

University of Louisville

ThinkIR: The University of Louisville's Institutional Repository

Electronic Theses and Dissertations

12-2022

Academic achievement and degree attainment among college students with children.

Katrina Ellen Elliott
University of Louisville

Follow this and additional works at: <https://ir.library.louisville.edu/etd>



Part of the [Educational Assessment, Evaluation, and Research Commons](#), [Educational Leadership Commons](#), [Family and Consumer Sciences Commons](#), [Higher Education Commons](#), [Higher Education Administration Commons](#), [Other Educational Administration and Supervision Commons](#), [Secondary Education Commons](#), and the [Student Counseling and Personnel Services Commons](#)

Recommended Citation

Elliott, Katrina Ellen, "Academic achievement and degree attainment among college students with children." (2022). *Electronic Theses and Dissertations*. Paper 3996.
Retrieved from <https://ir.library.louisville.edu/etd/3996>

This Doctoral Dissertation is brought to you for free and open access by ThinkIR: The University of Louisville's Institutional Repository. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of ThinkIR: The University of Louisville's Institutional Repository. This title appears here courtesy of the author, who has retained all other copyrights. For more information, please contact thinkir@louisville.edu.

ACADEMIC ACHIEVEMENT AND DEGREE ATTAINMENT AMONG COLLEGE
STUDENTS WITH CHILDREN

By

Katrina Ellen Elliott

A.A., Jefferson Community & Technical College, 2009

B.A., University of Louisville, 2011

M.Ed., Spalding University, 2012

A Dissertation
Submitted to the Faculty of the
College of Education and Human Development
In Partial Fulfillment of the Requirements
for the Degree of

Doctor of Philosophy
in Counseling and Personnel Services

Department of Counseling and Human Development
University of Louisville
Louisville, Kentucky

December 2022

Copyright © 2022 Katrina E. Elliott

All Rights Reserved

ACADEMIC ACHIEVEMENT AND DEGREE ATTAINMENT AMONG COLLEGE
STUDENTS WITH CHILDREN

By

Katrina Ellen Elliott

A.A., Jefferson Community & Technical College, 2009

B.A., University of Louisville, 2011

M.Ed., Spalding University, 2012

A Dissertation Approved on

November 29, 2022

by the following Dissertation Committee:

Dissertation Chair
Susan Longerbeam

Amy Hirschy

Jason C. Immekus

Angela Taylor

DEDICATION

First and foremost, I dedicate this dissertation to God who provided me with strength, courage, and resilience during my academic trajectory. Second, I dedicate this dissertation to my daughters, mother, and loved ones who always believed in me and gave me the motivation to pursue my goals and never give up. It is through their prayers, comfort, and inspiration that this journey is now complete. Lastly, I dedicate this dissertation to all the college students who are deciding to pursue their educational goals at the same time as raising children. I understand that your college experience may come with many demands, but stay resilient, because your success will impact the lives of your child(ren) and generations to come.

ACKNOWLEDGEMENT

There are so many advisors, mentors, colleagues, friends, and family that made this dissertation possible. First, I would like to thank my chair, Dr. Susan Longerbeam, and my committee members, Dr. Amy Hirschy, Dr. Jason C. Immekus, and Dr. Angela Taylor, without whom this dissertation would not be possible. To Dr. Longerbeam, thanks for your time advising and editing to strengthen my dissertation and make me a stronger researcher. Your motivation, comfort, dedication, and support during this process helped me to stay driven and to see the importance of the hard work I was putting in. To Dr. Amy Hirschy, thank you for being such a huge support as a professor and committee member during my doctoral career. Your advice, critique, and book referrals were always helpful and inspired me to think deeper as a doctoral student. To Dr. Angela Taylor, thank you for your genuine words of encouragement and leadership qualities that motivate me to strive for greatness. Your willingness to allow me to intern under your supervision was greatly appreciated. It taught me a great deal about institutional planning and assessment and prepared me for a successful career in higher education. Lastly, to Dr. Immekus, thank you for providing me with the skills, patience, and understanding to get me through this quantitative research study. Your mentorship throughout the journey helped me believe in my own ability to become a strong statistical researcher.

This dissertation could not be done without a strong supportive network as well. I am grateful to have several supportive people in my life. I want to thank my inspiring fellow CSP doctoral classmates, Dr. Natalie Oliner, Dr. Kata Traxler, and Dr. Stephanie

Mayberry, for your guidance, feedback, support, and encouragement throughout this journey. Your support helped me to realize how important care and teamwork truly is needed to become successful and I will be forever thankful for your friendship. To Dr. Craig Ziegler, Dr. Andrea Gaughan, and Dr. Chris Seals, a special thank you for guiding and encouraging me to finish this dissertation strong and with confidence. Your words of wisdom and accountability encouraged me to see the value of mentorship, dedication, and persistence during this process. Finally, I want to thank my loved ones (daughters, fiancé, mother, father, brother, grandmother, and deceased godfather) who were always there for me through the highs and lows of life and supported me both mentally and emotionally. Mental health is very important in becoming successful and your unconditional love motivated me to not only see my full potential as a woman of Christ, but to keep pressing on to reach the finish line.

ABSTRACT

ACADEMIC ACHIEVEMENT AND DEGREE ATTAINMENT AMONG COLLEGE STUDENTS WITH CHILDREN

Katrina E. Elliott

November 29, 2022

Using data from the Beginning Postsecondary Students Longitudinal Study (BPS) (National Center for Education Statistics, n.d.) from 2012 to 2017 acquired by the National Center for Education Statistics (NCES) survey program, this study addresses the research questions of whether there is a difference in degree attainment of earning a bachelor's degree in the time period from 2012 through 2017 and whether there is a difference in academic achievement as defined by students' grade point average between students who have dependent children and those who do not have dependent children between the ages 18 to 29 attending a four-year institution after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score. It uses Tinto's (1993) longitudinal model of institutional departure and Tinto and Pusser's (2006) model of Institutional Action for Student Success to argue for an understanding of how higher education professionals can improve or development institutional action, practices, and policies to increase college students with children's academic achievement and degree attainment rates.

The results revealed students with dependent children are significantly less likely to attain a degree compared to students without dependent children. More specifically, female students are significantly more likely to gain a degree compared to male students.

Even though data indicated that there was no association between those who were single and never married versus those who were married, living with a partner in obtaining a degree, the results revealed those who had Pell grants were significantly less likely to obtain a degree. Furthermore, the correlations from this study indicate that as students' ACT score increase, their odds of attaining a degree increases. Though data indicated that the mean of students' GPA with dependent children is significantly less than students without dependent children, female GPA scores are significantly higher than male GPA scores and Whites, Hispanics, and Asians have significantly higher mean GPA scores than Blacks. In addition, the study revealed there is no significant difference between Black students and the other reference groups, and between students with Pell grants and students without Pell grants on their GPA score. However, the results revealed students who are married have significantly lower mean GPA scores than students who currently do not have a live-in partner, while there is still a significant positive association existing between students' ACT and college GPA scores. These findings indicate the need to encourage higher education professionals and leaders on college campuses nationwide to implement additional institutional actions, policies, and practices to enhance students with children's academic achievement and degree attainment rates.

Keywords: college students with children, student parents, First-Time Beginning Students (FTBs), degree attainment, academic achievement, grade point average

TABLE OF CONTENTS

DEDICATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT.....	vi
LIST OF TABLES	x
CHAPTER ONE: INTRODUCTION.....	1
Conceptual Framework	3
Statement of Problem	5
Purpose of the Study	9
Significance of the Study	12
Research Questions	15
Definition of Terms.....	16
Limitations of the Study	17
Delimitations of the Study.....	18
Position of Self as Researcher	19
Summary	20
CHAPTER TWO: REVIEW OF LITERATURE.....	22
College Students with Children.....	22
Conceptual Framework	29
Vincent Tinto (1993) Longitudinal Model of Institutional Departure	29
Tinto and Pusser’s (2006) Model of Institutional Action for Student Success	37
Academic Achievement and Degree Attainment	44
Race/Ethnicity	49
Gender	51
Marital Status	53
Summary	57
CHAPTER THREE: METHODOLOGY	59

Research Design	59
Research Questions	60
Study Variables	61
Hypothesis	64
Instrumentation.....	65
Data Collection.....	66
Data Analysis	69
Summary	74
CHAPTER FOUR: RESULTS	75
Demographic Variables.....	75
Findings.....	80
Research Question One	800
Research Question Two	86
Summary of Findings	911
CHAPTER FIVE: DISCUSSION.....	93
Null Hypothesis One	93
Null Hypothesis Two	99
Implications of the Study	103
Recommendations for Institutional Action and Student Affairs Policies and Practice.....	105
Significance of the Study Findings	112
Recommendations for Future Research	114
Conclusion.....	116
REFERENCES	118
CURRICULUM VITA	134

LIST OF TABLES

TABLE	PAGE
Table of Variable by Research Question	62
Demographic and Other Characteristics of Beginning Post-Secondary Survey Estimates of Students Ranging From 18 to 29 Years of Age Who Attended a 4-Year College	77
Estimated Mean GPA by Demographic and Other Characteristics	79
Adjusted Odds Ratios of Dependency Status on Degree Obtainment after Adjusting for Demographics and Other Characteristics Using Multiple Logistic Regression	82
Multiple Regression Analysis of Dependency Status Regressed on College Cumulative Grade Point Average after Adjusting for Demographics and Other Characteristics	88

CHAPTER ONE:

INTRODUCTION

The earliest studies of undergraduate retention in the United States occurred in the 1930s and focused on what was referred to at the time as student mortality, or the failure of students to graduate (Berger & Lyon, 2005). Historically higher education research has had an eye toward pathology with a focus on repairing students' problems (Shushok & Hulme, 2006). To this end, much research exists on why students fail to persist as opposed to why they succeed. It has been found that although college campuses across the country pride themselves on being student centered, they are not necessarily family-friendly and thus college students with children become an unseen subgroup of campus populations. Roy et al. (2018) called for research aims to collect information through a survey method to capture how to best support and meet the needs of all student parents on college campuses. This suggestion highlights the importance of the current quantitative study established to determine whether there is a difference in academic achievement and degree attainment rates between students with children and those without children between the ages of 18 to 29 attending a four-year institution, after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score. The information gathered in this study is important for higher education professionals to better understand their undergraduate students with children population aspiring towards earning a bachelor's degree. Moreover, the study will encourage college administrators and leaders to improve or create adequate institutional action, support, and

commitment for the advancement of student parents, as it also effects the overall well-being of their children.

According to Noll et al. (2017), among the growing numbers of undergraduate students in the United States, nearly five million, or 26 % of the total college population, are student parents with dependent children (i.e., individual under age of 18 in household). The U.S. Department of Education (2017) data stated that nationally more than one in five undergraduate students were raising children, and about half of student parents left school without a degree. An estimated 22% of undergraduates (4.3 million of 19.5 million) were parents, and an estimated 55% of these parents were single, 44% were working full time while enrolled, and 64% attended school part time. Undergraduate student parents had fewer financial resources to fund their education than students without children (Noll et al., 2017). Nearly half of student parents reported paying for childcare, with monthly costs averaging about \$490. A higher percentage of student parents left school without a degree (52%) compared to students without children (32%) as of 2009 (Emrey-Arras, 2019).

Increasing enrollment by both student parents and non-parents over the 30-year period is indicative of increasing access to and value placed on post-secondary education (PSE). With growth in student parent participation being outpaced by that of non-parents, it seems that student parents have less access to PSE programs than traditional, non-parent students (Van Rhijn et al., 2011). As the population of college students with children continues to increase, it is imperative that researchers provide better understanding as to how institutional action and support can influence academic achievement and degree attainment among the college students with children population.

The purpose of this study was to determine whether there is a difference in academic achievement and degree attainment rates between students with children and those without children between the age of 18 to 29 who started their postsecondary career in 2012 and graduated in 2017. More specifically, the proposed study determines if there are any differences in grade point averages and awarded bachelor degrees among college students with children and those who do not have children attending after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score. Furthermore, the researcher addresses the research gap regarding institutional action in higher education for the purpose of providing recommendations to college administrators on ways they can establish or improve an institutional action plan to commit to resolving possible barriers for college students with children. Tinto (2012a) explained that student success does not arise by chance. It requires that institutional leaders commit themselves to intentional, structured, and systematic forms of action that involve faculty, student affairs staff, and administrators alike. The next section will discuss the conceptual framework used to support the variables in this study.

Conceptual Framework

The conceptual framework used in this study is Tinto's (1993) longitudinal model of institutional departure designed to outline the longitudinal process of departure within an institution of higher education. Tinto's (1993) model provides a framework on college students' academic achievement and degree attainment. Of all the theoretical models developed, Tinto's model (1975, 1987, 1993) has been the most widely recognized and tested model of student retention and attrition. Tinto's model of institutional departure focuses primarily on the events that occur within the educational institution and/or which

immediately precede college entrance. The model explains how the interactions that occur among different individuals within the social and academic systems of a college lead individuals with distinctive characteristics to withdraw from the institution. As higher education professionals use this model to expand their knowledge to better understand reasons that lead individuals within the social and academic systems to withdraw from college, it would be important to understand the changes among our evolving educational system. Felten et al. (2016) explained that we face a globalizing social and economic context, shifting fiscal politics, changing demographics, accelerating technological change, and advances in teaching and learning.

Rather than trial and error, common sense efforts to guide the departure (Braxton, 2000) and reliable knowledge must guide the development and implementation of institutional policies and programs to reduce individual student departure. Tinto's model was originally developed in 1975 to explain student departure in four-year residential universities and revisions to the model in 1987 and 1993 have accounted for the characteristics and nature of community college students and institutional environment. The causes of attrition in colleges have been complex and involve student characteristics as well as institutional factors. This complexity has demanded the use of theory and research to identify specific approaches that can be used to reduce student attrition rather than trial and error approaches (Braxton & Mundy, 2001). Lastly, the model aimed to be policy relevant in that institutional policy makers could utilize it as a guide to create policies aimed at improving retention rates.

The secondary conceptual framework guiding this study is the Tinto and Pusser (2006) model of Institutional Action for Student Success. Tinto and Pusser's (2006)

model provides a framework on effective institutional action targeted to enhance academic achievement and degree attainment among students with children. The model argues that institutional commitments provide the primary context for institutional action. Tinto (2012a) suggested to improve retention and graduation the institution must begin by focusing on its own behavior and establishing conditions within its walls that promote those outcomes. Institutions that are committed to student success are more likely to generate that success than institutions whose commitment to students may be of lower order than competing commitments such as research or athletics (Tinto & Pusser, 2006). Institutional commitment to student success in turn sets the tone for the expectational climate for success that students encounter in their everyday interactions with the institution, its practices and policies, and its staff and faculty:

Students are more likely to succeed in settings that establish clear and high expectations for their success, provide academic and social support, frequently assess, and provide feedback about their performance, and actively involve them with others on campus, especially in the classroom. (Tinto, 2012, p. 8)

The following sections lay out the statement of the problem, the purpose of the study, and the significance of the study. The researcher concludes with a description of the research questions, relevant definitions, position of self as researcher, and a chapter summary.

Statement of Problem

A review of the literature provides useful information regarding college students in relation to academic achievement and degree attainment. However, the literature does not provide much information regarding the relationship between these variables in

consideration of college students with children. The number of students pursuing postsecondary opportunities and the demographics of those students look different today than in the past (Harris & Ellis, 2020). Harris and Ellis (2020) suggested many of the rules and expectations influencing higher education have undergone transformation from the legal and policy environment to the changing economic role of colleges and universities. In particular, some college students with children face nearly insurmountable odds to finishing their degrees even as many of them are pursuing higher education in order to lift their families out of poverty (Bombardieri, 2018). Andrewartha et al. (2022) stated higher education provides a potential pathway out of disadvantage for parents at risk of welfare dependency, including young parents, single parents, and parents from low socioeconomic backgrounds. Furthermore, Tinto (2012b) suggested students are more likely to succeed in settings that establish clear and high expectations for their success, provide academic and social support, frequently assess, and provide feedback about their performance, and actively involve them with others on campus, especially in the classroom. However, Tinto (1993) spoke of all students and did not specifically address college students with children.

The advantages associated with higher education are well recognized, however students who are parents face many obstacles to achievement at this level. College students with children tend to face additional challenges when they reach college including, among others: alienation, culture shock, stigmatization, discrimination, and other marginalizing experiences (Contreras, 2011; Wei et al., 2010). These challenges are similar to those experienced by underrepresented racial and ethnic minority groups, first-generation college students, and students from low-income backgrounds. Other issues

and pressures students with children may face include interpersonal, intrapersonal, academic, and environmental stress, which can result in student departure. The problem of student departure requires both an understanding of the key forces that influence student persistence and the development of policies and practices designed to improve student retention rates based on our understanding of such key forces of student persistence (Braxton et al., 2013).

Hallett and Westland (2015) mentioned that over the past several decades higher education professionals have begun to recognize that subpopulations of students experience college differently. Simply increasing access to applications does not necessarily result in successful degree completion. Kruvelis (2017) argued that though the reasons for leaving college without a degree vary for students with children, the heightened financial and time pressures faced can pose significant challenges to graduating. Student parents, according to Kruvelis (2017), have significant barriers to graduating compared to their non-parent peers, which could affect their resilience towards college completion. The lack of institutional action specially aimed to eliminate these barriers among college students with children was the inspiration for this research study and desire to further investigate ways to better support and retain these students for academic achievement. Tinto (2004) suggested to improve undergraduate retention all institutions of higher education must offer easily accessible academic, personal, and social support services. While this research focuses on the experiences of college students with children, it is key to understand that their overall achievement also affects the well-being, stability, care, and livelihood of their dependents. Stability for college students

with children is especially important because it allows them to put more focus on completing college and less focus on stressors and worry.

Although students with children exist on college campuses, there is still limited knowledge of how institutional action contributes towards their academic achievement and degree attainment rates. Ginsberg and Wlodkowski (2009) suggested higher education professionals should direct their energy through attention, concentration, and imagination to make sense of the world because with learning defined as an active and volitional process of constructing meaning from experience and text, there is substantial evidence that motivation is consistently and positively related to educational achievement. Additionally, much of the prior research in higher education has focused on the reasons why non-traditional students are not always successful in their college program completion, and the findings resulted that this is due to a multitude of reasons such as academic problems, difficulty with meeting goals, and financial struggles (Casstevens et al., 2012; Demetriou & Schmitz-Sciborski, 2011; Morrow & Ackerman, 2012). So, the researcher expanded beyond prior research that investigated why non-traditional students (such as students with children) are not successful, to better understand how colleges can establish institutional action to ensure these students are receiving the support they need for academic achievement. Furthermore, some universities have begun to expend large amounts of resources in attempts to close the achievement gap between underrepresented and majority students through intensive summer programs and tutoring for underrepresented students (Strayhorn, 2011), but the inclusion of students with children should be a factor in these action plans to increase overall achievement and graduation rates.

The connection between academic achievement and degree attainment, as it relates to advancing institutional action focused on college students with children has not been studied. Several of the studies reviewed for this study relating to college student parents experiences were qualitative in nature which provides us with a richness in responses that are valuable. However, a quantitative approach to understanding the relationship between these variables is valuable. By building off the findings of qualitative research, the researcher has further comprehended the difference of academic achievement and degree attainment between students with and without children. The next section reviews the purpose and main potential implications of this study.

Purpose of the Study

The purpose of this study was to determine whether there is a difference in academic achievement and degree attainment rates between students with children and those without children. More specifically, the purpose was to determine whether there are any differences in grade point averages and awarded bachelor's degrees among college students with children and those who do not have children between the ages of 18 to 29 attending a four-year institution. This study used Beginning Post-Secondary (BPS) data from 2012 to 2017 acquired by the NCES survey program which provides a variety of data from all public and private institutions in the United States and outlying areas that are eligible to receive Title IV funding. The researcher used this data to investigate whether there is a difference in academic achievement and degree attainment between students who have dependent children and those who did not have dependent children after controlling for the effects of race, gender, socioeconomic status, high school ACT score, and marital status. Additionally, BPS tracks first-time students' pathways through

postsecondary education over the course of six years, focusing on postsecondary and high school academic achievement, degree attainment, persistence, transition to employment, and school and work experiences.

Furthermore, the researcher addresses the research gap regarding academic achievement and degree attainment rates among student parents for the purpose of providing recommendations to higher educational professionals on ways they can establish or improve an institutional action plan to commit to resolving possible barriers for college students with children. Improved processes and support mechanisms could encourage more parents through higher education as a pathway to building knowledge, improving employment prospects, and gaining independence (Andrewartha et al., 2022). The information gathered from this study will be used to provide evidence of a relationship between variables, as well as difference between distinct groups in efforts to provide recommendations for effective institutional action. Providing this knowledge to higher educational professionals could potentially increase college students with children's academic achievement and degree attainment rates. Data reflecting the experiences of student parents are essential to designing policy and practice that can improve their college enrollment, persistence, and completion, and to promoting progress toward more equitable higher education outcomes (Gault et al., 2020).

Moreover, awareness of the number of students with children can help colleges determine whether they need stronger partnerships with community-based childcare providers, for example, or need to develop enhanced student supports targeted toward students with caregiving responsibilities (Gault et al., 2020). Felten et al. (2016) explained what can happen when institutions have strong commitments both to

improving quantitative institutional outcomes and to improving the individual lives of students and their families through tailored, consistent, student-centered support, illustrated by the Accelerated Study in Associate Program (ASAP), which created a dynamic relationship between individual and institutional improvement. Student success should not be left to chance (Felten et al., 2016); it requires an ongoing process of communicating institutional expectations and values and then aligning those with action through appropriate policies, processes, and high-impact practices, not only for students but also for faculty and staff. By setting high expectations for everyone and also delivering on promises, the full potential of both individuals and institutions is realized.

The main potential implication of this study was the possibility of determining if there is a difference in academic achievement and degree attainment between student with children and those who do not have children between the ages of 18 to 29 attending a four-year institution. Another potential study implication was learning how institutional action in higher education can influence academic achievement and degree attainment among the college students with children population, reducing the possibility of dropouts and decreasing GPA rates. The NCES survey program at the postsecondary education level used for this study provides statistical information used by planners, policymakers, and educators in addressing a multitude of issues, which is a vital resource in providing recommendations to higher education administrators to enhance institutional action for students with children. The next section discusses the significance of the study, explaining why the current research study is needed.

Significance of the Study

Student affairs literature states that the number of student parents is increasing on campuses across the United States and represents 45% of all students in community college and 16% of students at four-year institutions (Clark et al., 2011). With this knowledge, it is imperative to investigate the extent to which academic achievement and degree attainment rates differ between those students who have dependent children and those who do not have dependent children. This information will be used to provide institutions with ways to effectively allocate resources focused on the needs of undergraduate students with children, thus enabling them to achieve a degree and extend access to a variety of career opportunities. The study will contribute to the existing body of knowledge by expanding on contemporary research examining academic achievement and degree attainment rates that may influence non-traditional college students' (such as student parents) retention, academic achievement, and graduation rates. Tinto (2004) suggested to improve undergraduate retention all institutions of higher education must offer easily accessible academic, personal, and social support services.

