motivation to Experience Stimulation (total_IMTES) reported for every one-point increase on the total_IMTES subscale of the AMS-C, measured on a 7-point Likert scale, the odds of academic continuation intent decreased by 2.8% ($\text{Exp}(B) = 0.97$). However, this was not statistically significant $p = 0.54$. Extrinsic Motivation–Identified (total_EMID) reported for every one-point increase on the total_EMID subscale of the AMS-C, measured on a 7-point Likert scale, the odds of academic continuation intent increased by 7.4% ($\text{Exp}(B) = 1.07$). However, this was not statistically significant, $p = 0.34$. Extrinsic Motivation-Introjected (total_EMIN) reported for every one-point increase on the total_EMIN scale of the AMS-C, measured on a 7-point Likert scale, the odds of academic continuation intent increased by 10.5% ($\text{Exp}(B) = 1.11$). However, this was not statistically significant $p = 0.16$. Extrinsic Motivation-External Regulation (total_EMER) reported for every one-point increase on the total_EMER subscale of the AMS-C, measured on a 7-point Likert scale, the odds of academic continuation intent decreased by 11.4% ($\text{Exp}(B) = 0.89$). This result was statistically significant, $p = 0.04^*$. The last of the motivation variables, total_AMOT (Amotivation), reported for every one-point increase on the total_AMOT subscale of the AMS-C, measured on a 7-point Likert scale, the odds of academic continuation intent decreased by 1.9% ($\text{Exp}(B) = 0.98$). However, this was not statistically significant, $p = 0.84$. Academic Buoyancy (total_AB), including an aggregate of the four questions making up the Academic Buoyancy

Scale (ABS) (“I am good at dealing with setbacks (e.g., bad mark, negative feedback on my work), “I do not let study stress get on top of me,” “I think I am good at dealing with schoolwork pressures,” “I do not let a bad mark affect my confidence”) reported for every one-point increase on the total_AB subscale of the ABS, also measured on a 7-point Likert scale, the odds of academic continuation intent decreased by 1.9% ($\text{Exp}(B) = 1.01$), and this was not statistically significant, $p = 0.85$.

Table 3.7

R-square by block using academic continuation intent as the dependent variable

Model	Cox and Snell R^2	Nagelkerke R^2
1	0.12	0.16

Testing the overall fit of the logistic regression model commenced by examining the Cox and Snell R^2 (Model 1 = 0.12) and Nagelkerke R^2 (Model 1 = 0.16). The values range from 0–1. Values closer to 1 indicate a higher fit of the overall logistic regression model. The model is not statistically significant.

Chapter Summary

This chapter reported the demographics, levels of academic buoyancy, academic motivation, academic continuation intent, and logistic regression analysis examined the influence of academic buoyancy, academic motivation, and demographic variables such as gender, race, age, and ethnicity on the intent of postsecondary health science CTE students to continue their academic pursuits after completing their current program of study. The demographic analysis revealed a significant majority of female respondents (87.6%) with a predominant representation of White individuals (68.6%). The academic buoyancy analysis

reported that the respondents expressed a small positive response to handling study stresses and setbacks. The academic motivation analysis reported extrinsic motivation-identified, and recorded the highest summative score; 56.2% of the respondents expressed an academic continuation intent.

In comparison, 43.8% of the respondents were undecided or did not intend to continue. A Pearson correlation analysis investigated the relationships between academic motivation, buoyancy, continuation intent, and demographic variables. The results reported a positive correlation between total motivation and continuation intent. Academic buoyancy did not report a significant correlation with other variables in the study, including continuation intent. The logistic regression reported that no demographic variables significantly predicted academic continuation intent. Extrinsic Motivation-External Regulation (total_EMER) was the only academic motivation subscale that reported statistical significance, revealing that the odds of academic continuation intent decreased by 11.4% for each one-point increase on its subscale. Most other academic variables were not statistically significant predictors of academic continuation intent. When assessing the model fit of the logistic regression model, Cox & Snell and Nagelkerke R^2 reported that the model's fit was relatively low and not statistically significant.