The focus on how academic achievement and degree attainment differs among college students with and without children during their postsecondary education produces a clearer understanding of how colleges can promote academic achievement and institutional support among the student parent population. Understanding the motivational/affective differences between traditional and nontraditional students is useful to educators and student services personnel because it can inform and enhance available support or pedagogies (Hallett & Westland, 2015). The U.S. Department of Education defines nontraditional students using seven characteristics: being 25 years of

age or older; being a single parent; having dependents other than a spouse; enrolling in college part-time; having a GED instead of a high school diploma; delaying college attendance by a year or more; being financially independent; and working full-time while attending college (Choy, 2002; Radford et al., 2015). This is in comparison with traditional students, who typically live on campus as full-time students, enrolling immediately after high school graduation. Considering that nontraditional students are the fastest growing population of college undergraduates, and currently make up about 75% of the college population (Chen, 2017; Radford et al., 2015), it is reasonable to assume that a greater segment of the population will have been affected by the pandemic (Babb et al., 2022).

Johnson (2020) mentioned despite the perceived challenges many nontraditional students report, such as having parental responsibilities, mortgages, or career responsibilities, this population has tripled in size since the 1970s and is projected to continue growing steadily in the coming years. The more nontraditional characteristics a student possesses the more barriers they will face as their academic needs will often interfere with their jobs and the needs of their families (Ellis, 2019). Morris et al.'s (2003) findings indicated that nontraditional and traditional students exhibit different motivations, with nontraditional students endorsing learning goals to a greater degree than traditional students (Johnson et al., 2016). Research by Kadison (2004) supports that universities are tasked with being prepared and able to manage the concerns and issues students bring with them. Admissions representatives, student affairs professionals, faculty members, mental health workers, and other educational leaders and support staff on campus play critical roles in the success of these students (Hallett & Westland, 2015).

The information in this study could encourage such higher education professionals and leaders to collaborate upon and implement programs and strategies that can enhance students with children's academic achievement and degree attainment rates. Therefore, it is important to further explore barriers this population may face, while also providing colleges with information that would allow them to become more attentive to educational programming and resources that can encourage and support students with children. Simply helping a student fill out a college application and dropping them off on campus does not address the underlying trauma that may be limiting their ability to take full advantage of educational programming (Hallett & Westland, 2015). Tierney (2016) suggested an organization's culture is reflected in what is done, how it is done, and who is involved in doing it and concerns decisions, actions, and communication both on an instrumental and a symbolic level. Institutional support systems should reflect the ultimate goals and ambitions of the University and provide essential benefits for all student populations to become successful.

In efforts to see institutional change, it is important to understand the culture of the university and the perceptions of stakeholders. This will ensure that the progression of the university is striving in the direction that benefits not only the institutional goals but the entire student body. The interactions students have on campus with individuals in academic, personal, and support service centers can influence a student's sense of connection to the college or university as well as their ability to navigate the campus culture, meet expectations, and graduate (Tinto, 2004). Programs that focus on leveraging campus diversity to foster meaningful and substantive dialogues across difference can enhance cross-group understanding and collaboration (Sorensen et al., 2009). Expanding

educational opportunities for low-income parents, especially single parents, whose children's outcomes are particularly dependent on the resources and education of their only parent, can dramatically improve children's chances of escaping poverty (Miller et al., 2011). Miller et al.'s (2011) study described how escaping poverty and obtaining a successful career as a student parent can not only increase their possibilities of a better future, but also build a foundation for their children. The goals of the study and literature review led to several research questions which are discussed below. The rationale for these questions is described in further detail in Chapter Two.

Research Questions

Based on the review of literature and conceptual framework guiding this study, the following research questions addressed:

RQ1: Is there a difference in degree attainment of earning a bachelor's degree in the time period from 2012 through 2017 between students who have dependent children and those who do not have dependent children between the ages 18 to 29 after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score?

RQ2: Is there a difference in academic achievement as defined by students' grade point average between students who have dependent children and those who do not have dependent children between the ages 18 to 29 after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score?

Definition of Terms

The following key terms included in this research are specific to the study.

Defining these key terms provides clarification and further understanding of the central focus of this study.

- *College Students with Children*: A subgroup of students in college with a lack of support. These individuals attend college at the same time as raising children, forming a group that makes up more than one in five undergraduate students. These college students are working towards a bachelor's or four-year degree (IWPR, 2019).
- *Student parents*: Students who provide most of the care for a child or children. They may be biological parents, stepparents, adoptive parents, foster parents, grandparents, or siblings (Gault et al., 2020).
- *First-Time Beginning Students (FTBs)*: The target population for BPS. For the first BPS cohort, FTBs were defined as students who enrolled in postsecondary education for the first time after high school (Burns et al., 2011).
- *Degree Attainment*: Entering students persist to completion and attainment of their degree, program, or educational goal. (For example, two-year college students persist to completion of the associate degree, and four-year college students persist to completion of the baccalaureate degree.) (Cuseo, 2012).
- *Academic Achievement*: Students achieve satisfactory or superior levels of academic performance as they progress through and complete their college experience. (For example, students avoid academic probation or qualify for academic honors.) (Cuseo, 2012).

- *Grade point average*: “Students’ performance is usually expressed in terms of grade point average (GPA), that is, the mean of marks from weighted courses contributing to assessment of the final degree” (Richardson et al., 2012, p. 354).

Limitations of the Study

This study has several limitations. One limitation is that this study used publicly accessible data rather than restricted. Despite the richness of the BPS:12/17 public data, selecting variables to align with the research question of this study was challenging. This issue resulted in some modifications of the study to fit the data. For example, this study defines college students with children as individuals who attend college at the same time as raising children, working towards a bachelor’s or four-year degree (IWPR, 2019), and the data provided multiple options for types of dependents including dependent children, grandparents, other relatives, or anybody else for whom the respondent provided more than half their financial support. Although the results from studying all these different types of dependents are valuable, this study examined only students with and without dependent children. In addition, the data excluded students who received an associate degree, graduate degree, and certification. Although the results from studying other attained post-secondary degree types are valuable, the study examined only awarded bachelor’s degrees.

Another limitation was that the data used in this study was from a secondary source, primarily student self-reported surveys. Although BPS:12/17 collects information from transcripts, institution records, financial aid data, Title IV loan and grant data, and national databases, the study relied mostly on both information reported from the students through survey and collection of administrative data which can affect variability in

comprehension, memory retrieval, and reliability (Rosen et al., 2017). In addition, due to the output from PowerStats including only table estimates (percentages or means), the design-adjusted standard errors, and weighted sample sizes for the estimates, the researcher was restricted from providing frequencies and interactional data to further describe characteristics and similarities of data. The next section discusses the delimitations of the study, explaining the scope of the research questions.

Delimitations of the Study

Despite the limitations described above, the study had several delimitations. The following were excluded from this study: awarded 2-year degrees; graduate degrees; and certifications. The study concentrates only on first-time beginning (FTB) college students attending four-year institutions over a six-year span with the aim of attaining a bachelor's degree. It is essential to note the importance of earning a four-year degree considering adults with a bachelor's degree earn an average of \$2.8 million during their careers, \$1.2 million more than the median for workers with a high school diploma (Nietzel, 2022). Additionally, the study excludes dependents that include parents, grandparents, other relatives, or anybody else for whom the respondent provided more than half their financial support other than children. The study focuses only on college students with and without dependent children to learn whether there is a difference in academic achievement and degree attainment rates between the two student groups after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score.

Another delimitation of this study includes the lack of description of when each student became a parent in their postsecondary career or prior to attending their

postsecondary education. For example, this information may determine whether there is a difference in grade point averages of freshman student parents versus senior student parents. In addition, the study excludes when the college student marital status (i.e., married/living with partner, single, never married, separated, divorced, or divorced) may have changed over their six-year retention span. This information could have indicated whether a change in marital status possibly caused a decrease or increase in academic achievement or degree attainment. Furthermore, this study provides a national perspective to the existing literature on college students with children as related to academic achievement and degree attainment by using the extensive BPS:12/17 dataset. As BPS:12/17 is the most current BPS study, this research offers more current information about college students with and without children's grade point averages and awarded bachelor's degree outcomes to college educators, administrators, and policymakers who are responsible for making institutional action/practices, funding, and policy decisions. Lastly, this study gives communities and institutional programs, resources, and committees, particularly those catered to college students with children, the knowledge to establish or improve action steps to increase GPA scores, degree attainment, and enrollment, retention, and persistent rates.

Position of Self as Researcher

I identify as both a woman of color and college student with children, starting from my sophomore year in college. During my college trajectory I have attended a variety of higher education institutions including a public community college, a private university, and a Research 1 doctoral university, for my associate, bachelor, master, and doctoral degree programs. I am a college administrator at an urban, state-supported,

public, Research 1 doctoral university with almost a decade of experience in college academic counseling. Most of my experience as a college student has been as a mother, constantly juggling a multitude of responsibilities such as schoolwork, parenthood, and work obligations. Every day as a student parent I have had to reaffirm to myself the reasons to keep pressing and to never give up on my academic goals, for the betterment of not only myself, but also for my children's future. Institutional action, such as programming, support, and services aimed at assisting students with children and underrepresented students of color was a huge source in encouraging me to stay persistent, resilient, and successful in college. A university that holds high expectations and actively involves students in their learning creates an environment where students are more likely to succeed (Tinto, 2004). The experience I gained as a student parent helped me realize that the possibilities for students with children are endless and are not limited due to caring for a child.

Summary

The objective of this study was to foster greater understanding of academic achievement and degree attainment between those students who had dependent children and those who did not have dependent children between the ages of 18 to 29 attending a four-year institution. More specifically, an investigation of the simultaneous roles of parenthood and student previously enrolled in college pursuing a bachelor's degree was the focus of this study. The study used the Beginning Post-Secondary data (BPS) from 2012 to 2017 acquired by the NCES to determine if there are any differences in GPA scores and awarded bachelor's degrees in 2017 between college students with and without children attending a four-year institution. The information gathered from this

study will be used to make student affairs professionals aware of whether there are any differences and to provide recommendations for improving or innovating an institutional action plan to influence the academic achievement and degree attainment rates among their college students with children population.

Nevertheless, it is evident that the public conversation about graduation rates and institutional accountability has produced a climate in which states will soon require all institutions, two-year and four-year alike, to demonstrate their ability to use public resources in promoting the retention and graduation of their students (Tinto, 2012). “In such a climate, no institution can ignore the need to assess itself and to hold itself accountable for the success of its students” (Tinto, 2012, p.154). The following chapter discusses literature relating to college students with children. The researcher will also discuss the conceptual framework providing the foundation for this study. Lastly, literature that explores academic achievement and degree attainment, race/ethnicity, gender, and marital status will be discussed.

CHAPTER TWO: REVIEW OF LITERATURE

In the following section, literature related to the variables presented in this study will be reviewed. First, a review of the literature on college students with children and their significance to this study will be discussed. Then, an overview of the conceptual frameworks utilized to understand institutional departure and the importance promoting academic achievement, degree attainment, and institutional action plans focused on post-secondary students will be provided. The conceptual frameworks included are Tinto's (1993) longitudinal model of institutional departure and Tinto and Pusser's (2006) model of institutional action: Institutional actions for student success. Additionally, literature related to academic achievement and degree attainment, as it relates to the value of a bachelor's degree will be discussed. Furthermore, since the purpose of this study was to analyze academic achievement and degree attainment among college students with children, the literature review has been conducted with a review of studies that focus on these topics, as well as its independent variables including gender, race/ethnicity, marital status, and socioeconomic status. Lastly, the researcher will summarize the literature to help readers understand the research questions proposed in this study.

College Students with Children

Among the growing numbers of undergraduates who are working, older, independent, enrolled part-time, or living off campus, nearly five million undergraduate students, comprising 26% of the total college population, are also parents of dependent

children (Gault et al., 2014). Brown and Nichols (2013) stated, one subpopulation who may experience increased difficulty in completing their degree is pregnant and parenting students. The NCES reported that approximately 53% of nontraditional students support more than one dependent and 29% are single parents between the ages of 30 and 40 (2002); it is not known how many parenting students are of traditional college student age, which is why the researcher saw a need to further explore college student parents within the traditional age range. For the purposes of this research, college students with children are defined as a subgroup of students in college with dependents and a lack of support. These individuals attend college at the same time as raising children, forming a group that makes up more than one in five undergraduate students. Furthermore, these student parents are working towards a bachelor's or four-year degree (Study International Staff, 2019).

According to Van Rhijn et al. (2011), student parents are a heterogeneous group including young parents who are attempting to stay on track educationally in spite of early childbearing and older parents returning to school as adult learners to pursue a college or university education. In between taking classes, writing papers, and studying for exams, millions of student parents hold part-time or full-time jobs while also managing the parental tasks of preparing meals, changing diapers, helping their kid(s) with homework, and taking them to and from daycare or school. But sadly, Williams (2022) mentioned, while student parents are working hard to raise their children and secure a better future for themselves and their children, the United States higher education system is not giving student parents the support they need to succeed. A college education is expected to become even more worthwhile and the incidence of

poverty among bachelor's degree holders is 3.5 times lower than it is for those who hold high school degrees (Edelson, 2022).

Over the past decade, all net job growth has gone to workers with bachelor's degree or graduate degrees (Edelson, 2022), which can ultimately secure a better future for student parents and their children. Bachelor's degree holders are 47% more likely to have health insurance provided through their job and their employers contribute 74% more to their health coverage. Life expectancy is also extended for those who attend college. Studies suggest that those who have attended at least some college can expect to live seven years longer than their peers with no postsecondary education (Edelson, 2022). Despite this large statistic, researchers have yet to understand the difference in academic achievement and degree attainment among this increasing population, in hopes for higher education professionals to establish effective institutional action aimed at eliminating substantial barriers that could possibly prevent students with children from gaining academic achievement.

Furthermore, it was reported that there was a mismatch between pedagogical strategies used within classrooms, such as group work or attendance to outside programs, and the schedules and time demands inherent in the lives of parenting students (Duquaine-Watson, 2007). Other barriers included: overall lack of program flexibility (Cujec, 2000; Yakaboski, 2010); lack of available housing for pregnant and parenting students (Cohen, 2005; McCormack, 2007); lack of lactation facilities on campus (Springer et al. 2009); and the difficulty in obtaining childcare for young children (Brown, 2007; Duquaine-Watson, 2007; Matus-Grossman & Gooden, 2001). In all instances, students with children face significant barriers while pursuing academic and

professional achievement. The study addressed how post-secondary institutions can examine existing institutional action, policies, and programmatic needs of college students with children to provide better support and ensure higher success rates.

Brown and Nichols (2013) described a scarcity of research on student-parents during college years, labeling them invisible students, feeling marginalized in the classroom, stigmatized by the larger campus, and as a result they feel isolated. The definition of invisible is something that cannot be seen or someone who is ignored and treated as if they are not seen (Brown & Nichols, 2013). The goal for this research study was to turn the college students with children population from being viewed as “invisible” to a recognized group of students admired for their academic achievement and degree attainment, while undergoing parenthood. To prevent students with children from feeling isolated and disconnected from campus, Felten et al. (2016) suggested higher education leaders should challenge and support all students to synthesize and reflect on their undergraduate experiences with the support of institutional programs to encourage integration and meaning making on the individual student level. Unlike younger undergraduates, adult students, such as students with children, come to college at different stages in their lives and often are driven by broader forces such as global workforce turbulence, commitment to family survival and betterment, interest in developing personal competence, and the impact of shrinking community economy (Kasworm, 2008).

Student parents face many of the same barriers and challenges as traditional students in PSE programs; however, their situation is complicated by having additional time demands related to family and employment, additional economic demands related to

family expenses and forgone income, and the challenge of fitting into an educational system designed for traditional (i.e., young, full-time) students (Van Rhijn et al., 2011). Compared to traditional students, Van Rhijn et al. (2011) suggested student parents may have more difficulty studying on a full-time basis, attending classes at scheduled times, finding appropriate childcare, and accessing traditional forms of financial assistance because of limitations placed on eligibility. Additionally, students with children may experience difficulties with housing and transportation, time management, and scheduling classes around work compared to non-parenting students, due to parenting balance and childcare (Brown & Nichols, 2013; Tehan, 2007). These additional demands on nontraditional students will likely negatively impact their educational goals, sleep, and mental health (Babb et al., 2022).

As the number of students on college campuses continues to rise (U.S. Department of Education, National Center for Education Statistics, 2017) one can only anticipate more students making the transition to parenthood while enrolled in a postsecondary institution. Gault et al. (2014) found that students with children are more likely than their counterparts without children to have low incomes. In addition, 61% of all students with children have no money to contribute to college expenses, and among single students with children, 88% have incomes at or below 200% of poverty and have much higher levels of debt after graduation than their non-parent counterparts. Costello (2014) mentioned, college students with children often experience significant financial challenges, which can contribute to a decline in retention as well as massive loan debt and credit issues. Though the reasons for leaving college without a degree vary for student parents, the heightened financial and time pressures faced can pose significant

challenges to graduating (Kruvelis, 2017). Balancing the demands of going to class and completing coursework, while caring for a family and working can make it difficult for them to complete a degree. Furthermore, finding high-quality childcare can be challenging, and in many states, childcare can cost more than in-state tuition at a public university (Emrey-Arras, 2019).

Although there is no perfect time to become a parent, new parents who have less strain due to their multiple role responsibilities tend to transition into their new role with less difficulty and stress (McLanahan & Adams, 1987; Nazarinia Roy et al., 2014). From a family development perspective, the assumption that when life events occur “on-time” and in the appropriate sequence there is less strain when making life transitions (White & Klein, 2002). For example, on-time and in sequence events would include completing one’s education to establish a career, committing to a devoted relationship, having children, and so forth. But for a substantial portion of college students with children transitioning into their dual role may not have occurred on-time, resulting in higher levels of difficulty and stress (White & Klein, 2002). Although student parents are often grouped into the category of mature students, their needs differ significantly from unencumbered mature students. Student parents may be single or partnered, attending post-secondary education on a full-time or part-time basis, and may also be employed in addition to attending school (Van Rhijn et al., 2011). Student parents were also found to differ in several significant ways from their more traditionally-aged and circumstanced student counterparts (i.e., dependent students aged 18 to 22) in that they were older on average, more likely to be in part-time studies, and worked longer hours for pay than other students (Holmes, 2005).

The shift to parenthood while attending college can be challenging and stressful as parents learn how to care for a new baby, while multi-tasking the requirements of becoming a successful student. Kruevelis' (2017) study focused on access to and within postsecondary spaces for underserved students, particularly low-income and parenting students. The researcher gained useful information from Kruevelis (2017) on how institutions can employ strategies to make campuses more family-friendly, ranging from improving students' access to childcare on- and off-campus, to stocking administrative offices with toys. Family friendly campuses provide resources that include family friendly spaces like studying spaces where students can bring their children along, more stations for diaper changing, and spaces dedicated to lactation rooms for nursing mothers (Beeler, 2016; Kensinger & Minnick, 2018; Lindsay & Gillum, 2018). When student mothers are aware of these resources, they may perceive the learning environment as welcoming, friendly, and able to meet their needs.

Although this research focuses on the experiences of students with children, it is key to understand that their overall achievement affects the well-being, stability, care, and livelihood of their dependents. Education is also a critical determinant of health and well-being for individuals and families over the life course (Pascarella & Terenzini, 2005; Ungerleider & Burns, 2004). Stability for students with children is particularly important because it eliminates added stressors and worry while attending college and allows them to put more focus on completing college. Edelson (2022) claimed a college education is about more than just securing a job and a steady income. We have to consider health, wellness and safety, prerequisites for leading a fulfilling life for not only the student parent, but their families as well. By providing students with children with a

wide range of resources and support systems to stay persistent and accountable during their academic journey, they will have better chances of achieving their academic goals. Nelson et al. (2013) mentioned that improving degree attainment among low-income parents will also have long-term multigenerational benefits in addition to immediate family economic returns.

Higher education is paramount for achieving family economic security, and parental education yields powerful two-generation benefits, by improving children's economic, educational, and social outcomes (Nelson et al., 2013). The emphasis of this study was to encourage institutions to put more focus on students who enroll in college during the time in their life cycle, when they are likely to experience the transition to parenthood, to ensure adequate support and proactive resources are in place for their success. Students with children are a modest but increasing population on college campuses across the nation, yet there is limited research regarding the needs of students who are parents in their undergraduate studies. The following section offers the conceptual framework utilized to examine the variables in the proposed study.

Conceptual Framework

The following section discusses Vincent Tinto (1993) Longitudinal Model of Institutional Departure.

Vincent Tinto (1993) Longitudinal Model of Institutional Departure

The first model that serves as conceptual framework for this research is Tinto's (1993) longitudinal model of institutional departure. Tinto's (1993) model was first published in 1975, with revisions in 1987 and 1993. Tinto (1993) identified three major sources of student departure: academic difficulties; the inability of individuals to resolve

their educational and occupational goals; and their failure to become or remain incorporated in the intellectual and social life of the institution. In 1993, Tinto again modified his model to the one used in the present study. The most important change that occurred was that Tinto (1993) recognized that not all students attend residential four-year institutions. He was specifically concerned with research that had been conducted with students from commuter and two-year colleges which called for modifications to the original model (Bean & Metzner, 1985; Cabrera et al., 1992). This important change in Tinto's (1993) model is important to the current study as it investigates academic achievement and degree attainment among college students with and without children who may commute to college with the goal of obtaining a bachelor's degree. Tinto (1993) also recognized that academic integration was more important than social integration for commuting students, including students with children.

In addition, he described the influence of external commitments for community college students, who were more likely to be working while enrolled or to have additional family responsibilities, including students with children. External events (e.g., employment, family responsibilities, financial constraints) were shown to have impacted student commitments and persistence, particularly for students in non-residential institutions (Cabrera et al., 1992). These commitments were theorized to impact the student's college commitment positively or negatively. Tinto (1993) believed that if the external influences remained stable, then interactions within the college community were the primary influences on a departure decision. Tinto (1993) stated, "to fully comprehend the longitudinal process of departure, one must take note of the full range of individual experiences, which occur in the formal and informal domains of both the social and

academic systems of the institution” (p. 118). Tinto, in response to research suggesting that social integration was not an integral factor also proposed that the model did not argue that full integration in both the social and academic systems was necessary for academic success, but that some degree of social and academic integration must happen as a condition for academic achievement and degree attainment. Tinto’s (1993) model of institutional departure is at its core, “a model of educational communities that highlights the critical importance of student engagement or involvement in the learning communities of the college” (p. 132).

Tinto’s model of institutional departure focused primarily on the events that occurred within the educational institution and/or which immediately preceded college entrance, which directly relates to the study, as it utilizes longitudinal data gathered by the National Center for Education Statistics (NCES) Beginning Postsecondary Students Longitudinal Study (BPS) to examine whether there a difference in academic achievement and degree attainment between students who have dependent children and those who do not have dependent children. The model explained how the interactions that occurred among different students within the social and academic systems of a college led students with distinctive characteristics to withdraw from the institution. Moreover, Tinto’s (1993) model was created to outline the longitudinal process of departure within an institution of higher education and was based on purposeful withdrawal and not withdrawal due to academic dismissal. The model was longitudinal and interactional in that it highlighted interactions among students within an institution over time. It was mainly sociological in that it investigated the social and intellectual aspects of an

institution, both formal and informal, as it related to a departure decision. Tinto (2012a) stated:

the model intended to be policy significant in that institutional policy makers could utilize it as a guide to develop policies designed at improving retention rates. Specific attributes of administrative policy are necessarily a reflection of the particular context within which those actions are taken and the unique values that inspire them. (p. 83)

The model theorized that pre-entry attributes, which consisted of family background, skills and abilities, and prior schooling measures, had a direct impact on student departure from a college, but, more importantly, each affected departure indirectly through its effect on shaping individual intentions and commitments regarding future educational activity.

Tinto (1993) claimed it is the positive integrative experiences in the academic and social systems that reinforced the student's goals, commitments, and continued persistence. Negative interactions tended to weaken the student's goals and commitments and consequently promoted departure from the institution (Tinto, 1993). The specific concepts highlighted in Tinto's (1993) model are as follows: Pre-entry Attributes Individuals entered higher education institutions with varying family and community backgrounds (e.g., as measured by parental education, social status, and size of community); various personal attributes (e.g., sex, race, and physical disabilities); skills (e.g., intellectual and social); financial resources; dispositions (e.g., motivations, intellectual, social, and political preferences); and a variety of pre-college educational experiences and achievements (e.g., high school grade point average). Each attribute was

hypothesized to have a direct and indirect effect on a student's departure decision. But Tinto (1993) contended that each of these attributes affected departure decisions indirectly through its effect upon the student's continuing formulation of educational intentions and commitments.

Initial intentions and goal and institutional commitments, the second major construct in Tinto's model consisted of initial intentions and initial goal and institutional commitments. The model distinguished between initial and later goals, commitments, and intentions. Carey (2005b) claimed substantial improvement in a college's ability to promote student success does not arise by chance. It is the result of a series of intentional, structured, and proactive actions that are consistently applied over the long term (Carey, 2005b). Students entered college with varying pre-entry attributes that directly impacted initial student intentions and commitments regarding future educational activities. Intentions referred to the level and type of educational or career goal sought by the student. Commitments indicated the degree to which a student was committed to a goal (goal commitment) and the attainment of the goal at a specific institution (institutional commitment). These goals and commitments, when taken with the pre-entry attributes, described the financial, social, and intellectual resources and orientations regarding education that a student brought with them into the college environment. When combined with external commitments, these factors established the initial conditions for each student as they interacted with the social and academic systems in the institution.

Felten et al. (2016) suggested "institutions should establish a cross-functional team of faculty, support staff, and administrators whose task it is to oversee institutional planning and action for student success" (p. 120). Providing engaging learning activities

and effective curriculum can increase student academic engagement which can influence persistence (Bonet & Walters, 2016). Scholars have shown that educational practices designed to support struggling undergraduates have strongly positive results for all students (Felten et al., 2016). Nonacademic supports like affordable and accessible childcare can impact the student mother's ability to attend classes or meet strict assignment deadlines and influence their ability to persist (Beeler, 2016; Brown & Nichols, 2012; Lindsay & Gillum, 2018; Roy et al., 2018). Providing access to resources and services such as counseling, case workers, and family education and support programs can support both roles and may foster resilience and overall well-being of student mothers (Roy et al., 2018).

Emerging research suggests that not only are certain pedagogies and practices effective with traditional college students but also that they often are even more effective with students that have been historically disadvantaged on college campuses. Conversely, scholars have shown that educational practices designed to support struggling undergraduates have strongly positive results for all students (Felten et al., 2016). In other words, “despite the diversity of higher education institutions, evidence is increasingly clear about the central characteristics of effective undergraduate education” (Felten et al., 2016, p. 9). The model hypothesized that the greater one's commitments, the greater the likelihood of staying at the institution. Additionally, Tinto (1987) insisted that institutional commitments may develop before entry as a result of family traditions or from the perception that graduation from a particular institution enhanced one's chances for success.

Institutional experiences within an institution of higher education are the third major construct in the model. Given individual pre-entry attributes, intentions, and commitments at entry, Tinto's (1993) model explained that it was the subsequent experiences within the college, primarily interactions between the individual and other members of the college (e.g., students, staff, faculty) that directly related to reformulated intentions and commitments and ultimately persistence. Institutional experiences occurred in both the formal and informal social and academic environments of the college. Formal academic experiences related to academic performance and intellectual development. Academic performance was generally measured by grade performance and represented an extrinsic form of reward for the student's participation in college. Intellectual development related to an intrinsic form of reward that could be viewed as an integral part of the student's personal and academic development (Spady, 1970; Tinto, 1975).

According to Tinto (1993), informal academic experiences referred to the interactions between faculty/staff and students. The interactions between faculty/staff and students were crucial in the social and intellectual development of students and led to increased commitment and student persistence. Every institution has rigorous and effective faculty who challenge students to learn more than they thought possible, according to Freeman et al. (2014). When these faculty teach with active learning pedagogies, even in the largest lecture courses, students can learn and succeed (Freeman et al., 2014). Formal social experiences occurred primarily through student participation in extracurricular activities at the college. Informal social experiences occurred through peer group interactions in and outside of the classroom. All things being equal, the

greater the contact among students, the more likely it was that students developed social and intellectual bonds in the college community, and these bonds resulted in increased institutional and goal commitment and persistence (Tinto, 1993). Felten et al. (2016) suggested, “Astin’s (1985) theory of student involvement holds that the college environment is essential in shaping student involvement and engagement and those behaviors directly influence student outcomes” (p. 80).

The fourth major construct in the model related to the academic and social integration that resulted from experiences in the social and academic systems of the college. These experiences were seen to enhance the likelihood that students would persist at the college because they had reformulated individual intentions, goals, and commitments. Positive experiences in the academic and social systems of the college led to a strengthening of the individual commitment to achieve goals at a particular institution. Conversely, negative experiences in those systems tended to reduce goal and institutional commitments and may have led to student departure. The key lesson from research on expectations (Jussim, 2013) is that performance is determined in part by what one believes about people and by one’s ability to motivate them to achieve excellence, whether in the classroom, on the playing field, on a residence hall floor, during an advising session, or in a meeting. Expect more, and you will get more (Felten et al. 2016). Tinto’s (1993) model theorized that the lower one’s social and intellectual integration into the social and academic communities of the college, the greater the likelihood of departure. On the contrary, the greater one’s integration, the greater the likelihood of persisting at the college.

The model's fifth major construct related to later intentions and goal and institutional commitments. Tinto (1993) hypothesized that intentions and commitments changed over time and were directly affected by the level and frequency of integrative experiences in the social and academic systems of the college. It was the individual's integration into the social and academic systems of the college that led to new levels of commitments. Felten et al., (2016) suggested every institution needs to have an intentionally crafted common message communicating a set of expectations, values, and practices that entering and continuing students hear clearly and repeatedly from faculty, staff, administrators, and peer leaders. Felten et al. (2016) claimed, "these messages include statements of what we expect students to do and why and the benefits to them for doing so. The message communicates the institution's core values to all constituencies" (pp. 87-88). Positive integrative experiences resulted in heightened intentions and commitments and ultimately led to higher rates of persistence. The following section outlines the second conceptual framework utilized to examine the variables in the proposed study.

Tinto and Pusser's (2006) Model of Institutional Action for Student Success

The second model that serves as conceptual framework for this research study is Tinto and Pusser's (2006) model of Institutional Action: Institutional Actions for Student Success. Tinto and Pusser's (2006) multilayered model is used to represent student success at the level of the organization, such as those by its administrative leadership, which is largely indirect in that such actions serve to influence the behaviors of faculty and staff whose actions directly impinge upon student lives either directly through their own contact with students or indirectly through the building of programs that affect

students. Tinto and Pusser (2006) argued, “institutional commitments provide the primary context for institutional action. Specific attributes of administrative policy are necessarily a reflection of the particular context within actions are taken and the unique values that inspire them” (Tinto, 2012, p. 82). Tinto and Pusser (2006) suggested that institutions that are committed to student success are more likely to generate that success than institutions whose commitment to students may be of lower order than competing commitments (e.g., research, athletics). Institutional commitment to student success in turn sets the tone for the expectational climate for success that students encounter in their everyday interactions with the institution, its policies and practices, and its faculty and staff.

Additionally, “expectations cannot be once-and-done but rather must be sustained and reinforced by institutional policies and practices across campus” (Felten et al., 2016, p. 79). Tinto and Pusser (2006) suggested, within those nested climates, students encounter varying degrees of academic, social, and financial support, are provided varying types of feedback about their progress, and experience educational settings whose structure and practices result in differing degrees of academic and social involvement” (p. 10). Together these encounters (support, feedback, and involvement) influence the quality of student effort (Pace, 1980) and both in turn shape student success, particularly in the classroom. Tinto and Pusser’s (2006) model assisted in designing the research questions for this study and guided the selection of relevant data, interpretations of the data, and proposes explanations of the underlying causes of degree attainment and GPA.

Tinto and Pusser (2006) argued that both the student and institutional attributes within the timeframe for institutional action are considered fixed, but not the institutional commitments:

The institutional commitments established by members of the institution (i.e., faculty, staff, administrators, and other students), the academic, social, and financial supports provided but the institution, the feedback that is provided to and about students by the institution, and the educational and social activities that shape student academic and social involvement and/or engagements within the classroom and with other members of the campus. (Tinto & Pusser, 2006, p. 10)

Institutional commitment to the goal of student success is critical to improved rates of academic achievement over time. Without institutional commitment, most efforts of advancement are low and short lived. The focus of this current study will build upon Tinto and Pusser's (2006) model to address the research gap regarding institutional action in higher education for the purpose of providing recommendations to college leaders on ways they can establish or improve an institutional action plan to commit to resolving possible barriers for the students with children population. Studies of effective institutions tell us that improvement in rates of student retention and graduation is achieved not merely by the actions taken but also by the way those actions are organized (Carey, 2005a; Carey, 2005b; Jenkins, 2006; Kuh et al., 2005).

Institutional Commitment and Leadership

Institutional commitment is, in turn, a reflection of institutional leadership (Clark, 1996) and the willingness of leadership to invest resources in those aspects of institutional functioning that directly and indirectly impact student success. Institutional

leadership is not just the reflection of the actions of the top administrator. Though it is hard to envision the development of successful programs that endure over time without supportive leadership from the top, it is also the case that support at the level of deans, department chairs, and vice presidents also matters (Demery et al., 1999). This is the case because such support most directly impacts the willingness of individual faculty and staff to invest in programs and activities that enhance the success of their students (Umbach & Porter, 2002). Felten et al. (2016) suggested leaders at institutions that have long-standing commitments to high-quality undergraduate education speak regularly about the values that undergird the education program.

At many colleges and universities, this begins with the centrality of the arts and sciences to provide students with a foundation of knowledge; to prepare them as critical thinkers, ethical citizens, creative problem solvers, and effective writers and communicators; and to inspire them to live lives of meaning and purpose. (p. 142)

Furthermore, improved rates of academic achievement and degree attainment depend on the investment of institutional resources in those areas of institutional functioning, particularly pertaining to instructional and academic support. Without institutional commitment, most efforts of improvement are marginal and short lived. Institutional commitment is, in turn, a reflection of institutional leadership (Clark, 1996) and the willingness of leadership to invest resources in those aspects of institutional functioning that directly and indirectly impact student success (Ryan, 2004).

Expectational Climate

The expectational climate of an institution, or what is often referred to as campus climate, speaks to the expectations the institution holds for student, faculty, and staff

behavior. It provides the expectational context for individual action and, in turn, influences student achievement due to the ways in which expectations shape how individuals respond to each other and to the multiple and often competing demands upon their time and energy. Tinto (2012a) explained:

These self-expectations are shaped, in turn, by a variety of institutional actions, not the least of which have to do with the expectations the institution establishes for student performance and those the faculty establish for their students, especially in the classes they teach. (p. 6)

According to Tinto (1993), environment encompasses all postsecondary factors that could affect the student. These factors include policies and procedures, curriculum and pedagogical practices, interactions with faculty, staff, and peers, and the overall climate. Though the expectational climate of an institution is formed by many individuals, no staff, faculty, or administrator is more vital to institutional action than the president or chancellor. To develop students (and faculty, staff, and administrators) who have the habits and capacities necessary to learn in the face of challenges, institutions must recognize and value the complexity of learning (Felton et al., 2016). Not only does that person play a critical role in resource allocation, but he or she sets the tone for the institution and its various members. Without their expressed commitment to the issue of student achievement, especially among students with children, it is hard to imagine substantial improvement over time.

Tinto (2012b) proposed student success is directly influenced not only by the clarity and consistency of expectations but also by their level. High expectations are a condition for student success, low expectations a harbinger of failure. The topic of

support for students has received considerable attention and has covered a wide array of types of action ranging from financial, academic, and social to personal. Academic support programs, like advising programs, are equally diverse in nature. Academic support is especially effective when aligned with the immediate task of learning with a classroom (Perin, 2011). And for many students, the availability of academic support is critical to their ability to succeed in college. Regardless of the method, academic support is especially important to the success of students who enter academically underprepared, a disproportionate number of whom are from low-income backgrounds (Muraskin, 1997).

Feedback

According to Tinto (2012b), students are more likely to succeed in institutions that assess their performance and provide frequent feedback in ways that enable students, faculty, and staff alike to adjust their behaviors to better promote student success. Felten et al. (2016) suggested understanding is the first step toward improvement. Until you understand what is you cannot identify a reasonable path toward what could be. The primary purpose of assessment is to produce results to satisfy external bodies; “instead of faculty members and institutional leaders declaring that improvement of student success and institutional performance was the guiding purpose for documenting student performance and being encouraged and rewarded for doing so the interests of others outside the institution” shape what data is gathered and how it is evaluated (Ikenberry & Kuh, 2015, p. 5).

Performances of individuals are often compared against standards or with others for assessments (Singh, 2011). Tinto (2012b) suggested the most common assessments that directly impact student achievement are those that take place at admission, typically

as part of an institutional screening program to ensure appropriate placement in coursework, those that are provided in the first semester as part of an early warning system, and those applied within classrooms to provide feedback to both faculty and students about their performance. “Effective investing begins with institutional assessments to pinpoint those aspects of institutional functioning that require improvement. Though such assessments can be valuable, they must be used with care” (Tinto, 2012, p. 83). People who attribute their success on an exam to their ability would perceive their ability as consistent across time (stable), within themselves (internal), and yet beyond their control (uncontrollable) (Johnson et al., 2016). Predictions of the likelihood of attrition are based on a series of aggregate relationships between attributes and attrition that may or may not be reflective of any particular institution or individual. Furthermore, assessment can inevitably disregard the well-documented fact that retention depends more heavily on what students experience after entering college than what happened before.

Involvement

Involvement, or what is now commonly referred to as engagement, has long proven to be one of the most crucial factors motivating college student achievement. The more that students are engaged with other people on campus, especially student peers, staff, and faculty, the more likely they are to persist in college. Research demonstrates that undergraduates at all different institution types “who reported talking to an academic adviser either ‘sometimes’ or ‘often’ had significantly higher persistence rates than those who did not,” and gains are greatest for first- generation and low-income students (Klepfer & Hull, 2012, p. 10-11). Felten et al. (2016) mentioned, “institutions need to

take responsibility for shepherding students along pathways to meaningful relationships. Many institutions boast of having excellent programs, but that is not sufficient for students to have excellent undergraduate experiences” (p. 55). As Chambliss and Takacs (2014) concluded, “what matters is who meets whom, and when. Programs succeed only when they bring the right people together. If the right people are involved, a variety of curricula can serve colleges well. If they aren’t, no curriculum will work” (p. 157). Additionally, research by Strayhorn (2012) and others explained that a sense of belonging is essential to student learning and success for a diverse range of undergraduate students, including students with children. Belonging is always relational, bridging the gap between the student and the college campus.

The following section discusses the dependent and independent variables in the proposed study.

Academic Achievement and Degree Attainment

As the world of higher education works to increase rates of degree attainment among adults in the United States, it is important to acknowledge and address the unique time-related, financial, and logistical challenges facing students with caregiving responsibilities (Noll et al., 2017). Thus, a better understanding of malleable factors beyond academic preparation that contribute to the achievement gap for underrepresented students may inform alternate or additional intervention approaches that hold promise for remedying this gap between underrepresented and majority college students (Loeb & Hurd, 2019). Historically, the two types of achievement goals defined by achievement goal theory (AGT) are mastery (learning) goals and performance goals, where mastery goals are characterized as strivings to gain competence, and performance goals are

characterized as strivings to demonstrate competence (usually in relation to others) (Elliot & Dweck, 2005; Linnenbrink & Pintrich, 2002). Morris et al. (2003) reported nontraditional students (including students with children) endorsing mastery goals substantially more than traditional students, as well as task-oriented coping (a coping strategy characterized by persistence in problem solving or enduring stressful situations) and academic achievement. In fact, Morris et al. (2003) reported positive relationships between mastery goals and grade point averages, as well as between task-oriented coping and mastery goals.

Historically, researchers have focused on individual vulnerabilities or weaknesses that may increase the risk of noncompletion (Demetriou & Schmitz-Sciborski, 2011). As a result, many student deficits or situational challenges have been identified as contributing to a lack of student persistence (Mamiseishvil & Deggs, 2013). According to Singh (2011), students with high academic motivation are more likely to have increased levels of academic achievement and have lower dropout rates. It is generally seen that achievement-motivated people evidenced a significantly higher rate of advancement in their company compared to others. Findings from previous research suggest that students' sense of status relative to their peers may be an additional factor contributing to the educational attainment gap (Johnson et al., 2011; Ostrove & Long, 2007). It was therefore recommended that parents, teachers, and employers should strive to promote and encourage academic motivation in students from an early age seeing the importance it plays in forming self-concepts, values, and beliefs that students hold about themselves (Singh, 2011). Sentiments related to the positive and negative impacts of student-parent roles included balancing their shifting and intersecting identities, effects on their mental

health, their increased motivation for school, and sense of pride in their accomplishments (Carney-Crompton & Tan, 2002).

A recent review of positive psychology suggested that it was underutilized in practice (Magyar-Moe et al., 2015); more scholarship is needed to explore positive psychological theories in relation to real-world problems (Browning et al., 2018). Positive psychology and achievement motivation are important aspects when it comes to degree completion among students with children. Singh (2011) described achievement motivation as a subjective and internal psychological drive, enabling individuals to pursue work they perceive to be valuable and prompting them to reach their goals. Additionally, achievement motivation is a mentality that will allow students with children to compete and compare with others as they navigate higher education as both a student and parent.

As institutions of higher education continue to see increases in their nontraditional student populations, it is vital to consider the effects from the COVID-19 pandemic that have impeded college access and success for many students, especially those who are low-income (Causey et al., 2021). Andrewartha et al. (2022) found that the COVID-19 pandemic caused additional challenges for many student parents, including significant disruptions to their own study arrangements and restricted childcare options. As a result of the crisis, parenting responsibilities increased, mental health was negatively impacted, financial pressures worsened, and student parents were forced to reduce their study load to manage their changed family and domestic commitments (Andrewartha et al., 2022). According to Causey et al. (2021), in fall 2020, 22% fewer high school graduates immediately attended college after high school when compared with fall 2019. There was

a 29% drop in college enrollment among graduates from low-income high schools, compared with a 17% drop from higher income high schools, which suggests the pandemic is disproportionately affecting low-income young adults (Causey et al., 2021). In addition, prepandemic nontraditional students were already more than twice as likely to drop out during or after their first year of college compared with traditional students, at a rate of 38% versus 16% (McFarland et al., 2019).

Cleveland-Innes (1994) found that academic integration, including current college GPA, had a direct positive effect on nontraditional students' institutional and goal commitments, which in turn increased their likelihood of persisting. To persist, students need integration into formal (academic performance) and informal (faculty/staff interactions) academic systems and formal (extracurricular activities) and informal (peer-group interactions) social systems (Tinto, 1993). Tinto (2012b) sought to provide institutions not only with a systematic way of thinking about what actions they can take to increase retention and graduation, but also a way of organizing and implementing those actions to enhance their sum impact on student success. Researchers have found positive associations between academic integration and students' institutional commitment (Davidson et al., 2015), and some evidence suggests that academic integration may mediate the associations between personal and environment factors and institutional commitment (Davidson et al., 2015).

Rugutt et al.'s (2005) study relates to the current study as it explores the degree of influence learning environment factors, both institutional and individual, have on academic achievement. Specifically, the primary focus of that study was twofold: a) to investigate whether internet and campus technology, student-faculty interaction, student

active learning strategies, quality of instruction and overall college experience were significantly related to academic achievement; and b) to develop a structural equation model to explain interrelationship among the study variables. Krueger's (2017) ideas for interventions were like other readings such as Costello's (2014) that describes essential resources in colleges could be a useful tool in creating opportunities for student parents to develop resources for academic, professional, and emotional growth, possibly resulting in higher GPAs and resilience levels. Community colleges can enhance adaptive strategies like resilience to increase persistence in students with children, however, students from underrepresented groups may find themselves outnumbered by peers with more resources and privilege, which may have a negative effect on their general self-perception relative to other students at the university (Loeb & Hurd, 2019).

Focusing on the undergraduate experience is about creating and sustaining an institutional culture that is mission-driven yet adaptable to change. Successful institutions have leadership at every level (e.g., students, faculty, and staff, departments and divisions, schools and colleges, upper administration, the governing board) that are committed to putting student learning first (Felten et al., 2016). Regarding college student performance in particular, two longitudinal studies indicated that greater levels of hope predicted higher grade point averages, higher graduation rates, and lower attrition rates, when controlling for academic self-efficacy and academic engagement (Gallagher et al., 2016). Scholars have argued that hopeful college students are more likely to persist to graduation, in part, because their goal is to be academically successful (Rand & Cheavens, 2009), and hopeful individuals generally find ways to meet their goals (Snyder, 2000). Drawing on higher education models, therefore, one possibility is that

students with high levels of hope may become committed to persisting at their university, in part, because they are likely to become academically integrated and invested in their education (Browning et al., 2018).

Race/Ethnicity

As colleges work to improve attainment rates and address economic, racial/ethnic, and gender inequality on their campuses, institutions should take steps to better understand and support their diverse student population, including students with families of their own (Kruvelis, 2017). Multiple studies demonstrate that students who interact frequently with racially and ethnically diverse peers show greater growth intellectual engagement than those who do not (Chang et al., 2004; Pascarella & Terenzini, 2005). While low academic achievement is not specific to one ethnicity, minority students have been most often identified as performing below grade level (Barton, 2004). Minoritized students can be found in various ranges on the achievement scale but, all too often, fall into the category of being at risk of academic failure. Minority students seem to be academically impacted the most by home factors. Although, low achievement is a problem not limited to a specific social group or ethnicity, a vast number of minority students and students who are raised by a single parent fall into the category of at risk (Stewart, 2010). Richards and Schmiede (2004) described a large percentage of households in the African American culture are headed by females. Most of these females spend the majority of their time working and providing economically for their families, which limits the amount of time they have to devote to the academic concerns of their children (Hale, 2004).