CHAPTER 5: DISCUSSION

“A smooth sea never made a skilled sailor.”

~Franklin D. Roosevelt

Introduction

Academic achievement in postsecondary education, specifically within the community college system, is complex, with factors influencing a student’s academic trajectory. Academic buoyancy refers to a student’s resilience in navigating the everyday challenges encountered in an academic environment (Martin, 2013). This ability to stay afloat amidst routine obstacles is essential as students embark on their journey through the community college and beyond. This study aimed to investigate health science students' academic buoyancy and motivation influencing their academic continuation intent. This chapter summarizes the study, including a review of the findings, conclusions, recommendations, suggestions for future research, and study limitations. Academic buoyancy and motivation were the focus of this study, investigating the relationships between the two and the impact on academic continuation intentions of health science students. Academic buoyancy refers to students' ability to cope with everyday challenges in academic settings. Buoyancy is essential as students navigate routine obstacles during their community college journey. Martin and Marsh’s research has shown that academic buoyancy is separate from other constructs used to measure motivation. Academic resilience often pertains to bouncing back from adversities, while buoyancy focuses solely on the daily and routine challenges students face in an

academic environment (Martin & Marsh, 2006; 2008a; 2008b; 2009; Martin et al., 2017). Wang and Gordon (1994) suggested that academic resilience increases the probability of academic success. Academic resilience is about the ability of students to navigate the educational landscape and maintain determination and motivation to press forward regardless of challenges. Martin and Marsh (2009) explained further, highlighting that academic resilience is not only about short-term buoyancy or daily challenges; it is about a student's prolonged ability to overcome severe or chronic challenges. These challenges can be considered impactful threats to academic success and could significantly impact a student's academic continuation intent. Academic continuation intent was the predictor variable of a student's academic attainment in the community college. Independent variables included two instruments measured on a 7-point Likert scale. Demographics were measured by gender, age, and race/ethnicity.

Discussion of Findings

Research Question 1: What are the demographics, levels of academic buoyancy, levels of academic motivation, and academic continuation intent in postsecondary health science CTE students?

A descriptive analysis of the data was conducted in frequencies and percentages. Of the total 105 respondents, 7.6% ($n = 8$) were male, 87.6% ($n = 92$) were female, and 2.9% ($n = 3$) chose not to answer, and only 1.9% ($n = 2$) did not report gender. Of the total 105 respondents, both American Indian or Alaska Native and Asian reported 1% ($n = 1$). Of the 105 respondents, 14.3% ($n = 15$) were Black or African American, The majority of the respondents were White ($n = 72$, 68.6%), 13.3% ($n = 14$) chose not to answer race, and only

1.9% ($n = 2$) did not report race; Of the 105 respondents, 21.9% ($n = 23$) were Hispanic or Latino or of Spanish Origin, and the majority of the respondents were Not Hispanic or Latino or of Spanish Origin ($n = 76$, 72.4%), and of the 105 respondents only ($n = 2$) did not report ethnicity. The highest reported mean on the Academic Buoyancy Scale was recorded for question #4, "I do not let a bad mark affect my confidence" ($M = 4.92$, $SD = 1.472$). Question #1, "I am good at dealing with setbacks (e.g., bad marks, negative feedback on my work)," reported a mean of ($M = 4.70$, $SD = 1.664$). Question #3, "I think I am good at dealing with schoolwork pressures," reported an ($M = 3.88$, $SD = 1.833$), and question #2, "I do not let study stress get on top of me" reported ($M = 3.84$, $SD = 1.777$). The Academic Motivation Scale assessed intrinsic, extrinsic, and amotivation motivational constructs. Intrinsic motivation- towards accomplishment had the highest reported mean of 20.9333. Intrinsic motivation-to-know reported the second-highest mean score of 19.4286. Intrinsic motivation-to-experience stimulation reported a mean score of 13.3143. Extrinsic motivation-identified had the highest mean of 23.5714, followed closely by external regulation with a reported mean of 21.0571, and introjected reported a mean of 20.8476. Extrinsic motivation-identified, reported as the highest among extrinsic motivators, suggests that the respondents recognize the external benefits and relevance of their academic pursuits. This could indicate their understanding of the value of their health science education concerning future academic and career goals.

Conclusion one. The findings in research question one underscore similarities in the literature. There was a noticeable gender disparity in health science CTE students, with females representing 87.6% of 105 respondents. This finding aligns with (Bureau of Labor Statistics, 2021) research highlighting consistent gender imbalance in female majority health-

related education disciplines and careers. The racial demographics are predominately white in this study, representing 68.6%, which mirrors trends in postsecondary health science education (Howard et al., 2022). Question 4 on the academic buoyancy scale, “I do not let a bad mark affect my confidence, reported a mean of 4.92 with a score range of 1 to 7; results reflect the respondents’ daily resilience, especially in the face of setbacks, which is promising for the respondent’s future academic endeavors. However, the neutral stance reported in question 2 of the academic buoyancy scale, “I do not let study stress get on top of me,” and question 3, “I think I am good at dealing with schoolwork pressures,” reported a mean of 3.84 and 3.88 which highlights potential academic vulnerabilities. This finding resonates with past literature, suggesting that health science students were often prone to burnout and stress (Gallagher et al., 2017). Intrinsic motivation-to know and toward accomplishment reflects the respondents’ inherent curiosity and desire for academic achievement. These findings align with Deci et al. (1991) self-determination theory, which suggests that intrinsic motivation is characterized by engaging in activities for the pleasure and satisfaction they bring and maintaining perseverance in academic settings. The strong high means reported in these constructs suggest that most respondents are driven by an intrinsic desire for knowledge and accomplishment, which is critical for sustained academic engagement (Ryan & Deci, 2000). The findings are consistent with the literature, as Gagné and Deci (2005) mention that external motivation, while beneficial in certain academic contexts, may not always be fostered as strongly as intrinsic motivations (Gagné & Deci, 2005). Amotivation had the lowest reported mean score of 5.4952, indicating a low motivational level among some respondents. These findings align with the literature suggesting that postsecondary students often display increased amotivation due to multiple stressors (Vallerand et al., 1992). Academic

continuation intent reported that of the 105 respondents, 56.2% intend to continue their academic journey. An equivocal proportion ($f = 23, 21.9\%$) reported uncertainty about their academic continuation intentions or reported they would not continue.

Research Question 2: Are there relationships between academic motivation, buoyancy, continuation intent, and student demographics in postsecondary health science CTE students as measured by the Academic Buoyancy Scale (ABS) and the Academic Motivation Scale (AMS)?

A two-tailed Pearson (r) correlation was used to measure the strength and direction of the relationship between the variables. The Pearson correlation revealed a strong positive relationship between total_MOTIVATION and continuation intent. The Pearson correlation revealed a small positive correlation between total_MOTIVATION and total_AB. Hispanic and trad_age reported the strongest correlational strength of ($r = .347, p < .01$). No other significant correlations were reported in this study.

Conclusion Two. These outcomes support research literature (Miller et al., 2013), indicating that higher education learners' academic buoyancy was associated with significant motivational results, namely, higher persistence, positive emotional results, academic success, well-being, and academic performance. In contrast, most research conducted on academic buoyancy is in elementary or high school educational settings (Martin & Marsh, 2008; Martin et al., 2010; Devi et al., 2019). No studies observed the correlational relationship between academic buoyancy, academic motivation, and the study's demographic variables.

Research Question 3: Do academic buoyancy, academic motivation, and demographic variables, including age, gender, and race/ethnicity, explain a significant amount of variance of academic continuation intent in postsecondary health science CTE students?