According to Niu (2015), substantial differences by race/ethnicity still persist. Nearly two out of every five African American college students, or 37%, are parents. American Indians and Hispanic/Latino students are also disproportionately likely to have children, at 33% and 25% respectively (Nelson et al., 2013). Students of color, especially Black, Native American, Alaska Native, and Latina women, and women who identify as ‘more than one race’ are more likely to be raising children than White and Asian students, making student parent success critical to achieving racial/ethnic equity (Gault et al., 2020). Although college is considered the great equalizer for racial or ethnic minority, first generation, and low-income students, many underperform and ultimately do not graduate or complete their chosen degrees, accumulating significant debt in the process (Loeb & Hurd, 2019). Evaluating completion outcomes among student parents, along with measures of students’ racial/ethnic backgrounds, can also help identify the role that parenthood may play in driving racial/ethnic differences in college attainment. Few data sources, however, collect information on college students’ parent status or caregiving demands (Gault et al., 2020). While all student parents face significant challenges in their pursuit of a higher education, the extent of those challenges vary depending on students’ racial/ethnic backgrounds (Noll et al., 2017).

Research findings suggest that when colleges recognize and develop ways to meet the unique needs of their diverse populations, both the students and the institution benefit through increased student persistence (Brooms & Davis, 2017). Several markers of students’ sense of status, such as a low sense of school belonging, decreased academic self-efficacy, and increased experiences of stereotype threat (the salience of a given characteristic, such as race, impacting actual performance in stereotype-congruent ways)

have all been linked to poorer academic performance (Hackett et al., 1992; Walton & Cohen, 2007; Woodcock et al., 2012). The common thread among all of these predictors appears to be students' sense of place and adequacy in their current school (Loeb & Hurd, 2019). Colleges, universities, and their surrounding communities must take steps to help students succeed in their work as both students and parents (Nelson et al., 2013).

Gender

Student parents are far from a homogeneous group as evidenced by differential enrollment patterns at colleges and universities, for those studying full- and part-time, for males and females, and based on marital status (Nelson et al., 2013). Most student parents are single mothers balancing parenting, school, and often work, without the support of a spouse or partner (Gault et al., 2020). Because women must attain higher levels of education than their men counterparts to earn family-sustaining wages, student mothers' success in higher education is integral to their ability to support their families (Hegewisch et al., 2016). Gender differences in fields of study are important because traditionally men occupations pay higher wages (Nelson et al., 2013). Nelson et al. (2013) mentioned creating true economic opportunity through higher education requires promoting and preparing women, especially single mothers, for careers in STEM and other traditionally men-dominated fields.

Van Rhijn et al. (2011) stated participation by female students drove much of the growth in post-secondary participation between 1976 and 2005, increasing by 149%. Female student parent participation rates actually outpaced female non-parents (152% and 148%, respectively). In addition, growth in female student parent participation increased over the time period, unlike men, whose participation rates declined (Van Rhijn

et al., 2011). Growth in participation by men student parents was a mere 29% compared with an increase of 83% for men non-parents. Consequently, male student parents increased from 7% of all post-secondary students in 1976 to 9% in 2005, but men student parent participation decreased from 6% to 4% during the same period (Van Rhijn et al., 2011). The continued success of a postsecondary institution may well depend on its ability to understand and accommodate the unique dispositional, situational, and institutional needs of nontraditional female students (Carney-Crompton, 2002). The frequent coexistence of family responsibilities and commitments with the demands of academia can create additional challenges and barriers to academic success for the nontraditional female student (Anderson & Mieзитis, 1999; Novak & Thacker, 1991; Padula, 1994). Coser and Coser (1974) categorized family and education as “greedy institutions” that demand exceedingly high degrees of energy, time, and commitment. The nontraditional female student, who typically occupies these dual roles, often reports feeling role conflict and strain (Home, 1997, 1998). Indeed, family variables are frequently the reason these women cite for not completing their education (Leavitt, 1989). Thus, the need for academic support, particularly instrumental support, may be higher for this group of students.

Ricco et al. (2009) suggested mothers attending college are in a unique position as parents; they share with their school-age children the important and demanding social role of student. This important life transition of becoming a mother became a motivational factor in the mothers’ pursuit of an education (Roy et al., 2018). Even though being a student-parent has its challenges, the mothers in the Roy et al. (2018) study felt that their parenting role gave them a greater sense of purpose and determination

to complete their education. Mothers' student-role attitudes include intrinsic and extrinsic motivation, reasons for pursuing higher education, student-role efficacy, and self-regulation in learning and in the management of resources (time, effort) (Ricco et al., 2009). In the Carney-Crompton (2002) study, the majority of mothers chose to pursue their academic goals only once their children had become adolescents and presumably had become more independent. This group of women may have made the choice to return to school deliberately after potential familial constraints were lessened. The decision to undertake the challenge of postsecondary education can require greater adaptation for nontraditional female students who already possess a significant commitment to existing roles (Carney-Crompton, 2002).

Marital Status

Student parents may be single or partnered, attending PSE on a full-time or part-time basis, and may also be employed in addition to attending school (Van Rhijn et al., 2011). Tinto (1993) hypothesized that external events (e.g., employment, family responsibilities, financial constraints) impacted student intentions, commitments, and persistence, particularly for students in non-residential institutions. Similar to Tinto (1993), Johnson and Nussbaum (2012) mentioned there are many social indicators such as marital status, parental status, and time taken off from school, which highlight the career, family, and financial responsibilities that nontraditional students often have in comparison to their younger classmates. Due to these additional responsibilities, nontraditional students are perceived as facing greater barriers to higher education than traditional students (Keith, 2007; Wyatt, 2011). Yet, in spite of these perceived barriers, nontraditional students fare well academically, as evidenced by higher academic

achievement (Carney-Crompton & Tan, 2002; Eppler et al., 2000; Jenkins, 2012). Noll et al. (2017) recommended that colleges and universities, as well as policy makers, can attempt to resolve these factors by designing policies and programs to help student parents manage their significant family, financial, and time demands while in college.

According to The Annie E. Casey Foundation (2022), in the United States today, nearly 24 million children live in a single-parent family. This total, which has been rising for half a century, covers about one in every three kids across America. In addition, within single-parent families, most children (15 million) live in mother-only households. Nearly 6 million kids live with cohabitating parents and some (3 to 4 million) kids live in father-only households, according to 2019 estimates (The Annie E. Casey Foundation, 2022). Children who are raised in single-parent homes are more at a disadvantage educationally than children raised by both parents (Grall, 2021). Although low achievement is a problem not limited to a specific social group or ethnicity, a vast number of minority students and students who are raised by a single parent fall into the category of at risk (Stewart, 2010). In the past, single-parent families became evident through separation or death (Answers Corporation, 2004). The rise in single-parent families by choice has increased, as well as the number of reasons single parenthood may occur. Parents may opt for divorce, choose adoption, artificial insemination, and/or surrogate motherhood. They may also experience extramarital pregnancies, may die, or decide to abandon their children (Answers Corporation, 2004).

Baum et al. (2013) suggested educational achievement for students with children benefits the students themselves and the families they are raising. Increasing parents' educational attainment yields positive short- and long-term gains, including higher

earnings, greater access to resources, greater involvement in their children's education, and greater likelihood of their child pursuing college (Attewell et al., 2007; Magnuson, 2007). Factors that may mediate the relationship between role multiplicity and psychological functioning and help to explain the discrepancies noted in the literature, are the quality and quantity of social support (emotional and instrumental) available to the student (Carney-Crompton & Tan, 2002). Greater emotional support (i.e., acceptance, encouragement, and praise) and instrumental support (i.e., financial, childcare, and household) may reduce the negative psychological consequences that increased roles, demands, and conflicts can have on a student parent. Some studies have suggested that it is often the individual's perceived satisfaction (quality), rather than the absolute number (quantity) of emotional and instrumental supports available, that plays the primary role in determining psychological outcomes (Home, 1997, 1998). Nontraditional students who demonstrate greater satisfaction with their emotional and instrumental supports also report better psychological functioning than those who are less satisfied (Leavitt, 1989; Mallinckrodt & Leong, 1992; Roehl & Okun, 1984).

Students with children have a multitude of distinctive characteristics, from marital status to family support. Hallett and Westland (2015) suggested parents and relational support play a pivotal role in supporting students through college. Students are more likely to become committed to the institution and, therefore stay, when they come to understand that the institution is committed to them (Tinto, 1987). Van Rhijn et al. (2011) stated a higher proportion of postsecondary student parents were partnered (including married and common-law) than single student parents (including those who were never married, divorced/separated, and widowed). Married student parents have continued to

represent a greater proportion of the student parent population; however, increases in enrollment by single student parents, in particular single mothers, were noteworthy over the time period (Van Rhijn et al., 2011). This finding may be related to the addition of some programs and financial aid support directed at single parents that increased access to postsecondary education (PSE).

Tambuwal (2012) investigated marital status and academic performance and the result revealed that there was significant difference between academic performance of married and unmarried students and there was significant difference between study habits of married and unmarried students. Female married students performed better and had more effective study habits than the unmarried students (Amuda et al., 2016).

Additionally, Cloyd (2010) investigated the relationship between marital status and academic performance of undergraduate students in the United States. The results showed that the married students performed better than the single students. The study determined that marital status influences students' academic achievement and those that are married tend to do better than the single students (Amuda et al., 2016). In terms of marital status, several international studies report better performance for married undergraduates compared to their unmarried classmates. For example, Smith and Naylor (2001) explored the data for all students graduating from all U.K. universities in 1993. In their analysis married students (male and female) do better than unmarried students (Amuda et al., 2016). The researcher plans to expand on previous studies relating to the effects of marital status by further investigating postsecondary students in the United States.

Summary

Education is a critical determinant of health and well-being for individuals and families over the life course (Pascarella & Terenzini, 2005; Ungerleider & Burns, 2004). Times of economic uncertainty and job losses can lead to increased demands for job retraining and other career changes, often involving the need to obtain or further one's education or credentials (Van Rhijn, 2011). A college degree may change one's life and provide opportunity beyond the imaginable (Miller et al., 2011). Tinto (1993) described how the interactional nature of student experiences in the academic and social systems within an educational institution directly affected the reformulation of students' intentions and educational goal and institutional commitments and eventually their departure decision. While Tinto and Pusser's (2006) model suggested efforts to improve retention and graduation, the institution must begin by focusing on its own behavior and establishing conditions within its walls that promote those outcomes. Although Tinto's (1987, 1993) theory of student departure has influenced best practices in persistence and retention, research that extends the model to understanding the needs of student with children can add to the existing theory.

Furthermore, even though low achievement is a problem not limited to a specific social group or ethnicity, many minority students and students who are raised by a single parent fall into the category of at risk (Stewart, 2010). The literature review provided in this study is useful information to begin understanding academic achievement and degree attainment among college students with children, while also learning how institutional action could influence the possibility of increasing these rates. Other factors influencing these variables among students with children may also include self-determination,

motivation style, self-efficacy, and personal self-improvement goals, documented to aid in persistence to complete college (Bowman et al., 2015).

Finally, while conducting investigation, the researcher observed there is minimal information regarding academic achievement, degree attainment and institutional action among college students with children compared to their non-parenting peers. Therefore, the researcher found it important to address this research gap for the purpose of providing recommendations to higher education professionals to possibly innovate or improve an institutional action plan aimed at resolving potential barriers for student parents.

Additionally, Gault et al. (2020) suggested evaluating completion outcomes among student parents, along with measures of students' racial/ethnic backgrounds, can also help identify the role that parenthood may play in driving racial/ethnic differences in college attainment. The lack of recent literature also made it difficult to understand what differences exist, if any, between college students with children and their peers without parental obligations. The following chapter discusses the methodology used to conduct this study. More specifically, the researcher shares the studies research design, research questions, study variables, and hypothesis. Lastly, the instrumentation, data collection, and data analysis are discussed.

CHAPTER THREE:

METHODOLOGY

This chapter outlines the methodology used to conduct this study, more specifically addressing the documents needed to conduct this study. The study determines if there are differences in academic achievement between students who have children and those who do not have children attending a four-year institution. In addition, the study looked at differences in degree attainment between students who have children and those who do not have children. The chapter includes an explanation of the research design including the research questions along with their respective hypotheses. This is an ex post facto design study, meaning that the independent variables are already determined or collected. Additionally, the demographic variable information gathered and the instrument used are also explained in this chapter. Finally, there is a discussion on how the data were collected and analyzed.

Research Design

This research utilized the Beginning Postsecondary Students Longitudinal Study (BPS) by the National Center for Education Statistics (NCES, 2020), the primary federal entity for collecting and analyzing data related to education in the United States and other nations (Bryan et al., (2019). NCES is located within the U.S. Department of Education and the Institute of Education Sciences. NCES fulfills a Congressional mandate to collect, collate, analyze, and report complete statistics on the condition of American education; conduct and publish reports; and review and report on education activities

internationally. The NCES survey program at the postsecondary education level provides statistical information used by planners, policymakers, and educators in addressing a multitude of issues. One major source of this information is the annual Integrated Beginning Postsecondary Students Longitudinal Study (BPS) acquired by the NCES. The researcher used NCES as the source of data to answer the study research questions. BPS follows students from when they first begin their postsecondary education. The students are initially identified as being first-time beginners (FTB) of undergraduate studies and are asked questions about their experiences during, and transitions through, postsecondary education and into the labor force, as well as about family formation. Transfers, stop outs/dropouts, and vocational completers are among those included in the studies.

Additionally, BPS follows a cohort of students who are enrolled in their first year of postsecondary education and provides a variety of data from all public and private institutions in the United States and outlying areas that are eligible to receive Title IV funding. BPS FTB students are surveyed at three points in time: in the base year (through items that were included in the NPSAS student survey instrument) and at two subsequent intervals (Bryan et al., 2019). Other BPS studies included financial aid, postsecondary faculty, and bachelor's degree recipients, doctoral degree recipients, transcript studies, and various longitudinal studies. The next section describes the research questions utilized to examine the variables in the study.

Research Questions

This study has two major research questions:

RQ1: Is there a difference in degree attainment of earning a bachelor's degree in the time period from 2012 through 2017 between students who have dependent children and those who do not have dependent children between the ages 18 to 29 after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score?

RQ2: Is there a difference in academic achievement as defined by students' grade point average between students who have dependent children and those who do not have dependent children between the ages 18 to 29 after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score?

The first research question addressed degree attainment. Specifically, the independent variables include type of dependent, gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score. The variable of degree attainment in 2017 consisted of two levels: no bachelor's degree attained; and yes, bachelor's degree attained from 2012 to 2017. The data used 2012 first-time postsecondary students' characteristics and their six-year retention through June 2017. The second research question addressed academic achievement and used the dependent variable of grade point average data which is indicated by the cumulative undergraduate GPA at all known institutions the student attended as of June 2017 and the independent variables of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score.

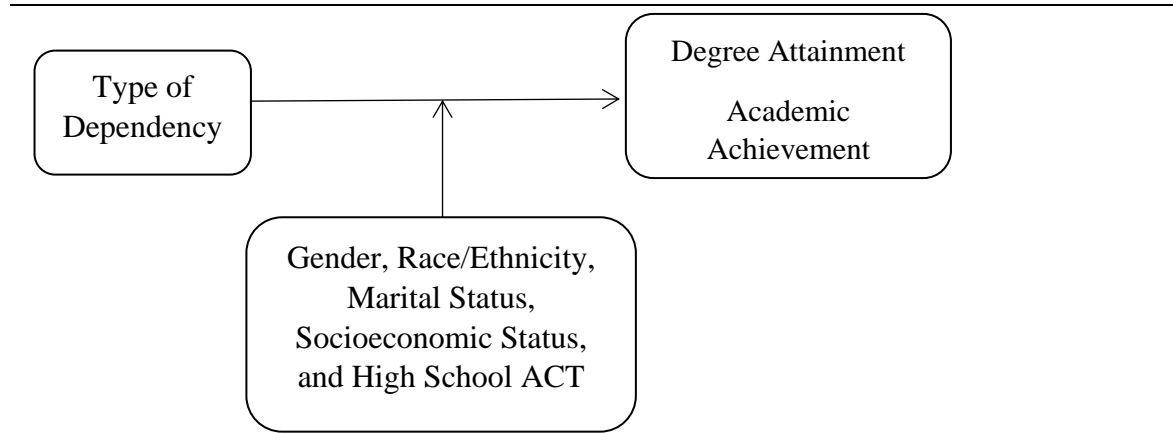
Study Variables

This section describes the variables used in this study, which are described in the conceptual table below. The independent variables include gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score. For the purpose of this study,

dependent type has two categories: (a) having only children as dependents; and (b) no dependents. Table 1 summarizes these variables by research question with their respective coding.

Table 1

Table of Variable by Research Question



	Outcome variables of analysis	Measure description
Dependent Variable	Degree Attainment from 2012 through 2017 (Bachelor's degree and No Bachelor's degree)	Dummy coded: No Bachelor's degree (Referent = 0) versus Bachelor's Degree = 1
Dependent Variable	Academic Achievement as defined by College GPA Student Transcripts	Continuous variable
Key Independent Variable	Type of Dependency	Measure description Dummy coded: Only dependent children = 1 versus No Dependents (Referent = 0)
Independent Variable	Covariates of analysis Gender	Measure description Dummy coded: Male (Referent = 0) versus Female = 1
Independent Variable	Race/Ethnicity	Dummy coded: African American

		(Referent = 0) versus White = 1
		African American (Referent = 0) versus Asian = 1
		African American (Referent = 0) versus Hispanic = 1
		African American (Referent = 0) versus Other (American Indian or Alaskan Native, Native Hawaiian, or Pacific Islander, more than one Race) = 1
Independent Variable	Students Marital Status in 2017	Dummy coded: Married/Living with partner (Referent = 0) versus Single, never married, separated, divorced, widowed =1
Independent Variable	Socioeconomic status as defined by Pell grant amount received in 2016-17. The maximum Pell grant in 2016-17 was \$5,815.	Dummy coded: Received no money (Referent = 0) verses Received some money= 1
Independent Variable	ACT derived composite score as derived from either a reported ACT score or the SAT I combined score converted to an estimated ACT composite score.	27 to 36 (4th Quartile) (Referent = 0) 23 to 26 (3 rd Quartile) = 1 20 to 22 (2 nd Quartile) = 1 0 to 19 (1 st Quartile) =1

The following section discusses the respective null hypotheses associated with the variables described above.

Hypothesis

The first research question addressed degree attainment and had one null hypothesis. Specifically, the variable analyzed included degree attainment in 2016-2107 from students entering a post-secondary institution in 2011-2012.

The following is the respective null hypothesis:

H₁: There is no difference in degree attainment of earning a bachelor's degree in the time period from 2012 through 2017 between students who have dependent children and those who do not have dependent children between the ages 18 to 29 after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score.

The second research question addressed academic achievement and has one null hypothesis to be tested. The dependent variable of grade point average data from 2012 to 2017 and the independent variables of type of dependent, gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score are the questions used for this hypothesis.

The following is the null hypothesis associated with this research question:

H₂: There is no difference in academic achievement as defined by students' grade point average between students who have dependent children and those who do not have dependent children between the ages 18 to 29 after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score.

Based on understanding of the research questions, the researcher anticipated college students with children would have lower bachelor's degree attainment rates in the time period from 2012 through 2017 and have lower academic achievement rates

compared to those who do not have dependent children. This hypothesis was determined by examining previous research studies and statistical evidence indicating lower achievement rates among college student parents due to the additional challenges, responsibilities, and barriers they tend to face as caregivers.

Instrumentation

The purpose of the National Center for Education Statistics (NCES) is to collect and report information on the academic performance of the nation's students as well as the literacy level of the adult population (Department of Education, 2012/17) (Burns et al., 2011). The study uses Web Tables from the Beginning Post-Secondary data, (BPS) acquired by the NCES, which is the third in a series of four that together provide key information about 2011-12 first-time postsecondary students' characteristics and their six-year retention, persistence, attainment, withdrawal, stopout, and transfer rates (Bryan et al., 2019). The series draws on data collected for the 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17), a nationally representative longitudinal sample survey conducted by NCES, which followed first-time students for six years after they began their postsecondary education (Department of Education, 2012/17). The set of Web Tables highlights six-year persistence and attainment rates at any institution attended. In addition, the tables indicate the percentage of 2011-12 first-time postsecondary students who attained a certificate, an associate degree, or a bachelor's degree at any institution by spring 2017. They also show whether those who had not yet attained a credential were enrolled at a four-year institution, enrolled at a less than a four-year institution, or not enrolled in spring 2017.

This study used data from each of the four publications in this series of Web Tables including: first-time postsecondary students' backgrounds, students' precollege academic characteristics, students' enrollment the first year they were enrolled (2011-12), and students' postsecondary experiences through 2017. Specific characteristics included in each table may vary slightly, depending on the distinct population of students in the table. Lastly, the data presented in the Web Tables were produced using PowerStats, a web-based software application that enables users to generate tables for most of the postsecondary sample surveys conducted by NCES non-restricted version. With PowerStats, the researcher can replicate or expand upon the tables, by conducting linear or logistic regressions (Burns et al., 2011).

Data Collection

This study used the Beginning Post-Secondary data (BPS), acquired by the NCES, from 2012 first-time postsecondary students' characteristics and their six-year retention (Bryan et al., 2019). The BPS:12/17 sample or target population was originally identified from respondents from the 2011-12 National Postsecondary Student Aid Study (NPSAS:12). NPSAS:12 is a nationally representative sample of about 90,000 undergraduate, graduate, and first professional students in about 1,600 postsecondary institutions in the 50 states, the District of Columbia, and Puerto Rico that were eligible to participate in federal Title IV student aid programs (Bryan et al., 2019). BPS:12/17 included both a student survey and collection of administrative data. Responding institutions provided enrollment lists that detailed all enrollees between July 1, 2011, and June 30, 2012, and eligible students were sampled from the enrollment lists. The student survey instrument was tested in the BPS:12/17 pilot test before its design was finalized.

The BPS:12/17 student survey included core data elements used in previous BPS surveys, including elements identified through a redesign that used a research framework, the human capital model (Bryan et al., 2019). These elements addressed the costs and benefits associated with enrolling and persisting in higher education, a key principle of the human capital framework (Becker, 1975) (Bryan et al., 2019). Like the BPS:12/14 student survey, the BPS:12/17 student survey included an expanded employment section that provided additional data on students' labor market experiences and outcomes.

In particular, new questions (first used in NPSAS:12) focused on respondents' choice of a major or field of study, nonmonetary benefits of education, and future expected earnings and occupation (Bryan et al., 2019). Programmers developed the BPS:12/17 survey using proprietary software that provided specifications, programming, and testing interfaces for the student survey instrument. All information relating to the survey (including details about the study, what to expect, and confidentiality) was stored in a structured query language (SQL) server database and was made accessible to the BPS:12/17 sample members through web browser interfaces (Bryan et al., 2019). The BPS:12/17 student survey incorporated a responsive-design data-collection plan similar to the one used in BPS:12/14, in which the web-based survey was administered in two separate sub studies: a calibration study and the main study. The calibration study, initiated first, evaluated the use of a prepaid incentive to boost response rates. About 10% of the BPS:12/17 full-scale sample members were randomly selected to be included in the calibration study, with data collection beginning in early March 2017. The main study started approximately seven weeks later and collected data from the remaining sample members in several phases which, for previous nonrespondents, involved targeted

incentive boosts, targeted early offers of an abbreviated survey, and transfer of all remaining nonrespondents to an abbreviated survey (Bryan et al., 2019).

The most significant differences from the BPS:12/14 data collection were the addition of a special protocol for sample members who had not responded to either of the prior student surveys (neither NPSAS:12 nor BPS:12/14) and the addition of a randomized control-treatment experiment to measure the impact of the responsive-design targeted interventions on nonresponse bias. To supplement the student surveys, BPS staff obtained additional information from a variety of administrative data sources. Staff matched and downloaded student financial aid data from CPS, which houses and processes data contained in the Free Application for Federal Student Aid (FAFSA) forms. Staff also obtained data from NSLDS, which contains Title IV loan and grant data, and NSC, which contains enrollment and degree-attainment information provided by participating institutions. A multistep process was used to locate, trace, and contact sample members (Bryan et al., 2019). This process included a panel-maintenance mailing and e-mail, batch and intensive tracing, and a mailing and e-mail inviting sample members to complete the survey.

During data collection, a study website and help desk provided information and support to sample members. Sample members could complete the survey independently on the Web, or interviewers trained in computer-assisted telephone interviewing (CATI) methods were available to help sample members complete the survey over the telephone. Quality control procedures used in student survey data collection included frequent monitoring of recorded interviews, a help desk to assist sample members who had questions about the study or completion of the web survey, quality circle meetings to

facilitate communication among staff members, and debriefing meetings to identify areas of success and for improvement (Bryan et al., 2019). Throughout the data-collection period, BPS staff processed and examined the data for quality. After the conclusion of data collection, BPS staff imputed missing data for selected variables included in the non-restricted research file and in the public-use data available through the NCES online application PowerStats. Analysts created the analytic variables by examining the data for each student from all available data sources, prioritizing the data sources on a variable-by-variable basis, and reconciling discrepancies within and between sources. Following imputation, BPS statisticians conducted weighting procedures to adjust for nonresponse and poststratification.

Data Analysis

Descriptive statistics was tabulated for all the continuous and categorical dependent and independent variables to understand characteristics of the data, including students' standing on the measured variables. Multiple regression and logistic regression were used to address the study research questions. These techniques are used in research to explain the relationship between multiple independent or predictor variables and one dependent or criterion variable (Osborne, 2016). Each approach, described in this study, yields different perspectives and insights regarding the importance of independent variables in a regression equation, as well as often different rank orderings of those independent variables in terms of their contributions to the regression equation (Nathans et al., 2013). Having multiple variables in a single-analysis permits the unique contributions of each variable to be examined.

To answer research question one regarding degree attainment a logistic regression was performed to understand if there was a difference in degree attainment of earning a bachelor's degree in the time period from 2012 through 2017 between students who have dependent children and those who do not have dependent children between the ages of 18 to 29. Logistic regression is the statistical technique of choice because the outcome variables are dichotomous in nature. This statistical method was used to predict a binary outcome, such as yes or no, based on prior observations of a data set and will be used to determine whether an undergraduate student attending a four-year institution obtained their bachelor's degree in 2017. These binary outcomes allow straightforward decisions between two alternatives and can help tease apart the relative effectiveness of various interventions for different categories of people (Lawton, 2022). Additionally, the term "logistic" is taken from the Logit function that is used in this method of classification (Narkhede, 2021). The classification problem is when the independent variables are continuous in nature and the dependent variable is in categorical form (i.e., in classes like positive class and negative class) (Narkhede, 2021).

The form of the logistic model is:

$$\text{Logit}(Y) = a + B_1X_1 + B_2X_2 + B_3X_3 \dots B_kX_k$$

where $Y = 1$ is the log odds of an event occurring.¹⁵⁶ Because the log odds is unintuitive, logit coefficients are often exponentiated and converted to odds ratios for easier interpretability.¹⁵⁶⁻¹⁵⁸

$$\text{Odds}(Y) = e^{a+B_1X_1+B_2X_2+B_3X_3\dots+B_kX_k}$$

For this data set, the formula for bachelor's degree attainment is:

Odds [Y=1 (attained degree)]

$$=e^{a+b_1(\text{dependence})+b_2(\text{gender})+b_3(\text{race})+b_4(\text{marital status})+b_5(\text{ACT Score})}$$

In terms of interpretation, hypothetically, if the data and model produced a logit coefficient of -0.25 for dependency type (where having dependents is dummy coded as 1 and no dependence is dummy coded as 0), then this would be interpreted as the log odds of attaining a bachelor's degree decreasing by .25 if you have children dependents over not having children, when all other variables are held constant. However, the odds ratio provided a more meaningful interpretation – those with dependents odds of degree attainment are 22% less likely than those without dependents when all other variables were held constant. Odds ratios provide the association of the independent variable with the dependent variable and range from 0 to infinity with odds ratios < 1 indicating a negative association of the independent variable with the dependent variable, > 1 a positive association and exactly 1, no association. The odds ratio of 22% is obtained by a), taking the exponent of -0.25 equaling 0.78 and b), then taking 1 minus - 0.78 equaling .22 or 22%.

The logistic regression used the dependent variable of degree attained in 2016-2017 and the independent variables of type of dependent, gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score. For the purpose of this regression the dependent variable consisted of two categories: those who attained a bachelor's degree and those who did not attained a bachelor's degree but left without return. (See Table 1 for how all variables were coded for the models.) Odds ratios, 95% confidence limits, and p-values were reported.

To answer research question two about academic achievement, a multiple linear regression where all independent variables are forced into the model was performed (PowerStat does not allow hierarchical regression) to understand whether there is a difference in grade point averages between students who have dependent children and those who do not have dependent children between the ages of 18 and 29. Multiple linear regression is the statistical technique of choice when the outcome variables is continuous. An extension of simple linear regression, multiple regression allows researchers to answer questions that consider the role(s) that multiple independent variables play in accounting for variance in a single dependent variable (Nathans et al., 2013). Nathans et al. (2013) mentioned through gaining an understanding of multiple methods of assessing variable importance and how they complement each other, a researcher should be able to avoid dichotomous thinking (e.g., yes, it is an important predictor, or no it is not), and instead understand the importance of independent variables in more nuanced terms. Furthermore, use of multiple regression when assessing variable importance yields the strongest and most comprehensive picture regarding the relationships between independent variables and the dependent variable.

The form of the model is:

$$Y = \alpha + B_1 X_1 + B_2 X_2 + B_3 X_3 \dots B_k X_k$$

where $Y =$ is the predicted value of the outcome variable. This regression used grade point average as the dependent variable and type of dependent, gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score as the independent variables:

$Y = a + b_1(\text{dependence}) + b_2(\text{gender}) + b_3(\text{race}) + b_4(\text{marital status}) + b_5(\text{ACT score})$

In terms of interpretation, hypothetically, if the data and model produced a regression coefficient of -0.67 for dependency type (where students with dependents is coded as 1 and students with no dependents is coded as 0), then this would be interpreted as students with dependent children mean college GPA is 0.67 lower than those without dependent children when all other variables are held constant. Other statistics that will be presented, along with the unstandardized regression coefficients, are the 95% confidence intervals for the linear regression coefficients, p-values and the R^2 . For both the logistic and linear regression analysis statistical significance will be set at $p < 0.05$.

The regression methods used to analyze the estimates presented in these Web Tables were produced using PowerStats, a web-based software application that enables users to generate tables for most of the postsecondary sample surveys conducted by NCES. This method estimated the relationships between academic achievement and degree attainment between students who have children and those who do not have children. NPSAS samples are not simple random samples; therefore, simple random sampling techniques for estimating sampling errors cannot be applied to these data (Department of Education, 2012/17). PowerStats considers the complexity of the sampling procedures and calculates standard errors appropriate for such samples. The method for computing sampling errors used by PowerStats involves approximating the estimator by replication of the sampled population. The procedure used is a bootstrap technique. With PowerStats, users can replicate or expand upon the tables presented here. Additionally, the output from PowerStats may include estimates that have been

suppressed in these tables (Department of Education, 2012/17). The output from PowerStats includes the table estimates (e.g., percentages or means), the design-adjusted standard errors, and weighted sample sizes for the estimates. If the number of valid cases is too small to produce a reliable estimate (fewer than 30 cases), PowerStats prints the double dagger symbol (‡) instead of the estimate (U.S. Department of Education, 2012/17).

Summary

This study examined differences in degree attainment from 2011-12 through 2016-2017 between students attending a four-year institution who have children and those who do not have children between the ages of 18-29 using a logistic regression with the independent variables of type of dependent, gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score. In addition to this, this study attempted to determine if there are differences in academic achievement between students who have children and those who do not have children using a multiple linear regression with the dependent variable of student's grade point averages and the independent variables of type of dependent, gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score. The following chapter discusses the results of the study. Specially, the descriptive statistics, demographic variables, and findings of the study are shared.

CHAPTER FOUR:

RESULTS

This chapter presents the results from the study to determine whether there is a difference in degree attainment and academic achievement between students who have dependent children and those who do not have dependent children, after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score. As described in Chapter Three, the researcher conducted a logistic regression and a multiple linear regression to examine the main effects between the independent and dependent variables as described below.

Demographic Variables

The following demographic and other characteristics were gathered from those college students attending a four-year college in 2017 between the ages of 18 and 29: obtainment of bachelor's degree; grade point average (GPA); type of dependent; race/ethnicity; gender; marital status; socioeconomic status determined by Pell grant; and high school ACT scores. These characteristics reflect all the variables used to answer research question one and research question two. The results are shown in Table 2.

For the key independent variable, including 21,629 sample students, 11.3% had dependent children (and inversely 88.7% had no children). Females reflected 56.3% of the sample, while analogously 56.3% of students were White; 11.9% were African American; 15.1% were Hispanic or Latino; 6.9% were Asian; and 5.1% were classified in the "other" category. Only 16.6% of students responded they were married or living with

someone, while the remaining 83.4% stated they were single, never married, separated, divorced, or widowed, (i.e., had no current live-in partner). Eighty-eight percent of students received a Pell grant in 2017, and the mean high school ACT score was 21.9 ($SD=0.07$). For the outcome variable of attaining a bachelor's degree, 61.1% obtained a degree, while 38.9% did not obtain a degree. For the second outcome variable, the cumulative average GPA was 3.0 (Standard Error=0.01).

Table 2

Demographic and Other Characteristics of Beginning Post-Secondary Survey Estimates of Students Ranging From 18 to 29 Years of Age Who Attended a 4-Year College

	Outcome Variables of Analysis	Measure Description	Estimates of Students
Key Independent Variable	Student has dependent children	Yes (%)	11.3%
		No (%)	88.7%
Independent Variables	Gender	Male (%)	43.7%
		Female (%)	56.3%
	Race/Ethnicity	Black or African American (%)	11.9%
		White (%)	56.3%
		Hispanic or Latino (%)	15.1%
		Asian (%)	6.9%
		Other: American Indian or Alaska Native; Native Hawaiian/other Pacific Islander; More than one race (%)	5.1%
		Marital status	Single, never married; Separated; Divorced; Widowed (%)
		Married; Living with partner (%)	16.6%
	Socioeconomic Status: Received Pell grant in 2017	No (%)	11.3%
Yes (%)		88.7%	
High School ACT Score	0 to 19 (1 st Quartile)	28.9%	
	20 to 22 (2 nd Quartile)	21.9%	
	23 to 26 (3 rd Quartile)	26.4%	
	27 to 36 (4 th Quartile)	22.9%	
	Mean (SD)	21.9 (0.07)	
Dependent Variables	Bachelor's degree	Obtained bachelor's degree (%)	61.1%
		Did not Obtain (%)	38.9%

College grade point average [Mean (Standard
Error)]

3.0 (0.01)

Table 3

Estimated Mean GPA by Demographic and Other Characteristics

		Estimated Mean GPA	(Standard Error)
Dependents: types of dependents in 2017	Has only dependent children	2.5	(0.05)
	No dependents	3.0	(0.01)
Gender	Male	2.9	(0.02)
	Female	3.0	(0.02)
Race/ethnicity	Black or African American	2.5	(0.05)
	White	3.1	(0.02)
	Hispanic or Latino	2.8	(0.04)
	Asian	3.1	(0.04)
	American Indian or Alaska Native; Native Hawaiian/other Pacific Islander; More than one race	2.8	(0.05)
Student's marital status in 2017	Single, never married; Separated; Divorced; Widowed	3.0	(0.01)
	Married; Living with partner	3.0	(0.04)
Federal Pell Grant: amount received in 2016-17	20 <= X <= 5815	2.8	(0.04)
	0 <= X <= 0	3.0	(0.01)
ACT derived composite score	0 <= X <= 19	2.7	(0.03)
	20 <= X <= 22	2.9	(0.03)
	23 <= X <= 26	3.1	(0.02)
	27 <= X <= 36	3.3	(0.03)

Findings

The two research questions associated with this study are listed below:

RQ1: Is there a difference in degree attainment of earning a bachelor's degree in the time period from 2012 through 2017 between students who have dependent children and those who do not have dependent children between the ages 18 to 29 after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score?

RQ2: Is there a difference in academic achievement as defined by students' grade point average between students who have dependent children and those who do not have dependent children between the ages 18 to 29 after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score?

Research Question One

To answer research question one about degree attainment a logistic regression was conducted.

Results for Degree Attainment

The first logistic regression used the dependent variable of bachelor's degree attainment anytime through 2017 and the independent variables of type of dependent, gender, race/ethnicity, marital status, socioeconomic status as defined by awarded Pell grant in 2017, and students' high school ACT score categorized into quartiles. For the purpose of this regression the dependent variable consisted of two categories: those who attained a bachelor's degree and those who did not attained a bachelor's degree. The following reference groups were used to complete this analysis: no dependents, female,

African- American, marital status: no current live-in partner, no Pell grant for the year 2017 and the highest ACT score quartile (ACT scores between 27 and 36).

The results for this logistic regression are shown in Table 4.

Table 4

Adjusted Odds Ratios of Dependency Status on Degree Obtainment after Adjusting for Demographics and Other Characteristics Using Multiple Logistic Regression

		Unadjusted Odds Ratios	95% Confidence Intervals (Lower Limit, Upper Limit)	<i>p</i> -value	Adjusted Odds Ratio	95% Confidence Intervals (Lower Limit, Upper Limit)	<i>p</i> -value
	Intercept				2.86	(1.91, 4.28)	<0.001
82	Dependents: types of dependents in 2017				1.00	-	-
	Reference Group: No dependents Has only dependent children	0.14	(0.11, 0.17)	<0.001	0.18	(0.13, 0.24)	<0.001
	Gender				1.00	-	-
	Reference Group: Male Female	1.29	(1.16, 1.45)	<0.001	1.70	(1.47, 1.97)	<0.001
	Race/Ethnicity				1.00	-	-
	Reference Group: Black or African American White	2.84	(2.33, 3.47)	<0.001	1.63	(1.25, 2.13)	<0.001

	Hispanic or Latino	1.28	(1.02, 1.61)	0.032	1.09	(0.81, 1.46)	0.570
	Asian	2.98	(2.14, 4.14)	<0.001	1.55	(1.02, 2.37)	0.043
	Other: American Indian or Alaska Native; Native Hawaiian/other Pacific Islander; More than one race	1.35	(1.01, 1.83)	0.045	0.97	(0.66, 1.43)	0.877
Student's marital status in 2017	Reference Group: Married; Living with partner	1.00	-	-	1.00	-	-
	Single, never married; Separated; Divorced; Widowed	1.49	(1.29, 1.71)	<0.001	1.09	(0.89, 1.33)	0.416
Socioeconomic Status: Federal Pell Grant: amount received in 2016-17	Reference Group: No Pell Money				1.00	-	-
	\$20 to \$5815	0.21	(0.17, 0.26)	<0.001	0.23	(0.19, 0.29)	<0.001
ACT derived composite score	Reference Group: 27 to 36 (4th Quartile)	1.00	-	-	1.00	-	-
	23 to 26 (3 rd Quartile)	0.59	(0.47, 0.72)	<0.001	0.61	(0.48, 0.77)	<0.001

20 to 22 (2 nd Quartile)	0.39	(0.32, 0.47)	<0.001	0.46	(0.37, 0.56)	<0.001
0 to 19 (1 st Quartile)	0.19	(0.15, 0.23)	<0.001	0.25	(0.20, 0.31)	<0.001

Pseudo R² = 0.15

Cox and Snell R² = 0.18

For the first research question of degree attainment, there was a significant decreased association between students who had dependent children with degree attainment. Accordingly, of those students who had dependent children, the odds of them obtaining a bachelor's degree from 2012 to 2017 was 82% less than students who did not have dependent children [adjusted odds ratio=0.18 (95% CI: 0.13, 0.24), $p<0.001$], where the 82% stated above reflects $1 - 0.18 = 0.82$, after controlling for all the independent variables in the statistical model. (Inversely, the odds of students with dependent children *not* obtaining a bachelor's degree were 5.56 times greater than students who did not have dependent children, where 5.56 is obtained by $1 \div 0.18 = 5.56$).

In terms of gender, a significant association was found. Accordingly, the odds of females obtaining a degree were 1.74 times greater than those of males [adjusted odds ratio = 1.70 (95% CI: 1.47, 1.97), $p < 0.001$] after controlling out for all the modeled variables. For race/ethnicity, a significant association was found between African Americans and Whites. Whites were significantly more likely to obtain a degree than African Americans [adjusted odds ratio = 1.63 (95% CI: 1.25, 2.13), $p < 0.001$], as well as Asians [adjusted odds ratio = 1.55 (95% CI: 1.02, 2.37), $p = 0.043$]. However, no significant associations were found with African Americans versus Hispanic/Latinos, and students classified in the other category. Accordingly, Hispanic/Latinos [adjusted odds ratio = 1.09 (95% CI: 0.81, 1.46), $p = 0.571$], and students classified in the other category [adjusted odds ratio = 0.97 (95% CI: 0.66, 1.43), $p = 0.877$] were not more (or less) likely to obtain a degree than African Americans. There was no significant association found between those who had no current live in partner and those who were married/living with

someone [adjusted odds ratio = 1.09 (95% CI: 0.89, 1.33), $p = 0.416$]. A significant association was found between students who had Pell grants and students who did not. Students who received Pell grant money in 2017 were 77% significantly less likely to obtain a bachelor's degree than those who did not receive a Pell grant [adjusted odds ratio = 0.23 (95% CI: 0.19, 0.29), $p < 0.001$]. Finally, a significant association existed between students in the highest ACT quartile with the lower three quartiles; students in the lower quartiles were less likely to obtain a degree compared with the highest quartile.

Research Question Two

To answer research question two about academic achievement a multiple regression was conducted using grade point averages as the dependent variable.

Results for Grade Point Average

For the second research question examining students' GPA, there was a significantly lower GPA for students with dependent children. Accordingly, of those students who had dependent children, their mean GPA score was 0.43 units lower than students without dependent children [adjusted $\beta = -0.43$ (95% CI: -0.58, -0.28), $p < 0.001$], after controlling for all the independent variables in the statistical model.

In terms of gender, a significant regression coefficient was found. Accordingly, females' mean GPA is 0.23 units higher than males mean GPA, [adjusted $\beta = 0.23$ (95% CI: 0.16, 0.29), $p < 0.001$]. Regarding race/ethnicity, African Americans mean GPA was significantly lower than all other racial groups, except for those in the other category. Regarding marital status, those who do not have a live in partner had significantly lower GPA than those who are married or living with a partner [adjusted $\beta = -0.09$ (95% CI: -0.17, -0.01), $p = 0.021$]. No significant difference was found between those receiving a

Pell grant and those not receiving a Pell grant, [adjusted β =-0.05 (95% CI: -0.18, 0.08), $p=0.446$]. Finally, there was a significant association between students' ACT scores and their GPA. Accordingly, students whose ACT scores was in the top quartile had significantly higher GPA scores than students in the 1st, 2nd or 3rd quartile.

The results for this multiple regression are shown in Table 5.

Table 5

Multiple Regression Analysis of Dependency Status Regressed on College Cumulative Grade Point Average after Adjusting for Demographics and Other Characteristics

		Unadjusted β	Unadjusted 95% Confidence Intervals (Lower Limit, Upper Limit)	<i>p</i> -value	Adjusted β	Adjusted 95% Confidence Intervals (Lower Limit, Upper Limit)	Standardized β	<i>p</i> -value
	Intercept				2.92	(2.73, 3.10)		<0.001
∞	Dependents: types of dependents in 2017				-	-	-	-
	Reference Group: No dependents Has only dependent children	-0.53	(-0.67, - 0.39)	<0.001	-0.43	(-0.58, - 0.28)	-0.13	<0.001
	Gender				-	-	-	-
	Reference Group: Male Female	0.16	(0.09, 0.23)	<0.001	0.23	(0.16, 0.29)	0.11	<0.001
	Race/ethnicity				-	-	-	-
	Reference Group: Black or African American White	0.68	(0.49, 0.86)	<0.001	0.42	(0.27, 0.56)	0.20	<0.001

	Hispanic or Latino	0.42	(0.23, 0.61)	<0.001	0.28	(0.14, 0.42)	0.10	<0.001
	Asian	0.73	(0.53, 0.93)	<0.001	0.42	(0.26, 0.58)	0.10	<0.001
	American Indian or Alaska Native; Native Hawaiian/other Pacific Islander; More than one race	0.34	(0.13, 0.55)	0.002	0.15	(-0.02, 0.31)	0.03	0.079
Student's marital status in 2017	Reference Group: Married; Living with partner				-	-	-	-
	Single, never married; Separated; Divorced; Widowed	-0.02	(-0.11, 0.08)	0.736	-0.09	(-0.17, -0.01)	-0.03	0.021
Socioeconomic Status: Federal Pell Grant: amount received in 2016-17	Reference Group: No Pell Money \$20 to \$5815	-0.15	(-0.27, -0.03)	<0.023	-0.052	(-0.18, 0.08)	-0.02	0.446
ACT derived composite score	Reference Group:				-	-	-	-

27 to 36 (4th Quartile)							
23 to 26 (3 rd Quartile)	-0.22	(-0.30, -0.14)	<0.001	-0.22	(-0.29, -0.14)	-0.09	<0.001
20 to 22 (2 nd Quartile)	-0.37	(-0.48, -0.25)	<0.001	-0.33	(-0.44, -0.22)	-0.14	<0.001
0 to 19 (1 st Quartile)	-0.65	(-0.75, -0.54)	<0.001	-0.51	(-0.60, -0.41)	-0.23	<0.001

$R^2 = 0.18$

Summary of Findings

As prior research suggests, this study indicates that college students with children have lower academic achievement and degree attainment rates compared to college students without children after controlling for gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score. The focus of this study was to examine whether there is a difference in academic achievement and degree attainment rates between students with children and those without children who started their postsecondary career in 2012 and graduated by 2017. More specifically, the study determined if there were any differences in grade point averages and awarded bachelor's degrees among college students with children and those who do not have children between the ages of 18-29 after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score. Evaluating completion outcomes among student parents, along with measures of students' racial/ethnic backgrounds can help identify the role that parenthood may play in driving racial/ethnic differences in college attainment.