Binomial logistic regression was conducted to determine the effects of gender, race, age, ethnicity, and various academic motivation variables on students' likelihood to continue their academic endeavors after their current program. The logistic regression model for demographic variables showed no significant predictors of academic continuation intent. Specifically, female, $p = .520$; white, $p = .717$; trad_age, $p = .591$; and ethnicity, $p = .895$, were not statistically significant. Only total_EMER was statistically significant among academic motivation variables, $p = .043$, with an 11.4% decrease in the odds of academic continuation intent for every one-point increase on the AMS-C subscale. Other motivation variables, including Intrinsic total_IMTK, $p = .796$; total_IMTA, $p = .470$; and total_AB, $p = .851$, were not significant predictors. Detailed coefficients and effects are reported in Table 4.6. The statistics used to test the model were the Cox, Snell R^2 , and Nagelkerke R^2 . The overall model rate had an accuracy of 65.7%, making it a moderate predictor of academic continuation intent.

Conclusion Three. In alignment with this study's findings regarding Motivation-External Regulation (total_EMER). Bandura (1986) explains that actions that bring rewards are generally repeated, whereas those that bring unrewarding or punishing outcomes tend to be discarded (p. 228). On the contrary, Bandura (1997) stresses that individuals with high self-efficacy are more likely to be intrinsically motivated because they believe in their abilities to succeed, while those with low self-efficacy might rely more on external motivators if an individual's motivation to continue their academic endeavors is primarily based on external regulation.

Theoretical Implications

Two theories related to academic buoyancy and academic motivation form the theoretical framework of this study: self-determination theory and resilience theory. Ryan and Deci (2000b) noted that in self-determination theory (SDT), individuals must meet their innate psychological needs for autonomy, competence, and relatedness to remain motivated and well. External factors of motivation, such as external rewards, play a positive role in motivating people to persist in challenging academic tasks. According to Masten and Reed (2002), adaptive strategies can benefit students when dealing with adversity, which aligns with resilience theory.

The literature reveals several major theories that have been established concerning motivation in the education setting. In the context of postsecondary health science students, it is imperative to understand motivation to understand how to predict the direction, intensity, and persistence of learning behaviors to shape students' academic trajectory in the context of best practices in guiding students' academic trajectories (Urhahne & Wijnia, 2023). Findings from this study address the three research questions; this survey research study is contextualized within the frameworks of Self-Determination Theory (SDT) and Resilience Theory. According to Ryan and Deci's (2000) SDT, academic motivation, potentially impacting continuation intent, might be rooted in academic motivation significantly predicting academic continuation intent and highlighting the imperative role the multidimensional motivational roles and academic buoyancy play in postsecondary student academic continuation intent and perseverance (Ryan & Deci, 2000). Concurrently, the emphasis on academic buoyancy, reflecting students' capacity to adapt to academic challenges, aligns with Masten and Reed's (2002) Resilience Theory. The relationship reported in this study between

academic buoyancy and academic motivation underscores the crucial role of resilience in students' routine academic continuation intentions.

Limitations

The first limitation was that the study's duration may not have captured more respondents to report long-term patterns or statistically significant effects, garnering a more comprehensive understanding of the phenomena under investigation. Creswell and Creswell (2017) mention that results from a short-duration study might be influenced by the specific time the study was conducted. For instance, conducting a study during exam periods might yield different results regarding student motivation compared to regular classes, which has high implications for temporal bias (Yuan et al., 2021).

Another limitation of this study was the number of respondents. While the participation in the study was extended to all (58) institutions in the North Carolina Community College system, including one private institution, only 205 surveys were conducted. Of the 205 survey respondents, only 105 were completed and usable to conduct the study. Additionally, another limitation concerned the method used to select the study sample. Considering convenience samples, it is important to remember that bias could result in sampling errors and decreased study credibility, limiting its generalizability (Bhattacharjee, 2012). Furthermore, the existing literature underscores that regardless of the meticulousness with which researchers craft data-collection instruments like questionnaires, it is an inherent and acknowledged reality that some degree of error is inevitable (Babbie, 2013, p. 266). This acknowledgment emphasizes the need for researchers to employ robust validation processes,

ensure reliability, and remain vigilant in their efforts to minimize the potential sources of error that could affect the integrity and accuracy of their data.

Delimitations

This study's data included CTE health science programs within the North Carolina Community College System (NCCCS), including participation from one private institution. The specific demographic reported insights concerning academic buoyancy, motivation, and continuation intent amongst the demographic variables and the influence of the respondent's academic continuation intentions post-completion of their current program of study. The results of this study warrant careful consideration and interpretation, primarily due to the constraints imposed by the chosen sampling methodology. It is important to note that the sample was specifically limited to CTE (Career and Technical Education) health science students in North Carolina. This deliberate focus, while valuable for the study's objectives, introduces potential sources of bias that need to be acknowledged. Variability in educational systems, curricula, and regional characteristics within North Carolina may not fully capture the broader diversity of CTE health science programs across the United States. Consequently, generalizing the study's findings to encompass all CTE health science students nationwide should be cautiously approached, as the unique context and nuances of other regions may lead to different outcomes and trends. Researchers and practitioners outside the scope of this specific study should be mindful of these limitations and exercise prudence when applying its findings to their respective contexts.

Implications for Practice

Health science CTE students, including a private institution, were studied to determine the relationship among academic buoyancy, motivation, demographic variables, and academic continuation intent. The study's findings reported high Extrinsic Motivation-External Regulation and academic continuation intent (Deci et al., 1991). None of the demographic variables, including gender, race, age, and ethnicity, proved to be statistically significant predictors of academic continuation intent. Intrinsic motivation subscale reported a relationship with academic continuation intent; however, the relationship was not statistically significant. Ryan and Deci (2000) underscored the complexity of factors impacting student persistence. One may conclude that it is important to approach the findings in this study with caution due to the potential sample bias and underrepresentation of certain demographic variables, which might limit the generalizability to a broader population (Suárez-Orozco et al., 2011).

Implications for Practice #1–Tailored Motivation Interventions

This study reported Extrinsic Motivation-External Regulation and academic continuation intent to be statistically significant. Deci et al. (1991) argued that extrinsic rewards over time could lessen the effects on a student's intrinsic motivation, which leads to decreased interest and academic performance. Research suggests that students motivated primarily by external pressures or rewards might be less inclined to persist academically. Therefore, educational leaders should cautiously be approached and emphasize cultivating intrinsic motivation. Ryan & Deci (2000) suggested that self-determination theory (SDT) is vital for understanding the differentiation between types of motivation and their role in

learning and academic perseverance. Leaders might benefit from instructor-led academic instruction that stresses personal relevance, self-directed learning opportunities, and environments that nurture intrinsic motivation and curiosity (Stroetel et al., 2013). Research has explored the effects of motivational interventions on student retention. Dawson et al. (2017), for instance, utilized a predictive model to pinpoint first-year university students at risk regarding academic success and retention. They then initiated a program where these students received calls offering advice and support. The initial analyses used logistic regression, which reported a positive relationship between the motivational intervention and improved retention outcomes. The logistic report also found from the same study that retention could be attributed to the students' characteristics rather than the intervention in question, which is the reason for tailored motivational interventions (Herodotou et al., 2020). Tinto (2017) argues that early diagnostic assessments can be instrumental in identifying these characteristics, leading to more tailored motivational support strategies.

Implications for Practice #2–Diversity and Representation

No statistical significance concerning most demographic variables were reported in this study, including low representation of most demographic variables, which warrants educational leaders' attention. The underrepresentation could reflect the sample or indicate broader enrollment or retention challenges in NCCCS health science programs. Diverse student bodies are linked to enhanced creativity, richer discussions, and improved cognitive skills (Gurin et al., 2002). In light of this information, leaders should ensure inclusive recruitment and retention strategies. Underrepresented students' educational experiences and outcomes may differ significantly, emphasizing the need for adequate representation in

studies (Suárez-Orozco et al., 2011). The incorporation of perspectives of all demographic groups would enrich research and could aid in formulating more holistic strategies to support all students (Dodd et al., 2021).

Recommendations for Future Research

Recommendation #1–Investigate work-related stressors and burnout concerning buoyancy.