The results of this study reveal that the type of dependent was a significant predictor of those who attained a degree and those who did not. Students who had dependent children were less likely to obtain a degree over the 2012-2017 time. The logistic and multiple regressions revealed that gender was a significant predictor for degree attainment and grade point averages with females being more likely to obtain a degree and having higher GPAs than males. Even though results indicated that there was

no association between those who were single, never married, versus those who were married, living with a partner in obtaining a degree, the results revealed those who had Pell grants were significantly less likely to obtain a degree. In addition, the correlations from this study indicate that as student ACT score increases, their odds of attaining a degree increases.

Lastly, though data indicated that the mean of students' GPA with dependent children is significantly less than students without dependent children, female GPA scores are significantly higher than male GPA scores and Whites, Hispanics, and Asian students have significantly higher mean GPA scores than Black students. Furthermore, the study revealed there is no significant difference between Black students and the other reference groups, and between students with Pell grants and students without Pell grants, on GPA score. However, the results revealed students who currently do not have a live-in partner have significantly lower mean GPA scores than students who currently are married or have a live-in partner, while there is a significant association between student's ACT score and their college GPA as lower ACT scores reflect a lower GPA. The next chapter discusses the key findings and implications of the study. In addition, the researcher provides recommendations for institutional action and student affairs policies and practice. Lastly, the conclusion is discussed describing the significance of the study findings and recommendations for future research.

CHAPTER FIVE:

DISCUSSION

The purpose of this study was to examine whether there is a difference in academic achievement and degree attainment rates between students with children and those without children who started their postsecondary career in 2012 and graduated by 2017. More specifically, the study determined if there were any differences in grade point averages and awarded bachelor's degrees among college students with children and those who do not have children between the ages of 18-29 after controlling for the effects of gender, race/ethnicity, marital status, socioeconomic status, and high school ACT score. The following section explains the key findings of each null hypothesis, while also describing possible reasons contributing to these results.

Null Hypothesis One

Research question one investigates degree attainment of earning a bachelor's degree in the time period from 2012 through 2017 between students who have dependent children and those who do not have dependent children. Contrary to null hypothesis one, students with dependent children are significantly less likely to attain a degree compared to students without dependent children. More specifically, female students are significantly more likely to gain a degree compared to men students. It should be noted that in this study, even though data indicated that there was no association between those who were single, never married, versus those who were married, living with a partner in

obtaining a degree, the results reveal those who had Pell grants were significantly less likely to obtain a degree. Although college is to be considered the great equalizer, for racial or ethnic minority, first generation, and low-income students, this study has found similar results in that many underperform and ultimately do not graduate or complete their chosen degrees, accumulating significant debt in the process (Loeb & Hurd, 2019). One reason for this finding could be the financial challenges some college students with children face. Per Costello (2014), college students with children often experience significant financial challenges, which can contribute to a decline in retention as well as massive loan debt and credit issues. Financial constraints create an additional barrier to success, with groups at particular risk of disadvantage including young parents, single parents, and parents from low socio-economic backgrounds (Andrewartha et al., 2022).

According to the U.S. Census Bureau (2007), 84% of the custodial parents who are single women are in poorer health and face a higher risk of living in poverty, while the children are more at a disadvantage educationally than children raised by both parents. Additionally, the heightened financial and time pressures student parents face can pose significant challenges to graduating (Kruvelis, 2017). Similarly, Costello (2014) suggested, low-income student parents confront several barriers to successfully navigating the pathway to college, from the cost to the complexity of the financial aid process, limited information, low educational expectations, academic coursework, and competing obligations outside of school. Edelson (2022) stated the earnings gap between college graduates and those with less education continues to widen.

In 2021, median income for recent graduates reached \$52,000 a year for bachelor's degree holders aged 22-27. For high school graduates the same age, median earnings are \$30,000 a year. Today, Edelson (2022) suggested the jobless rate for bachelor's degree holders is less than 2%. And, the incidence of poverty among bachelor's degree holders is 3.5 times lower than it is for those who hold high school degrees. A college education is expected to become even more valuable. Over the past decade, *all* net job growth has gone to workers with bachelor's degree or graduate degrees (Edelson, 2022). Andrewartha (2022) stated higher education provides a potential pathway out of disadvantage for parents at risk of welfare dependency, including young parents, single parents, and parents from low socioeconomic backgrounds. The Council of Single Mothers and their Children undertook a national survey of over 1,000 single mothers, which demonstrated that increased education levels reduced reliance on government payments as a primary source of income (Sebastian & Ziv, 2019). Furthermore, a college education is about more than just securing a job and a steady income for students with children. Consider health, wellness, and safety, prerequisites for leading a fulfilling life. Edelson (2022) explained bachelor's degree holders are 47% more likely to have health insurance provided through their job and their employers contribute 74% more to their health coverage. Moreover, studies suggest that those who have attended at least some college can expect to live seven years longer than their peers with no postsecondary education (Edelson, 2022).

A second reason students with dependent children are significantly less likely to attain a degree compared to students without dependent children may stem from the

balancing demands of going to class and completing coursework, while caring for a family and working. Tinto (1993) model explained how the interactions that occurred among different students within the social and academic systems of a college led students with distinctive characteristics to withdraw from the institution. These distinctive characteristics or extreme demands can make it difficult for student parents to complete a degree and become academically successful. Due to these additional responsibilities, nontraditional students are perceived as facing greater barriers to higher education than traditional students (Keith, 2007; Wyatt, 2011). Tinto (1993) suggested external events (e.g., employment, family responsibilities, financial constraints) were shown to have impacted student commitments and persistence, particularly for students in non-residential institutions (Cabrera et al., 1992). Each attribute according to Tinto (1993) was hypothesized to have a direct and indirect effect on a student's departure decision. But Tinto (1993) contended that each of these attributes affected departure decisions indirectly through its effect upon the student's continuing formulation of educational intentions and commitments. Additionally, Van Rhijn et al. (2011) suggested student parents may have more difficulty studying on a full-time basis, attending classes at scheduled times, finding appropriate childcare, and accessing traditional forms of financial assistance because of limitations placed on eligibility. Furthermore, student parents face many of the same barriers and challenges as traditional students in PSE programs; however, their situation is complicated by having additional time demands related to family and employment, additional economic demands related to family expenses and forgone income (Van Rhijn et al., 2011).

The third reason students with dependent children are significantly less likely to attain a degree compared to students without dependent children could contribute to the difficulties of finding high-quality childcare, as in many states, childcare can cost more than in-state tuition at a public university (Emrey-Arras, 2019). Students with children may also experience difficulties with housing and transportation, time management, and scheduling classes around work compared to non-parenting students, due to parenting balance and childcare (Brown & Nichols, 2013; Tehan, 2007). A fourth reason may be due to college students with children experiencing issues and pressures such as interpersonal, intrapersonal, academic, and environmental stress. Van Rhijn et al. (2011) argued student parents face challenges of fitting into an educational system designed for traditional (i.e., young, full-time) students. College students with children come to college at different stages in their lives and often are driven by broader forces such as global workforce turbulence, commitment to family survival and betterment, interest in developing personal competence, and the impact of shrinking community economy (Kasworm, 2008). Additionally, it was reported that there was a mismatch between pedagogical strategies used within classrooms, such as group work or attendance to outside programs, and the schedules and time demands inherent in the lives of parenting students (Duquaine-Watson, 2007).

Lastly, a fifth reason college students with children are more likely to leave college without attaining a degree compared to students without dependents may be due to overall lack of program flexibility (Cujec, 2000; Yakaboski, 2010), lack of available housing for pregnant and parenting students (Cohen, 2005; McCormack, 2007), lack of

lactation facilities on campus (Springer et al., 2009) and the difficulty in obtaining childcare for young children (Brown, 2007; Braxton & Mundy, 2001; Duquaine-Watson, 2007). Tinto (1993) hypothesized that intentions and commitments changed over time and were directly affected by the level and frequency of integrative experiences in the social and academic systems of the college. It was the individual's integration into the social and academic systems of the college that led to new levels of commitments. In addition, considering the fact that more student parents identify as a woman, and many of them are single mothers, they have the obligations of balancing parenting, school, and often work, without the support of a spouse or partner (Gault et al., 2020). Contrary to this study, which found marital status was not significant on degree attainment, Smith and Naylor's (2001) study discovered that married students (male and female) do better than unmarried students (Amuda et al., 2016). Research claims that although single parents may face significant educational disadvantages, they tend to draw on personal strengths and alternative forms of cultural capital to help them succeed at university (Beattie, 2019). Additionally, similar studies are revealing that overtime single parents are overcoming challenges due to a strong motivation to succeed, excellent organizational and time management skills, and reduced sleep and recreation time (Bosch, 2013). With the help institutional resources and support, single parent students are increasing their sense of confidence, freedom, achievement, and professional identity, resulting to the children of students having a strong educational role model, and a parent with additional skills and improved career prospects (Bosch, 2013). Tinto's (1993) model of institutional departure is at its core, "a model of educational communities that highlights the critical

importance of student engagement or involvement in the learning communities of the college” (p. 132).

Null Hypothesis Two

Research question two investigated academic achievement as defined by students’ grade point average between students who have dependent children and those who do not have dependent children. The results suggest as students ACT score increases, their odds of attaining a degree increases. Though data indicates that the mean of students’ GPA with dependent children is significantly less than students without dependent children, female GPA scores are significantly higher than men GPA scores and White, Hispanic, and Asian students have significantly higher mean GPA scores than Black students. In addition, the study reveals there is no significant difference between students with Pell grants and students without Pell grants on their GPA. However, the results reveal students who are married have significantly lower mean GPA scores than students who currently do not have a live in partner, while there is still a significant positive association between student’s ACT score and their college GPA.

One reason that explains there being no significant difference between students with Pell grants and students without Pell grants on their GPA could be the addition of institutional programs and financial aid support directed at single parents that increased access to postsecondary education (PSE). Cleveland-Innes (1994) found that academic integration, including current college GPA, had a direct positive effect on nontraditional students’ institutional and goal commitments, which in turn increased their likelihood of persisting. To persist, students need integration into formal (academic performance) and

informal (faculty/staff interactions) academic systems and formal (extracurricular activities) and informal (peer-group interactions) social systems (Tinto, 1993). Prior research stated that nontraditional students who demonstrate greater satisfaction with their emotional and instrumental supports also report better psychological functioning than those who are less satisfied (Leavitt, 1989; Mallinckrodt & Leong, 1992; Roehl & Okun, 1984). The concept of instrumental support was introduced by behavioral scientists and was used to describe a subcategory of social support, along with other terms that focused on the social needs of individuals. Schultz et al. (2022) describes instrumental support as the idea of bringing about change or the process of transformation. Higher education professionals can nurture college student parents psychological functioning, and emotional and instrumental support through strategic planning and institutional action (i.e., departmental resources, financial assistance, and interventions) specific to students with caregiving responsibilities, with the goal to increase academic achievement and degree attainment rates.

A second reason married or partnered college students may have significantly higher mean GPA scores compared to students who are single or divorced could be contributed to different levels of study habits. To support this claim, Tambuwal's (2012) investigation revealed that there was significant difference between academic performance of married and unmarried students and there was significant difference between study habits of married and unmarried students. Similar to Cloyd's (2010) study, which indicated that marital status in fact influences students' academic achievement and married students tend to do better than the single students (Amuda et al., 2016), this study

found that students who are married have significantly higher mean GPA scores than students who are single as well. It appears that things have stayed the same over the last decade and the success of a college student parent (married or single) may depend more on the level of effort, institutional or family support, and resources the individual student is receiving while juggling their extra responsibilities. Andrewartha et al. (2022) supported this contention by revealing through their national survey that student parents were highly motivated to succeed in higher education. The participants in their study possessed a range of skills and qualities developed through their parenting roles that were translatable and beneficial in their studies, including time management and communication skills, and showed enhanced commitment, patience, empathy, resilience, and determination (Andrewartha et al., 2022).

A third reason White, Hispanic, and Asian students may have significantly higher mean GPA scores than Black students could be due to the additional challenges they face when reaching college such as alienation, culture shock, stigmatization, discrimination, and other marginalizing experiences (Contreras, 2011; Wei et al., 2010). As college campuses become more diverse (National Center for Education Statistics, 2013), so do the issues that college students bring with them upon beginning their academic careers (Gault et al., 2019). Additionally, students of color are more likely to be raising children than White and Asian students, making student parent success critical to achieving racial/ethnic equity (Gault et al., 2019). A reason for the decline in African American women's academic achievement compared to White women could be that some of these women spend the majority of their time working and providing economically for their

families, which limits the amount of time they have to devote to the academic concerns of their children (Hale, 2004).

A fourth reason traditional age students with dependent children's GPA scores may be significantly less than students without dependent children is because the transitioning into their dual role may not have occurred "on-time," resulting in higher levels of difficulty and stress (White & Klein, 2002). From a family development perspective, the assumption that when life events occur on-time and in the appropriate sequence there is less strain when making life transitions (White & Klein, 2002), such as pursuing educational goals. For example, on-time and in sequence events would include completing one's education to establish a career, committing to a committed relationship, and then having children. Furthermore, findings from previous research suggest that students' sense of status relative to their peers may be an additional factor contributing to the educational attainment gap (Johnson et al., 2011; Ostrove & Long, 2007). Tinto (1993) believed that if the external influences remained stable, then interactions within the college community were the primary influences on a departure decision.

Lastly, previous studies regarding college student performance revealed greater levels of hope predicted higher grade point averages, higher graduation rates, and lower attrition rates, when controlling for academic self-efficacy and academic engagement (Gallagher et al., 2016). Scholars have argued that hopeful college students are more likely to persist to graduation, in part, because their goal is to be academically successful (Rand & Cheavens, 2009), and hopeful individuals generally find ways to meet their goals (Snyder, 2000). Drawing on higher education models, therefore, one possibility is

that students with high levels of hope may become committed to persisting at their university, in part, because they are likely to become academically integrated and invested in their education (Browning et al., 2018). In addition, positive integrative experiences can result in heightened intentions and commitments and ultimately lead to higher rates of persistence. Tinto (1993) suggested external community is another factor contributing to student departure which emphasizes the various individual characteristics including those related to family background, individual attributes, and pre-college schooling experiences. Family background characteristics delineated by Tinto are family socioeconomic status, parental educational level, and parental expectations (Braxton, 1997). In addition, other external community factors such as domestic violence and drug abuse may also reduce goal and institutional commitments among college student parents, resulting in student departure and lower GPA scores. Swisher and Dennison (2020) stated one concerning aspect of college life is the continuing prevalence of substance use, which has hampered graduation rates and led many universities to reconsider the impact that the party subculture has on student well-being. Providing access to resources and services such as counseling, case workers, and family education and support programs can support both roles and may foster resilience and overall well-being of student mothers (Roy et al., 2018).

Implications of the Study

The main potential implication previously mentioned of this study is the possibility of determining if there is a difference in academic achievement and degree attainment rates between students with and without children. Student parents'

susceptibility to lower degree attainment could be caused by the heightened financial and time pressures encountered (Kruvelis, 2017). In addition, lower degree attainment could also include alienation, culture shock, stigmatization, discrimination, and other marginalizing experiences (Contreras, 2011; Wei et al., 2010). Prior research has also found that lower degree attainment may be caused by lack of program flexibility (Cujec, 2000; Yakaboski, 2010), lack of available housing for pregnant and parenting students (Cohen, 2005; McCormack, 2007), lack of lactation facilities on campus (Springer, Parker & Levitan-Reid, 2009) and the difficulty in obtaining childcare for young children (Braxton & Mundy, 2001; Brown & Amakwa, 2007; Duquaine-Watson, 2007).

Another potential study implication is learning how institutional action in higher education can influence academic achievement and degree attainment among college students with children, with efforts to reduce the possibility of dropouts, student departure, and lower GPA rates. It was reported that there was a mismatch between pedagogical strategies used within classrooms, such as group work or attendance to outside programs, and the schedules and time demands inherent in the lives of parenting students (Duquaine-Watson, 2007). Tinto (2012a) suggested students are more likely to succeed in settings that establish clear and high expectations for their success, provide academic and social support, frequently assess, and provide feedback about their performance, and actively involve them with others on campus, especially in the classroom. (p. 54)

Additionally, Tinto (2004) suggested strategies for how all institutions of higher education can increase degree attainment and academic achievement among

undergraduate students by offering easily accessible academic, personal, and social support services. Furthermore, some universities have begun to expend large amounts of resources in attempts to close the achievement gap between underrepresented and majority students through intensive summer programs and tutoring for underrepresented students (Strayhorn, 2011). While this research focuses on the experiences and challenges of college students with children, it is key to understand that their overall achievement also effects the well-being, stability, care, and livelihood of their dependents. Stability for college students with children is especially important because it allows them to put more focus on completing college and less focus on stressors and worry. Supporting parents to access higher education is important as higher levels of study are linked with improved employment prospects and financial security (Department for Business Innovation and Skills, 2013; Norton et al, 2018). Achievement in higher education is likely to have a positive impact on parents, their families, and the economy more broadly.

Recommendations for Institutional Action and Student Affairs Policies and Practice

As federal and state governments push for improved retention and graduation rates, institutions should try to prioritize and recognize the needs of all their students, especially student parents. Tinto (2012) sought to provide institutions with not only a systematic way of thinking about what actions they can take to increase retention and graduation, but also a way of organizing and implementing those actions to enhance their sum impact on student success. For the purpose of this study, Tinto and Pusser's (2006) model of institutional action for student success is used to provide recommendations to higher education professionals on ways they can establish or improve an institutional

action plan, policies, and practices in efforts to resolve possible barriers students with children experience. Tinto and Pusser's (2006) multilayered model is used to represent student success at the level of the organization, such as those by its administrative leadership. Evidence suggests that higher education institutions could create specific policies around student parents to improve their success levels. These students are an asset in higher education due to their many strengths and wide-ranging experiences, yet effective support and understanding is lacking (Andrewartha et al., 2022).

Successful institutions have leadership at every level, students, faculty, and staff, departments and divisions, schools and colleges, upper administration, the governing board, who are committed to putting student learning first (Felten et al., 2016). Felten et al., (2016) suggested every institution needs to have an intentionally crafted common message communicating a set of expectations, values, and practices that entering and continuing students hear clearly and repeatedly from faculty, staff, administrators, and peer leaders. Habley (2004) found that the interactions students have with concerned individuals on campus (e.g., faculty, staff, advisors, peers, administrators) also directly influences undergraduate retention. Considering higher education administrators, student affairs staff and faculty, as well as federal, state, and local educational agencies, all have direct significant influence on institutional action and sets the level of expectations. Not only do these persons play a critical role in resource allocation, but also they set the tone for the institution and its various members. Without their expressed commitment to the issue of student achievement, especially among students with children, it is hard to

imagine substantial improvement over time. In the following sections, the researcher will provide recommendations for institutional action and student affairs policies and practice.

The first recommendation is to promote institutional awareness of the likelihood that a high proportion of higher education students have parenting responsibilities. The goal is to develop communication strategies and professional development activities that highlight the unique strengths and challenges of student parents, with the mission to increase higher education initiatives in ways of programming, resources, practices, and policies focused on the achievement of college students with children. To develop students (and faculty, staff, and administrators) who have the habits and capacities necessary to learn in the face of challenges, institutions must recognize and value the complexity of learning (Felton et al., 2016). Improved processes and support mechanisms could encourage more parents through higher education as a pathway to building knowledge, improving employment prospects, and gaining independence (Andrewartha et al., 2022). Furthermore, students are more likely to succeed in settings that establish clear and high expectations for their success.

Additionally, the interactions students with children have on campus with individuals in academic, personal, and support service centers can influence their sense of connection to the college or university as well as their ability to navigate the campus culture, meet expectations, and graduate. Students with children report difficulty scheduling classes around work and childcare (Brown & Nichols, 2013; Tehan, 2007), so with additional institutional access to more class offerings and childcare, student parents can attend school without the stress of losing their job or finding help for their child(ren).

This brings the researcher to the second recommendation, which is the development of affordable, accessible on-campus childcare/preschool programs specifically aimed for current student parents. It is essential for institutions to employ strategies to make campuses more family-friendly by not only improving students' access to childcare on- and off-campus, but also by establishing additional lactation facilities on campus and stocking administrative offices with toys to create a family welcoming environment.

An important goal is to provide childcare for student parents without the long waitlist and financial restrictions. A suggestion for an on-campus childcare or pre-K center could consist of the collaboration of university departments, such as schools of education and women's centers, to provide educational and reliable supervision for all students in need of childcare. This could provide early childhood education majors with the opportunity to gain possible federal work study income, volunteer experience, and/or teacher training hours, essentially preparing them for a successful career in the education field. While this center is beneficial for the student in an education program, it also relieves potential stress on student parents who may lack childcare or family support to accomplish their academic goals.

Additionally, "environment" encompasses all postsecondary factors that could affect the student. These factors include policies and procedures, curriculum and pedagogical practices, interactions with faculty, staff, and peers, and the overall climate (Tinto, 1993). The continued success of a postsecondary institution may well depend on its ability to understand and accommodate the unique dispositional, situational, and institutional needs of nontraditional female students (Carney-Crompton, 2002). The

interactions students have on campus with individuals in academic, personal, and support service centers can influence a students' sense of connection to the college or university as well as their ability to navigate the campus culture, meet expectations, and graduate. Carey (2005b) claimed substantial improvement in a college ability to promote student success does not arise by chance. It is the result of a series of intentional, structured, and proactive actions that are consistently applied over the long term (Carey, 2005b). Focusing on the undergraduate experience is about creating and sustaining an institutional culture that is mission-driven yet adaptable to change. A university that holds high expectations and actively involves students in their learning creates an environment where students are more likely to succeed (Demetriou & Schmitz-Sciborski, 2011).

The third recommendation is for college administrators, faculty, and staff to gain a deeper understanding of their current student parents through assessment, to analyze student growth or change patterns, and to learn more about their individual experiences. It would be essential for college admission staff to collect and report on student parent data at the time of application or enrollment, through confidential means, to target necessary support and to monitor their progress. Kruvelis (2017) suggested as colleges work to improve attainment rates and address economic, racial/ethnic and gender inequality on their campuses, institutions should take steps to better understand and support their diverse student population, including students with families of their own. Tinto (2012a) claimed that to be effective, assessments must be frequent, early, and formative as well as summative in character. The aim is to encourage faculty and staff to

reach out to the students so identified and to provide counseling, support, and other services to head off potential difficulties (Tinto, 2012a). “An environment rich in assessment of students’ performance and in feedback of information about student performance to students, faculty, and staff is another important condition for student success” (Tinto, 2012a, pp. 54). Astin (1993) asserted that student growth or change is determined by comparing outcome characteristics with input characteristics and the environment influences how students change or grow. “Environment” is mentioned to encompass all postsecondary factors that could affect the student (Astin, 1993), including policies and procedures, curriculum and pedagogical practices, interactions with faculty, staff, and peers, and the overall climate.