Martin and Marsh (2009). Buoyancy is a construct that concentrates on mitigating temporary difficulties encountered in college, such as the experience of isolated weak performance or periods of poor performance. College students are more prone to stress than non-college students, putting them at risk of developing symptoms of burnout that could lessen their likelihood of academic continuation intent. Educational institutions may wish to prioritize interventions focused on specific motivational subscales, especially those demonstrating a pronounced relationship with continuation intent, even without statistical significance in this study. For instance, the total_imtk subscale has patterns.

Educators must advocate positive motivational behaviors and become professionally developed to recognize some students' motivational challenges, as specified in this study. Tailored student interventions could produce effective and impactful outcomes and increase total motivation in students, inspiring them to want to continue on their academic journeys after their current program of study.

Recommendation #2–Investigating using a Case Study approach.

Research has reported that triangulation of the data using a mixed-methods approach that integrates quantitative and qualitative data allows researchers to delve deeper into the

specific phenomena (Creswell & Creswell, 2017). Furthermore, incorporating a case study is an effective method for exploring the specific circumstances and conditions in detail to elaborate on findings that reported findings of no statistical significance. Flyvbjerg (2006) argues that the case study methodology ensures flexibility, allowing researchers to recalibrate their strategies based on emerging data. Yin (2009) argued for the potency of case studies in revealing the underlying conditions and specifics that might get overlooked in broader quantitative analyses. While quantitative research studies identify and investigate the impact of only a few variables, qualitative research attempts to explore a host of factors that may be influential and impactful (Hancock & Algozzine, 2017).

Conclusion

Academic buoyancy and motivation in postsecondary health science CTE students are essential for a student's educational journey, given the multifaceted challenges some students face. Self-Determination Theory (SDT) and Resilience Theory were the frameworks undergirding this study to report the relationships between academic buoyancy, motivation, and continuation intent. The findings reported some statistical significance; however, the limitations surfaced from this study's duration, number of respondents, sampling method, and potential errors inherent in data-collection instruments necessitate cautious interpretation and generalization of the findings. Tailored motivational interventions could support student perseverance and provide practical implications for educators. Diversity and representation in health science CTE education were also reported as findings in this study. With careful consideration of this study's findings, implications for practice, and future research

recommendations, educators and institutional leaders can be better equipped to foster environments that nurture student success, resilience, and continued academic achievement.

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APPENDICES

Appendix A

Academic Buoyancy Scale Items

“I'm good at dealing with setbacks (e.g., bad mark, negative feedback on my work).”

“I don't let study stress get on top of me.”

“I think I'm good at dealing with schoolwork pressures.”

“I don't let a bad mark affect my confidence.”

ABS Scale

Andrew Martin <andrew.martin@unsw.edu.au>
To: Mercedes Kamoru <mbkamoru@ncsu.edu>

Sun, Mar 12, 2023 at 8:51 PM

Hi Mercedes

Thanks for getting in touch.

Here are the items for the Academic Buoyancy Scale - which you can use (and translate) with appropriate attribution (eg. Martin, A.J., & Marsh, H.W. (2008). Academic buoyancy: Towards an understanding of students' everyday academic resilience. *Journal of School Psychology, 46*, 53-83). This was previously a 6-item instrument and called the Academic Resilience Scale – but was subsequently reduced to 4 items and renamed the Academic Buoyancy Scale in the Martin and Marsh (2008) publication cited above.

The items are rated on a 1 (Strongly Disagree) to 7 (Strongly Agree) scale:

1. I don't let study stress get on top of me
2. I think I'm good at dealing with schoolwork pressures
3. I don't let a bad mark affect my confidence
4. I'm good at dealing with setbacks at school (eg. negative feedback on my work, poor results)

Administrating and scoring instructions are in the above and related articles.

All the best with your research.