The fourth recommendation is for higher education professionals to establish student learning communities and interventions that offer support for student parents to eliminate barriers that may result in student departure. Researchers in higher education have mentioned learning communities as having a positive effect on student success. In particular, students participating in learning communities showed enhanced academic performance, integration of academic and social experiences, gains in multiple areas of skill, competence, and knowledge, and overall satisfaction with the college experience (Otto et al., 2015). Learning communities have also been found to be effective for students who are most at risk of not graduating (Brownell & Swaner, 2010; Engstrom & Tinto, 2008). In a study of learning community participation at 13 higher education institutions, Engstrom and Tinto (2008) discovered positive effects among academically underprepared, predominantly low-income students at both two-year and four-year

schools. When compared to similar peers, learning community students were significantly more engaged in a number of areas, including course work and interactions outside of class with faculty and fellow students. The learning community students also felt they received more encouragement and support from their institution, faculty, and fellow students.

Interventions could be a useful tool in creating opportunities for student parents to develop resources for academic, professional, financial, and emotional growth, possibly resulting in higher GPA scores and graduation rates. Interventions aimed for academic achievement and degree attainment can result in positive impacts of student-parent roles included balancing their shifting and intersecting identities, effects on their mental health, their increased motivation for school, and sense of pride in their accomplishments (Carney-Crompton & Tan, 2002). While some students with children find childcare as their main concern, others may struggle with mental health issues, fatigue, lack of food, unemployment, and financial concerns. Programs such as University of Louisville's (UofL) Women's Center and Family Scholar House (Family Scholar House, 2022) are examples of outreach programs designed to assist student parents with additional financial assistance, employment resources, food, parenting skills, academic support, and shelter. Their services are geared to help with retaining student parents on their post-secondary trajectory and solve a multitude of issues that can lower chances of college withdrawal.

Lastly, Carney-Crompton and Tan (2002) suggested factors that may mediate the relationship between role multiplicity and psychological functioning and help to explain

the discrepancies noted in the literature are the quality and quantity of social support (emotional and instrumental) available to the student. Greater emotional support and instrumental support may reduce the negative psychological consequences that increased roles, demands, and conflicts can have on an individual. Some studies have suggested that it is often the individual's perceived satisfaction (quality), rather than the absolute number (quantity) of emotional and instrumental supports available, that plays the primary role in determining psychological outcomes (Home, 1997, 1998). Nontraditional students who demonstrate greater satisfaction with their emotional and instrumental supports also report better psychological functioning than those who are less satisfied (Leavitt, 1989; Mallinckrodt & Leong, 1992). Higher educational professionals should strive to increase the quality of institutional support focused on the psychological functioning among college student parents, with the mission to help them gain satisfaction with emotional and instrumental supports available at the institution. This would provide the necessary care, acceptance, and encouragement needed to increase student parents' academic achievement and degree attainment rates, while also easing their stress of financial and childcare uncertainties.

Significance of the Study Findings

While the advantages associated with higher education are clear, parents face many obstacles to accessing this level of study. Access for many student parents is hindered by high demands on time, financial costs, and the inflexible nature of study requirements. Although many of the challenges college students with children face are connected to larger problems of successfully navigating the pathway to college (Costello,

2014) and overload of responsibilities, the results from this study are significant to encourage higher education professionals and leaders on college campuses nationwide to implement additional institutional action to increase their academic achievement and degree attainment rates. With few studies that use national data to analyze student parents' academic achievement and degree attainment rates, particularly investigating grade point averages and bachelor's degree attainment, this research is an asset to the literature by shedding further light on the importance of establishing institutional action, policies, and practices for the overall achievement of student parents in higher education.

Due to students with children having a multitude of different characteristics, from marital status to family support, it is evident that their needs are specific to their own unique and individual circumstances. This study found that students with dependent children are significantly less likely to attain a degree compared to students without dependent children. More specifically, female students are significantly more likely to gain a degree compared to men students. Even though data indicate that there is no association between those who were single, never married, versus those who were married, living with a partner in obtaining a degree, the results reveal those who had Pell grants were significantly less likely to obtain a degree. Furthermore, the correlations from this study indicate that as student ACT score increases, their odds of attaining a degree increases. Though data indicates that the mean of student GPA scores with dependent children is significantly less than students without dependent children, female GPA scores are significantly higher than male GPA scores, while Whites, Hispanics, and Asian students have significantly higher mean GPA scores than Black students. In addition, the

study revealed there is no significant difference between students with Pell grants and students without Pell grants on their GPA. However, the results reveal students who are married have significantly higher mean GPA scores than students who do not have a live-in partner and there is a significant positive association existing between students' ACT score and their college GPA. With limited research and knowledge on how institutional action contributes towards college students with children's academic achievement and degree attainment rates, these findings were significant. The study results strongly suggest regardless of the administrative or financial costs of implementing institutional programming aimed to expand educational and emotional support among student parents, these resources can provide effective ways to increase their academic achievement and degree attainment rates.

Recommendations for Future Research

Although this study revealed that college students who had dependent children were more likely to leave without attaining a degree than those who did not have dependents, a future study should consider going beyond dependent children by adding additional dependency types such as dependent siblings, parents, grandparents, other relatives, or anybody else for whom the respondent provided more than half their financial support. Additional analysis could also go beyond awarded bachelor's degrees, by adding awarded associate degrees, graduate degrees, and certificates, to expand the knowledge on whether there is a difference in degree attainment and academic achievement rates compared to students without children. Another future study could take a phenomenological approach to gain deep information and perceptions through

inductive, qualitative methods such as interviews, discussions, and participant observation, and representing it from the perspective of the research participant. Moreover, a future study could also take a narrative approach to gain an understanding of the lived experiences and identities of college student parents striving towards receiving a post-secondary degree. Narrative inquiry would allow the opportunity to examine student parents entire story to understand the significant moments as they perceive them, as well as the other features of their lives that impact their lived experiences (Mertova & Webster, 2020).

Lastly, there is limited research on the effectiveness of current institutional programs, policies, and practices designed to assist the needs of college students with children in higher education. A future mixed methods study could evaluate the effectiveness of current institutional programs at a particular university aimed to assist potential barriers college students with children may face while attending post-secondary education. A researcher could conduct a pre- and post-assessment with prospective graduating student parents and program staff to gain an understanding of the available resources provided and the effectiveness of these programs towards increasing academic achievement and degree attainment rates. The researcher could use this information to explain how institutions can improve current programs in place, while also encouraging the development of future programming to better support the needs of students with caregiving responsibilities. As the number of college students with children in postsecondary education continues to grow, so should the research aiming to aid institutional action,

policies, and practices, for the goal of increasing student parents' academic and graduation success rates for years to come.

Conclusion

The purpose of this study was to determine whether there is a difference in academic achievement and degree attainment rates between students with children and those without children. The results revealed that students who have dependent children were significantly more likely to leave college without attaining a degree and had significantly lower GPAs compared to those who did not have dependents, over the 2012-2017 time. While gender, race/ethnicity, marital status, socioeconomic status, and high school ACT scores were all found to affect the relationships between academic achievement and/or degree attainment among college students with children, the logistic and multiple regressions revealed that gender was a significant predictor for degree attainment and grade point averages with females being more likely to obtain a degree and having higher GPAs than males. Even though results indicated that there was no association between those who were single, never married, versus those who were married, living with a partner in obtaining a degree, the results reveal those who had Pell grants were significantly less likely to obtain a degree. In addition, the correlations from this study indicated that as student ACT score increases, their odds of attaining a degree increases.

Though data indicate that the mean of students' GPA with dependent children is significantly less than students without dependent children, female GPA scores are significantly higher than male GPA scores and Whites, Hispanics, and Asian students

have significantly higher mean GPA scores than Black students. Furthermore, the study revealed there is no significant difference between Black students and the other reference groups, and between students with Pell grants and students without Pell grants, on GPA score. However, the results reveal students who are married have significantly higher mean GPA scores than students who currently do not have a live-in partner, while there is a significant positive association between student's ACT score and their college GPA.

Lastly, the information gathered from this study will be used to make higher education professionals aware of the difference in academic achievement and degree attainment rates between students with children and those without children and to provide them with recommendations for effective institutional action. Data reflecting the experiences of student parents are essential to designing policy and practice that can improve their college enrollment, persistence, and completion, and to promoting progress toward more equitable higher education outcomes (Gault et al., 2020). Providing this knowledge to admissions representatives, student affairs professionals, faculty members, mental health workers, and other educational leaders and support staff on campus could potentially increase student parents' GPA scores, degree attainment and retention rates, as these professionals all play critical roles in the success of these students (Hallett & Westland, 2015). In addition, while this study gives communities and institutional programs, resources, and committees the importance of establishing or improving action steps catered to the advancement of student parents, it also helps higher educational professionals understand that their overall achievement directly effects the well-being, stability, care, and livelihood of their dependents.

REFERENCES

- American Psychological Association. (2016). *The state of mental health on college campuses: A growing crisis*. <http://www.apa.org/about/gr/education/news/2011/college-campuses.aspx>
- Amuda, B. G., Bulus, A. K., & Joseph, H. P. (2016). Marital status and age as predictors of academic performance of students of colleges of education in the North-Eastern Nigeria. *American Journal of Educational Research*, 4(12), 896–902.
- Anderson, B. J., & Mieztis, S. (1999). Stress and life satisfaction in mature female graduate students. *Initiatives*, 59(1), 33–43.
- Andrewartha, L., Knight, E., Simpson, A., & Beattie, H. (2022). *A balancing act: Supporting students who are parents to succeed in Australian higher education*. National Centre for Student Equity in Higher Education. <https://www.ncsehe.edu.au/publications/students-parents-higher-education/>
- The Annie E. Casey Foundation. (2022, August 1). *Child well-being in single-parent families*. The Annie E. Casey Foundation. <https://www.aecf.org/blog/child-well-being-in-single-parent-families#:~:text=Statistics%20About%20Children%20in%20Single,every%20three%20kids%20across%20America>
- Answers Corporation. (2004). *The most trusted place for answering life's questions*. Single-parent families. <http://www.answers.com/topic/single-parent-families>
- Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel*, 25(4), 297–308.
- Attewell, P., Lavin, D., Domina, T., & Levey, T. (2007). *Passing the torch: Does higher education for the disadvantaged pay off across the generations?* Russell Sage Foundation.
- Babb, S. J., Rufino, K. A., & Johnson, R. M. (2022). Assessing the effects of the COVID-19 pandemic on nontraditional students' mental health and well-being. *Adult Education Quarterly*, 72(2), 140–157.
- Barton, P. E. (2004). Why does the gap persist? *Educational Leadership*, 62(3), 8–13.

- Baum, S., Ma, J., & Payea, K. (2013). *Education pays, 2013: The benefits of higher education for individuals and society*. College Board.
[https://www.scirp.org/\(S\(lz5mqp453edsnp55rrgjt55\)\)/reference/referencespapers.aspx?referenceid=2666819](https://www.scirp.org/(S(lz5mqp453edsnp55rrgjt55))/reference/referencespapers.aspx?referenceid=2666819)
- Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research*, 55(4), 485–540.
- Beattie, H. (2019). *Sole parents in Australian higher education*. [Unpublished honours Thesis]. La Trobe University, Melbourne.
- Beeler, S. (2016). Undergraduate single mothers' experiences in postsecondary education. *New Directions for Higher Education*, 2016(176), 69–80.
- Berger, J. B., & Lyon, S. C. (2005). Past to present: A historical look at retention. In A. Seidman (Ed.), *College student retention: Formula for student success* (pp. 1–30). Praeger Publishers.
- Bombardieri, M. (2018, July 19). *The imperative to support single mothers in college*. The Center for American Progress.
<https://www.americanprogress.org/issues/educationpostsecondary/news/2018/07/19/453783/imperative-support-single-mothers-college/>
- Bonet, G., & Walters, B. R. (2016). High impact practices: Student engagement and retention. *College Student Journal*, 50(2), 224–235.
- Bosch, B. (2013). *Women who study: Balancing the dual roles of postgraduate student and mother* [Doctoral dissertation, Edith Cowan University]. Edith Cowan University Research Online Institutional Repository.
<https://ro.ecu.edu.au/theses/592/>
- Bowman, N. A., Hill, P. L., Denson, N., & Bronkema, R. (2015). Keep on truckin' or stay the course? Exploring grit dimensions as differential predictors of educational achievement, satisfaction, and intentions. *Social Psychological and Personality Science*, 6(6), 639–645.
- Braxton, J. M., Doyle, W. R., Hartley, H. V., III, Hirschy, A. S., Jones, W. A., & McLendon, M. K. (2013). *Rethinking college student retention*. John Wiley & Sons.
- Braxton, J. M., Milem, J. F. & Sullivan, A. S. (2000). The influence of active learning on the college student departure process. *The Journal of Higher Education*, 71(5), 569–590. <https://doi.org/10.1080/00221546.2000.11778853>

- Braxton, J. M., & Mundy, M. E. (2001). Powerful institutional levels to reduce college student departure. *Journal of College Student Retention: Research, Theory and Practice*, 3(1), 91–118.
- Braxton, J. M., Shaw Sullivan, A. V., & Johnson, R. M. (1997). Appraising Tinto's theory of college student departure. *Higher Education-New York-Agathon Press Incorporated-*, 12, 107-164.
- Brooms, D. R., & Davis, A. R. (2017). Staying focused on the goal: Peer bonding and faculty mentors supporting Black males' persistence in college. *Journal of Black Studies*, 48(3), 305–326.
- Brown, R. L. (2007). College females as mothers: Balancing the roles of student and motherhood. *ABNF Journal*, 18(1), 25-29.
- Brown, V., & Nichols, T. R. (2013). Pregnant and parenting students on campus: Policy and program implications for a growing population. *Educational Policy*, 27(3), 499–530.
- Brownell, J. E., & Swaner, L. E. (2010). *Five high-impact practices: Research on learning outcomes, completion, and quality*. Association of American Colleges and Universities.
- Bryan, M., Cooney, D., & Elliott, B. (2019). *2012/17 Beginning Postsecondary Students (BPS) Longitudinal Study* (NCES 2020-522). [Data Set]. National Center for Education Statistics. <https://nces.ed.gov/pubs2020/2020522.pdf>
- Burns, S., Wang, X., & Henning, A. (Eds.). (2011). *NCES handbook of survey methods. NCES 2011-609*. National Center for Education Statistics. U.S. Government Printing Office.
- Cabrera, A. F., Castaneda, M. B., Nora, A., & Hengstler, D. (1992). The convergence between two theories of college persistence. *Journal of Higher Education*, 63(2), 143–164.
- Carey, K. (2005a). *Choosing to improve: Voices from colleges and universities with better graduation rates*. Education Trust.
- Carey, K. (2005b). *One step from the finish line: Higher education graduation rates are within our reach*. Education Trust.
- Carney-Crompton, S., & Tan, J. (2002). Support systems, psychological functioning, and academic performance of nontraditional females students. *Adult Education Quarterly*, 52(2), 140–154.

- Casstevens, W. J., Waites, C., & Outlaw, N. (2012). Non-traditional student retention: Exploring perceptions of support in a social work graduate program. *Social Work Education, 31*(3), 256–268. <https://doi.org/10.1080/02615479.2011.556188>
- Causey J., Harnack-Eber A., Ryu M., Shapiro D. (2021). *A COVID-19 special analysis update for high school benchmarks*. National Student Clearinghouse Research Center. https://nscresearchcenter.org/wpcontent/uploads/2021_HS Benchmarks Covid Report.pdf
- Chambliss, D. F., & Takacs, C. G. (2014). *How college works*. Harvard University Press.
- Chang, M. J., Denson, N., Saenz, V., & Misa, K. (2006). The educational benefits of sustaining cross-racial interaction among undergraduates. *Journal of Higher Education, 77*(3), 430–455.
- Chen J. C. (2017). Nontraditional adult learners: The neglected diversity in postsecondary education. *SAGE Open, 7*(1), 1–12. <https://doi.org/10.1177/2158244017697161>
- Choy, S. P. (2002). *Findings from the condition of education 2002: Nontraditional undergraduates* (NCES 2002–012). National Center for Education Statistics. <https://nces.ed.gov/pubs2002/2002012.pdf>
- Clark, H. H. (1996). *Using language*. Cambridge University Press.
- Clark, J., Mpare, M., & Martinez, N. (2011). *Colleges need more childcare to help student parents graduate*. Institute for Women’s Policy Research. <https://iwpr.org/media/press-releases/colleges-need-more-child-care-to-help-student-parents-graduate/>
- Cleveland-Innes, M. (1994). Adult student drop-out at post-secondary institutions. *The Review of Higher Education, 17*(4), 423–445.
- Cohen, A. (2005). *Few choose parenthood as undergrads*. The Dartmouth. <https://www.thedartmouth.com/2005/11/21/news/few/>
- Contreras, F. (2011) *Achieving equity for Latino students: Expanding the pathway to higher education through public policy*. Teachers College Press.
- Coser, L. A. (1974). Ideas about Modernization. (Book Reviews: Tradition, Change, and Modernity). *Science, 183*(4126), 742. <https://doi.org/10.1126/science.183.4126.742.a>
- Costello, C. B. (2014). *Pathways to postsecondary education for pregnant and parenting teens* (Working Paper# C418). Institute for Women's Policy Research.

<http://www.carecenterholyokey.org/wp-content/uploads/2014/07/Pathways-to-Postsecondary-Education.pdf>

- Cujec, B., Oancia, T., Bohm, C., & Johnson, D. (2000). Career and parenting satisfaction among medical students, residents, and physician teachers at a Canadian medical school. *Canadian Medical Association Journal*, *162*(5), 637–640.
- Cuseo, J. (2012). Student success: Definition, outcomes, principles, and practices defining student success. *Esource for College Transitions*.
<https://www2.indstate.edu/studentsuccess/pdf/defining%20student%20success.pdf>
- Demery, J., Brawner, C. E., & Serow, R. C. (1999). Instructional reform at research universities: Studying faculty motivation. *The Review of Higher Education*, *22*(4), 411–423.
- Demetriou, C., & Schmitz-Sciborski, A. (2011). Integration, motivation, strengths, and optimism: Retention theories past, present and future. In R. Hayes (Ed.), *Proceedings of the 7th national symposium on student retention* (pp. 300–312).
- Department for Business Innovation and Skills. (2013). *The benefits of higher education participation for individuals and society: key findings and reports “The Quadrants.”* (BIS Research Paper No. 146).
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/254101/bis-13-1268-benefits-of-higher-education-participation-the-quadrants.pdf
- Duquaine-Watson, J. M. (2007). “Pretty darned cold”: Single mother students and the community college climate in post-welfare reform America. *Equity & Excellence in Education*, *40*(3), 229-240.
- Edelson, D. (2022, October 13). *How does a college degree improve graduates' employment and earnings potential?* Association of Public & Land-grant Universities. <https://www.aplu.org/our-work/5-archived-projects/college-costs-tuition-and-financial-aid/public-values/employment-earnings.html#:~:text=In%202021%2C%20median%20income%20for,earnings%20are%20%2430%2C000%20a%20year.&text=Recent%20college%20graduates%20also%20weathered,with%20a%20high%20school%20diploma>
- Elliot, A. J., & Dweck, C. S. (2005). Competence and motivation: Competence as the core of achievement motivation. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 3–12). Guilford Publications.

- Ellis H. (2019). A nontraditional conundrum: The dilemma of nontraditional student attrition in higher education. *College Student Journal*, 53(1), 24–32.
- Emrey-Arras, M. (2019). *Higher education: More information could help student parents access additional federal student aid*. U.S. Government Accountability Office. <https://www.gao.gov/products/gao-19-522>
- Engstrom, C. M., & Tinto, V. (2008). Access without support is not opportunity. *Change*, 40(1), 46–50.
- Eppler, M. A., Carsen-Plentl, C., & Harju, B. L. (2000). Achievement goals, failure attributions, and academic performance in nontraditional and traditional college students. *Journal of Social Behavior & Personality*, 15(3), 353–372.
- Family Scholar House. (2022, November 3). *Louisville, Kentucky metropolitan area*. <https://familyscholarhouse.org/community-resource/louisville/>
- Felten, P., Gardner, J. N., Schroeder, C. C., Lambert, L. M., Barefoot, B. O., & Hrabowski, F. A. (2016). *The undergraduate experience: Focusing institutions on what matters most*. John Wiley & Sons.
- Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increase student performance in science, engineering, and mathematics. *Proceeding of the National Academy of Sciences*, 111(23), 8410–8415.
- Gallagher, M. W., Marques, S. C., & Lopez, S. J. (2017). Hope and the academic trajectory of college students. *Journal of Happiness Studies*, 18(2), 341–352.
- Gault, B., Holtzman, T., & Reichlin Cruse, L. (2020). *Understanding the student parent experience: The need for improved data collection on parent status in higher education*. (Briefing Paper# C485). Institute for Women's Policy Research. <https://iwpr.org/iwpr-issues/student-parent-success-initiative/understanding-student-parent-experience-need-improved-data-collection/>
- Gault, B., Reichlin, L., & Román, S. (2014). *College affordability for low-income adults: Improving returns on investment for families and society* (Report, IWPR #C412). Institute for Women's Policy Research. <https://files.eric.ed.gov/fulltext/ED556725.pdf>
- Ginsberg, M. B., & Wlodkowski, R. J. (2009). *Diversity and motivation: Culturally responsive teaching in college*. John Wiley & Sons.