Regards

Andrew

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Subject: ABS Scale

You don't often get email from mbkamoru@ncsu.edu. [Learn why this is important](#)

[Quoted text hidden]

Appendix B

ACADEMIC MOTIVATION SCALE (AMS-C 28)

COLLEGE VERSION

*Robert J. Vallerand, Luc G. Pelletier, Marc R. Blais, Nathalie M. Brière,
Caroline B. Senécal, Évelyne F. Vallières, 1992-1993*

Educational and Psychological Measurement, vols. 52 and 53

WHY DO YOU GO TO COLLEGE ?

Using the scale below, indicate to what extent each of the following items presently corresponds to one of the reasons why you go to college.

Does not correspond at all	Corresponds a little	Corresponds moderately	Corresponds a lot	Corresponds exactly
1	2	3	4	5

WHY DO YOU GO TO COLLEGE ?

1. Because with only a high-school degree I would not find a high-paying job later on.	1	2	3	4	5
6 7					
2. Because I experience pleasure and satisfaction while learning new things.	1	2	3	4	5
6 7					
3. Because I think that a college education will help me better prepare for the career I have chosen.	1	2	3	4	5
6 7					
4. For the intense feelings I experience when I am communicating my own ideas to others.	1	2	3	4	5
6 7					
5. Honestly, I don't know; I really feel that I am wasting my time in school.	1	2	3	4	5
6 7					
6. For the pleasure I experience while surpassing myself in my studies.	1	2	3	4	5
6 7					
7. To prove to myself that I am capable of completing my college degree.	1	2	3	4	5
6 7					
8. In order to obtain a more prestigious job later on.	1	2	3	4	5
6 7					

9.	For the pleasure I experience when I discover new things never seen before.	1	2	3	4	5
6	7					
10.	Because eventually it will enable me to enter the job market in a field that I like.	1	2	3	4	5
6	7					
11.	For the pleasure that I experience when I read interesting authors.	1	2	3	4	5
6	7					
12.	I once had good reasons for going to college; however, now I wonder whether I should continue.	1	2	3	4	5
6	7					
13.	For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments.	1	2	3	4	5
6	7					
14.	Because of the fact that when I succeed in college I feel important.	1	2	3	4	5
6	7					
15.	Because I want to have "the good life" later on.	1	2	3	4	5
6	7					
16.	For the pleasure that I experience in broadening my knowledge about subjects which appeal to me.	1	2	3	4	5
6	7					
17.	Because this will help me make a better choice regarding my career orientation.	1	2	3	4	5
6	7					
18.	For the pleasure that I experience when I feel completely absorbed by what certain authors have written.	1	2	3	4	5
6	7					
19.	I can't see why I go to college and frankly, I couldn't care less.	1	2	3	4	5
6	7					
20.	For the satisfaction I feel when I am in the process of accomplishing difficult academic activities.	1	2	3	4	5
6	7					
21.	To show myself that I am an intelligent person.	1	2	3	4	5
6	7					
22.	In order to have a better salary later on.	1	2	3	4	5
6	7					
23.	Because my studies allow me to continue to learn about many things that interest me.	1	2	3	4	5
6	7					
24.	Because I believe that a few additional years of education will improve my competence as a worker.	1	2	3	4	5
6	7					

25. For the "high" feeling that I experience while reading about various interesting subjects.	1	2	3	4	5
6 7					
26. I don't know; I can't understand what I am doing in school.	1	2	3	4	5
6 7					
27. Because college allows me to experience a personal satisfaction in my quest for excellence in my studies.	1	2	3	4	5
6 7					
28. Because I want to show myself that I can succeed in my studies.	1	2	3	4	5
6 7					

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KEY FOR AMS-28

- # 2, 9, 16, 23 Intrinsic motivation - to know**
- # 6, 13, 20, 27 Intrinsic motivation - toward accomplishment**
- # 4, 11, 18, 25 Intrinsic motivation - to experience stimulation**
- # 3, 10, 17, 24 Extrinsic motivation - identified**
- # 7, 14, 21, 28 Extrinsic motivation - introjected**
- # 1, 8, 15, 22 Extrinsic motivation - external regulation**
- # 5, 12, 19, 26 Amotivation**

Note: To use this scale you require only to mention the complete reference data.

Thank you for your interest.

Good luck in your research.