- Grall, T. S. (2021, October 8). *Custodial mothers and fathers and their child support: 2007*. Census.gov. <https://www.census.gov/library/publications/2009/demo/p60-237.html>
- Hackett, G., Betz, N. E., Casas, J. M., & Rocha-Singh, I. A. (1992). Gender, ethnicity, and social cognitive factors predicting the academic achievement of students in engineering. *Journal of Counseling Psychology, 39*(4), 527-538.
- Hale, J. E. (2004). How schools shortchange African American children? *Educational Leadership, 62*(3), 34–37.
- Hallett, R. E., & Westland, M. A. (2015). Foster youth: Supporting invisible students through visibility. *About Campus, 20*(3), 15–21.
- Harris, M. S., & Ellis, M. K. (2020). Measuring changes in institutional diversity: The US context. *Higher Education, 79*(2), 345–360.
- Hegewisch, A., Bendick, M., Jr., Gault, B., & Hartmann, H. (2016). *Pathways to equity: Narrowing the wage gap by improving women's access to good middle-skill jobs* (IWPR #C438). Institute for Women's Policy Research. https://iwpr.org/wp-content/uploads/2020/12/Middle-skills_layout-FINAL.pdf
- Hess, F. M., Schneider, M., Carey, K., & Kelly, A. P. (2009). *Diplomas and dropouts: Which colleges actually graduate their students (and which don't)*. American Enterprise Institute for Public Policy Research. <https://files.eric.ed.gov/fulltext/ED505693.pdf>
- Holmes, D. (2005). *Embracing differences: Post-secondary education among aboriginal students, students with children and students with disabilities*. Canada Millennium Scholarship Foundation. http://www.millenniumscholarships.ca/images/Publications/embracing_en.pdf
- Home, A. (1997). Learning the hard way: Role strain, stress, role demands, and support in multiple-role women students. *Journal of Social Work Education, 33*(2), 335–347.
- Home, A. M. (1998). Predicting role conflict, overload, and contagion in adult women university students with families and jobs. *Adult Education Quarterly, 48*(2), 85–97.
- Ikenberry, S. O., & Kuh, G. D. (2015). From compliance to ownership: Why and how colleges and universities assess student learning. In G. D. Kuh, S. O. Ikenberry, N. A. Jankowski, T. R. Cain, P. T. Ewell, P. Hutchings, & J. Kinzie (Eds.), *Using evidence of student learning to improve higher education* (pp. 1–23). Jossey-Bass.

- Jenkins, D. (2006). *What community college management practices are effective in promoting student success? A study of high- and low-impact institutions* (CCRC Brief No. 31). Community College Research Center, Teachers College, Columbia University.
- Jenkins, R. (2012). The new “traditional student.” *Chronicle of Higher Education*, 59(8), 31–32.
- Johnson, M. (2020). Student motivation – Traditional vs. nontraditional college students. In R. Summers, C. Golden, L. Lashley, & E. Ailes (Eds.), *Essays in developmental psychology*. <https://www.assessmentpsychologyboard.org/edp/>
- Johnson, M. L., & Nussbaum, E. M. (2012). Achievement goals and coping strategies: Identifying the traditional/nontraditional students who use them. *Journal of College Student Development*, 53(1), 41–54.
- Johnson, M. L., Taasoobshirazi, G., Clark, L., Howell, L., & Breen, M. (2016). Motivations of traditional and nontraditional college students: From self-determination and attributions to expectancy and values. *The Journal of Continuing Higher Education*, 64(1), 3–15.
- Johnson, S. E., Richeson, J. A., & Finkel, E. J. (2011). Middle class and marginal? Socioeconomic status, stigma, and self-regulation at an elite university. *Journal of Personality and Social Psychology*, 100(5), 838–852.
- Jussim, L. (2013). Teachers’ expectation. In J. Hattie & E. Anderson (Eds.), *International handbook of student achievement* (pp. 242–246). Routledge.
- Kadison, R. (2004, December 10). *The mental health crisis: What colleges must do*. The Chronicle of Higher Education. <https://www.chronicle.com/article/the-mental-health-crisis-what-colleges-must-do/>
- Kasworm, C. (2008). *Looking through a mirror darkly: Adult workers as undergraduate students* [Paper presentation]. Association for the Study of Higher Education, Jacksonville, FL.
- Keith, P. M. (2007). Barriers and nontraditional students’ use of academic and social services. *College Student Journal*, 41(4), 1123–1127.
- Kensinger, C., & Minnick, D. J. (2018). The invisible village: An exploration of undergraduate student mothers’ experiences. *Journal of Family and Economic Issues*, 39(1), 132–144.

- Klepfer, K., & Hull, J. (2012). *High school rigor and good advice: Setting up students to succeed*. National School Boards Association, Center for Public Education.
- Kruvelis, M. (2017, June 12). *Building family-friendly campuses: Strategies to promote college success among student parents*. Higher Education Today. <https://www.higheredtoday.org/2017/06/12/building-family-friendly-campus-strategies-promote-college-success-among-student-parents/>
- Kuh, G., J., Kinzie, J., Schuh, E., Whitt, & Associates (2005). *Student success in college: Creating conditions that matter*. Jossey-Bass.
- Lawton, G., Burns, E., & Rosencrance, L. (2022, January 20). *Logistic regression*. SearchBusinessAnalytics. <https://www.techtarget.com/searchbusinessanalytics/definition/logistic-regression#:~:text=Logistic%20regression%20is%20a%20statistical,or%20more%20existing%20independent%20variables>
- Leavitt, R. S. (1989). Married women returning to college: A study of their personal and family adjustments. *Smith College Studies in Social Work*, 59(3), 301–315.
- Lindsay, T. N., & Gillum, N. L. (2018). Exploring single-mother college students' perceptions of their college-related experiences and of campus services. *The Journal of Continuing Higher Education*, 66(3), 188–199.
- Linnenbrink, E. A., & Pintrich, P. R. (2002). The role of motivational beliefs in conceptual change. In M. Limon & L. Mason (Eds.), *Reconsidering conceptual change: Issues in theory and practice* (pp. 115–135). Kluwer Academic Publishers.
- Loeb, E., & Hurd, N. M. (2019). Subjective social status perceived academic competence, and academic achievement among underrepresented students. *Journal of College Student Retention: Research, Theory & Practice*, 21(2), 150–165.
- Magnuson, K. (2007). Maternal education and children's academic achievement during middle childhood. *Developmental Psychology*, 43(6), 14–97.
- Magyar-Moe, J. L., Owens, R. L., & Scheel, M. J. (2015). Applications of positive psychology in counseling psychology: Current status and future directions. *The Counseling Psychologist*, 43(4), 494–507.
- Mallinckrodt, B., & Leong, F. T. (1992). Social support in academic programs and family environments: Sex differences and role conflicts for graduate students. *Journal of Counseling & Development*, 70(6), 716–723.

- Mamiseishvili, K., & Deggs, D. M. (2013). Factors affecting persistence and transfer of low-income students at public two-year institutions. *Journal of College Student Retention: Research, Theory & Practice*, 15(3), 409–432.
- Matus-Grossman, L., & Gooden, S. T. (2001, November). *Opening doors to earning credentials: Impressions of community college access and retention from low-wage workers* [Paper presentation]. Association for Public Policy Analysis and Management 23rd Annual Research Conference, Washington, D.C., United States. https://www.mdrc.org/sites/default/files/full_467.pdf
- McCormack, J. (2007, January 25). *GW fails pregnant and parenting students*. The GW Hatchet. <http://media.www.gwhatchet.com/media/storage/paper332/news/2007/01/25/Opinions/John-Mccormack.Gw.Fails.Pregnant.And.Parenting.Students-2677289.shtml>
- McFarland J., Hussar B., Zhang J., Wang X., Wang K., Hein S., Diliberti M., Forrest Cataldi E., Bullock Mann F., & Barmer A. (2019). *The condition of education 2019* (NCES 2019-144). U.S. Department of Education, National Center for Education Statistics. <https://nces.ed.gov/pubs2019/2019144.pdf>
- McLanahan, S., & Adams, J. (1987). Parenthood and psychological well-being. *Annual Review of Sociology*, 13(1), 237–257.
- Mertova, P., & Webster, L. (2020). *Using narrative inquiry as a research method: An introduction to critical event narrative analysis in research, teaching, and professional practice* (2nd ed.). Routledge.
- Miller, K., Gault, B., & Thorman, A. (1970). *Improving childcare access to promote postsecondary success among low-income parents* (Report #C378). Semantic scholar. <https://www.semanticscholar.org/paper/Improving-Child-Care-Access-to-Promote-Success-Miller-Gault/2052c1b6e74b94f855aa6c483f3ce8de4596f6ae>
- Morris, E. A., Brooks, P. R., & May, J. L. (2003). The relationship between achievement goal orientation and coping style: Traditional vs. nontraditional college students. *College Student Journal*, 37(1), 3–8.
- Morrow, J., & Ackerman, M. E. (2012). Intention to persist and retention of first-year students: The importance of motivation and sense of belonging. *College Student Journal*, 46(3), 483–491.
- Muraskin, L. (1997, July 31). *"Best practices" in student support services: A study of five exemplary sites. Followup Study of Student Support Services Programs*. ERIC. <https://eric.ed.gov/?id=ED411739>

- Narkhede, S. (2018, May 17). *Understanding logistic regression*. Towards Data Science. <https://towardsdatascience.com/understanding-logistic-regression-9b02c2aec102>
- Nathans, L.L., Nimon, K. F., & Oswald, F. L. (2013). Understanding the results of multiple linear regression. *Organizational Research Methods*, 16(4), 650–674. <https://doi.org/10.1177/1094428113493929>
- National Center for Education Statistics (n.d.). Beginning postsecondary students (BPS). National Center for Education Statistics. <https://nces.ed.gov/surveys/bps/>
- National Center for Education Statistics. (2013). *Digest of education statistics* [Data set]. NCES. http://nces.ed.gov/programs/digest/d13/tables/dt13_306.10.asp
- Nazarinia Roy, R. R., Schumm, W. R., & Britt, S. L. (2014). *The transition to parenthood*. Springer.
- Nelson, B., Froehner, M., & Gault, B. (2013). *College students with children are common and face many challenges in completing higher education* (Briefing Paper# C404). Institute for Women's Policy Research. [https://www.scirp.org/\(S\(351jmbntvnsjt1aadkposzje\)\)/reference/referencespapers.aspx?referenceid=2628082](https://www.scirp.org/(S(351jmbntvnsjt1aadkposzje))/reference/referencespapers.aspx?referenceid=2628082)
- Nietzel, M. T. (2022, October 12). *New study: College degree carries big earnings premium, but other factors matter too*. Forbes. <https://www.forbes.com/sites/michaelt Nietzel/2021/10/11/new-study-college-degree-carries-big-earnings-premium-but-other-factors-matter-too/?sh=7b6cbff35cdc>
- Niu, S. X. (2015). Leaving home state for college: Differences by race/ethnicity and parental education. *Research in Higher Education*, 56(4), 325–359.
- Noll, E., Reichlin, L., & Gault, B. (2016, December 31). *College students with children: National and regional profiles. Student Parent success initiative*. Institute for Women's Policy Research. <https://eric.ed.gov/?q=source%3A%22Institute%2Bfor%2BWomen%27s%2BPolicy%2BResearch%22&ff1=pubReports%2B-%2BDescriptive&id=ED612519>
- Norton, A., Cherastidtham, I., & Mackey, W. (2018). *Mapping Australian higher education 2018*. Grattan Institute. <https://grattan.edu.au/wp-content/uploads/2018/09/907-Mapping-Australian-higher-education-2018.pdf>

- Novak, M., & Thacker, C. (1991). Satisfaction and strain among middle-aged women who return to school: Replication and extension of findings in a Canadian context. *Educational Gerontology: An International Quarterly*, 17(4), 323–342.
- Osborne, J. W. (2000). Prediction in multiple regression. *Practical assessment, research & evaluation*, 7(2), 1-6. <https://doi.org/10.7275/7j20-gg86>
- Ostrove, J. M., & Long, S. M. (2007). Social class and belonging: Implications for college adjustment. *The Review of Higher Education*, 30(4), 363–389.
- Otto, S., Evins, M. A., Boyer-Pennington, M., & Brinthaupt, T. M. (2015). Learning communities in higher education: Best practices. *Journal of Student Success and Retention*, 2(1), 1–20.
- Pace, C. R. (1980). Measuring the quality of student effort. *Current Issues in Higher Education*, 2(1), 10–16.
- Padula, M. A. (1994). Reentry women: A literature review with recommendations for counseling and research. *Journal of Counseling & Development*, 73(1), 10–16.
- Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research* (Vol. 2). Jossey-Bass.
- Perin, D. (2011). *Facilitating student learning through contextualization* (Working Paper No. 59). Community College Research Center, Teachers College, Columbia University.
- Radford A. W., Cominole M., Skomsvold P. (2015). *Demographic and enrollment characteristics of nontraditional undergraduates: 2011–12. Web Tables* (NCES 2015-025). U.S. Department of Education, National Center for Education Statistics. <https://nces.ed.gov/pubs2015/2015025.pdf>
- Rand, K. L., & Cheavens, J. S. (2009). Hope theory. In S. J. Lopez & C. R. Snyder (Eds.), *Oxford handbook of positive psychology* (2nd ed., pp. 323–333). Oxford University Press.
- Ricco, R., Sabet, S., & Clough, C.. (2009). College mothers in the dual roles of student and parent: Implications for their children's attitudes toward school. *Merrill-Palmer Quarterly*, 55(1), 79–110. <https://doi.org/10.1353/mpq.0.0017>
- Richards, L. N., & Schmeige, C. J. (1993). Problems and strengths of single-parent families: Implications for practice and policy. *Family Relations*, 42(3), 277–285.

- Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin, 138*(2), 353–387. <https://doi.org/10.1037/a0026838>
- Rose, J. A., Porter, S. R., & Rogers, J. (2017). Understanding student self-reports of academic performance and course-taking behavior. *AERA Open, 3*(2), <https://doi.org/10.1177/2332858417711>
- Roy, R. N., Bradecich, A., Dayne, N., & Luna, A. (2018). The transition to motherhood: The experiences of college student-parents. *Journal of Family & Consumer Sciences, 110*(3), 48–57.
- Rugutt, J. K., & Chemosit, C. C. (2005). A study of factors that influence college academic achievement: A structural equation modeling approach. *Journal of Educational Research & Policy Studies, 5*(1), 66–90.
- Ryan, J. F. (2004). The relationship between institutional expenditures and degree attainment at baccalaureate colleges. *Research in Higher Education, 45*(2), 97–114.
- Schultz, B. E., Corbett, C. F., & Hughes, R. G. (2022, February). Instrumental support: A conceptual analysis. In *Nursing Forum*.
- Sebastian, A. & Ziv, I. (2019). *One in eight: Australian single mothers' lives revealed: Report of a national survey undertaken in 2018 by the Council of Single Mothers and their Children*. Council of Single Mothers and Their Children. https://www.csmc.org.au/wp-content/uploads/2019/12/One-in-EightFamilies_CSMC-National-Survey-Dec-2019-2.pdf
- Shushok, F., Jr., & Hulme, E. (2006). What's right with you: Helping students find and use their personal strengths. *About Campus, 11*(4), 2–8.
- Singh, K. (2011). Study of achievement motivation in relation to academic achievement of students. *International Journal of Educational Planning & Administration, 1*(2), 161–171.
- Smith, J. P., & Naylor, R. A. (2001). Dropping out of university: A statistical analysis of the probability of withdrawal for UK university students. *Journal of the Royal Statistical Society: Series A (Statistics in Society), 164*(2), 389–405.
- Snyder, C. R. (2000). Hypothesis: There is hope. In C. R. Snyder & C. R. Snyder (Eds.), *Handbook of hope: Theory, measures, and applications* (pp. 3–21). Academic Press. <https://doi.org/10.1016/b978-012654050-5/50003-8>

- Sorensen, N., Nagda, B. R. A., Gurin, P., & Maxwell, K. E. (2009). Taking a “hands on” approach to diversity in higher education: A critical-dialogic model for effective intergroup interaction. *Analyses of Social Issues and Public Policy*, 9(1), 3–35.
- Spady, W. G. (1970). Dropouts from higher education: An interdisciplinary review and synthesis. *Interchange*, 1(1), 64–85.
- Springer, K. W., Parker, B. K., & Levitan-Reid, C. (2009). Making space for graduate student parents: Practice and politics. *Journal of Family Issues*, 30(4), 435–457. <https://doi.org/10.1177/0192513X08329293>
- Stewart, S. M. (2010). *A phenomenological investigation of student achievement: Perceptions of academic success as told by single African American and Hispanic mothers* [Doctoral Dissertation, Capella University]. ProQuest. <https://www.proquest.com/openview/3f541299c95022fbcf1ce6408e3ae957/1?pq-origsite=gscholar&cbl=18750>
- Strayhorn, T. L. (2011). Bridging the pipeline: Increasing underrepresented students’ preparation for college through a summer bridge program. *American Behavioral Scientist*, 55(2), 142–159.
- Study International Staff. (2019, September 30). *5 facts and figures about student parents in the US*. Study International. <https://www.studyinternational.com/news/student-parents/>
- Swisher, R. R., & Dennison, C. R. (2020). First-and continuing-generation students, substance use, and college graduation. *Social Forces*, 98(4), 1636-1668.
- Tehan, L. (2007). Advising the single-parent college student. *The Mentor: An Academic Advising Journal*, 9(1). <https://journals.psu.edu/mentor/article/view/61589/61240>
- Thomas, J., Raynor, M., & Al-Marzooqi, A. (2012). Marital status and gender as predictors of undergraduate academic performance: A United Arab Emirates context. *Learning and Teaching in Higher Education: Gulf Perspectives*, 9(2), 37–45. <https://doi.org/10.18538/lthe.v9.n2.80>
- Tierney, W. G. (2016). *The impact of culture on organizational decision-making: Theory and practice in higher education*. Stylus Publishing.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89–125.
- Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition*. University of Chicago Press.

- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). The University of Chicago Press.
- Tinto, V. (2004). *Student retention and graduation: Facing the truth, living with the consequences*. The Pell Institute.
- Tinto, V. (2012a). *Completing college: Rethinking institutional action*. University of Chicago Press.
- Tinto, V. (2012b). *Leaving college: Rethinking the causes and cures of student attrition*. University of Chicago Press.
- Tinto, V., & Pusser, B. (2006). *Moving from theory to action: Building a model of institutional action for student success*. National Postsecondary Education Cooperative. https://nces.ed.gov/npec/pdf/Tinto_Pusser_Report.pdf
- Umbach, P. D., & Porter, S. R. (2002). How do academic departments impact student satisfaction? Understanding the contextual effects of departments. *Research in Higher Education*, 43(2), 209–234.
- Ungerleider, C., & Burns, T. (2004). The state and quality of Canadian public education. In D. Raphael (Ed.), *Social determinants of health, Canadian perspectives*. Canadian Scholars' Press.
- U.S. Department of Education. (n.d.). *National Center for Education Statistics (NCES) home page, part of the U.S. Department of Education*. National Center for Education Statistics, U.S. Department of Education. <https://nces.ed.gov/>
- Van Rhijn, T., Smit Quosai, T., & Lero, D. S. (2011). A profile of undergraduate student parents in Canada. *Canadian Journal of Higher Education*, 41(3), 59–80.
- Walton, G. M., & Cohen, G. L. (2007). A question of belonging: Race, social fit, and achievement. *Journal of Personality and Social Psychology*, 92(1), 82–96.
- Wei, M., Liao, K. Y. H., Chao, R. C. L., Mallinckrodt, B., Tsai, P. C., & Botello-Zamarron, R. (2010). Minority stress perceived bicultural competence, and depressive symptoms among ethnic minority college students. *Journal of Counseling Psychology*, 57(4), 411–422. <https://doi.org/10.1037/a0020790>
- White, J. M., & Klein, D. M. (2002). *Family theories* (2nd ed.). SAGE.
- Williams, B. (2022, September 22). *Many determined college students are also dedicated parents: A preview of the student parent affordability report*. The Education

Trust. <https://edtrust.org/resource/many-determined-college-students-are-also-dedicated-parents-a-preview-of-the-student-parent-affordability-report/#:~:text=In%20fact%2C%20more%20than%20one,to%20be%20students%20of%20color>

Woodock, A., Hernandez, P. R., Estrada, M., & Schultz, P. (2012). The consequences of chronic stereotype threat: Domain disidentification and abandonment. *Journal of Personality and Social Psychology, 103*(4), 635–646.
<https://doi.org/10.1037/a0029120>

Wyatt, L. G. (2011). Nontraditional student engagement: Increasing adult student success and retention. *Journal of Continuing Higher Education, 59*(1), 10–20.

Yakaboski, T. (2010). Going at it alone: Single mother undergraduates experiences. *Journal of Student Affairs Research and Practice, 47*(4), 463–481.

CURRICULUM VITA

NAME: Katrina Elliott

ADDRESS: 2215 W. Centennial Walk Way

Louisville, KY, 40292

EDUCATION:
& TRAINING A.A., Humanities
Jefferson Community and Technical College

B.A., Philosophy
University of Louisville

M.Ed., School Guidance Counseling
Spalding University

Ph.D., Counseling and Personnel Services
University of Louisville

EXPERIENCE: HSC Office of Diversity and Inclusion
University of Louisville
2022-Present
Coordinator

- Coordinates and works in close collaboration with university departments and individuals to develop and implement programs (such as, including SHPEP & LSAMP)/initiatives to foster the retention and sense of belonging of UofL students.
- Manage budgets, write grants, and raise funds to build financial resources for students, programs, and services to enhance student retention for ODI.
- Provides administrative oversight, and establishes annual departmental plans and goals based on institutional priorities as outlined in the university's strategic plan and antiracist agenda.

Department of Anthropology & Geography
University of Louisville
2016-2022

Academic Counselor, Sr.

- Assist students through the goal setting, degree planning, and registration processes. Guide and monitor students through their individual academic plans as they progress towards degree completion.
- Provide support and resource assistance as student's navigate institutional policy and academic issues.
- Promote student success for all within UofL's diverse student population by working collaboratively with colleagues dedicated to providing student-centered, highly engaged student contact.

Community Engagement

University of Louisville

2013-2016

Academic Counselor, Sr.

- Provide student recruitment at local High Schools to encourage participation and benefits for student achievement. Provide crisis intervention and support services to students with mental health and/or social support needs.
- Assist with assessment of credentials, preparation of academic plans, admissions, and orientations. Provide crisis intervention and support services to students with mental health and/or social support needs. Assist with assessment of credentials, preparation of academic plans, admissions, and orientations.

HONORS AND AWARDS:

Student Champion Award, 2022

Master Advisor Award, Spring 2016

SELECTED PRESENTATIONS:

Elliott, K. (2022, February), *Plan C*.
University of Louisville. Sistah's Voice Committee
& Alpha Kappa Alpha Sorority

Elliott, K. (2022, February), *What's Love Got to Do with it*.

University of Louisville. Sistah's Voice Committee & CONECT

Elliott, K. (2021, September), *Got A Lot to be Mad About*. University of Louisville. Sistah's Voice Committee

Elliott, K. (2021, June). *Understanding Black Excellence*. University of Louisville. Black Faculty and Staff Association

Elliott, K. (2022, February), *Black Excellence Navigating Pathways for Success*. University of Louisville. Black Faculty and Staff Association and S.C.O.R.E.

COMMITTEES:

The University of Louisville
Commission on Diversity and Racial Equity
Commissioner, 2020-2022

The University of Louisville
Black Faculty and Staff Association
Student Affairs Committee Chair, 2017- Present

The University of Louisville
University Wide Advising Committee
Member, 2016-2022

The University of Louisville
Arts & Sciences, Diversity, Equity & Inclusion
Member, 2018-2022

The University of Louisville
Student Parent Association
Mentor & Advocate, 2014-Present

The University of Louisville
Young and Emerging Professionals
Member, 2018-Present

The University of Louisville

CONNECT Program
Mentor, Advocate & Presenter

COMMUNITY ACTIVITIES: Greater YMCA
 Woman Up
 Mentor, Advocate & Presenter, 2011-Present