FACTORS LEADING TO STUDENT COMPLETION:

A STUDY OF SUCCESSFUL POST-TRADITIONAL STUDENTS

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ABSTRACT

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This study examined the factors that lead to student completion for part-time, post-traditional community college students (PTS). Research identified the environmental experiences and common characteristics of the student population using a sequential, exploratory research design. The qualitative segment of the study utilized a holistic, single-case study design, whereas the quantitative portion evaluated archival quantitative data from a 2013-2015 graduating cohort. In addition, the study explored the success of PTS enrolled in structured academic programs. The majority of students in the cohort were female, over the age of 35, White, low income, receiving some form of financial aid, not first generation to college or unknown, and did not require developmental education courses. More than half of the graduates earned a degree, not a certificate. Among the environmental experiences, the only significant factor appeared to be the use of an academic advisor. Supporting these data were individual interviews which indicated academic advising, or some form of mentorship coupled with a high level of self-motivation, led to success and completion. Additionally, the study determined that there is a significant difference between students who are enrolled in a structured academic program versus a non-structured academic program. The study was concluded with recommendations for further research on students not well represented in the sample and the number of credits earned by cohort participants.

Keywords: post-traditional students, community college students, completion rates, student retention, part-time students, academic advising

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DEDICATION

Education is the most powerful weapon which you can use to change the world.

-Nelson Mandela

I am forever indebted to the many people who have supported me in accomplishing what seemed to be an insurmountable task. I dedicate this dissertation to my first teacher, my mom, who instilled in me a thirst for learning so great it may never be quenched. In my eyes, there never has been and never will be a better educator in the world.

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Chapter 1

Introduction

Background of the Study

According to the National Community College Benchmark Project 2009 Peer Report (Central Arizona College [CAC], 2010), both full-time and part-time registered students at the end of the fall 2009 semester, returned to Central Arizona College (CAC) in the spring of 2010 at a combined rate of 65%. This statistic ranks CAC third among peer institutions and first among Arizona community colleges. In addition, both full-time and part-time students returned the following fall at a rate of 46%, second compared to peer institutions and again first among community colleges in Arizona (CAC, 2010). Although this comparison depicts CAC in a positive light related to the retention of students overall, it does not present the issues that colleges face with specific student populations.

Understanding that retention leads to completion, in 2009 CAC developed a comprehensive retention plan in response to the challenges the college was facing with the retention and completion of part-time students. The plan included the five conditions listed in the 1999 article entitled *Taking Student Retention Seriously: Rethinking the First Year of College* by Vincent Tinto. The five conditions comprise the development of clear education goals, faculty and staff support, early feedback, participation in student activities, and relevant learning opportunities. The retention plan created by CAC incorporated a Master Academic Plan campaign, pilot faculty and staff mentoring program, Early Alert grade warning system, Welcome Week programs to increase student involvement, and a New Student Orientation (NSO).

During the following two years, the college saw an increase in the student retention of full-time, degree-seeking students from 55% in the 2008/09 school year to 62% in 2010/11 (CAC, 2013, p. 7). However, CAC suffered attritional decrease from 33% to 31% in part-time degree-seeking students during the same time period. From 2008 to 2013 part-time students, on average, consisted of 83% of the total student population which exacerbated the issue (CAC, 2013, p. 3).

Also interesting is that the average student age was 30.4 during the affected period. The average age of the full-time CAC student was consistently 25 or younger, while the counterpart, the part-time student, was 31 (CAC, 2013, p. 3). Based on this information, it appears as though the retention efforts that were implemented, although effective for the retention of full-time students, were less effective for part-time students or students over 25 years of age who are often referred to as post-traditional students (PTS) (Soares, 2013).

Statement of the Problem

CAC, although increasing the retention of degree-seeking, full-time students, is struggling to retain and graduate part-time students. As noted in the CAC fact book (2013), this population of students comprises, on average, 83% of the entire student population, however; only 33% were retained from year to year (p. 7). This issue poses a challenge regarding student completion, transfer to universities, and entrance into the workforce. As indicated in the book, *Redesigning America's Community Colleges* by Bailey, Jaggars, and Jenkins (2015a), there is a need to restructure colleges in an effort to create clearly designed programs with significant guidance and instructional change in order to assist students with reaching their educational goals.

More fully understanding the key environmental experiences of post-traditional, part-time, degree-seeking completers would provide a valuable resource for Student Services in the development of programs to support retention and completion efforts for this population. In addition, determining if there is a significant difference between students who completed a structured academic program versus those who did not will help the researcher to determine if a Guided Pathways model would be appropriate to institute college-wide through systematic change. Many colleges have made attempts to improve completion rates over the years; however, these attempts have typically involved focusing on discrete interventions rather than systematic and college-wide change (Bailey, Jaggars, & Jenkins, 2015b).

Purpose of the Study

The purpose of this study is to determine the environmental experiences and common characteristics of students over 25 years of age who graduated from CAC and were identified when they were admitted to CAC as part-time, degree-seeking students. The data collected from this population of students will also help to determine if a structured academic model, often referred to as a guided pathways model for completion, would be effective for part-time, degree-seeking, PTS at CAC. Guided pathways, as defined by Bailey et al. (2015a, p. 3), require engaging faculty and student service professionals in "creating more clearly structured, educationally coherent program pathways that lead to students' end goals, and in rethinking instruction and student support services in ways that facilitate student's learning and success as they progress along these paths." According to the 2011 document by Complete College America entitled, *Time is the Enemy*, policy makers have been missing the target when making decisions because they are omitting data or forgetting to focus on a large percentage of students, those who are part-time. The study results showed that even when provided additional time to

graduate, about three-quarters do not ever complete degrees. Furthermore, initiatives such as Complete College America have not reached the desired targets because they have not recommended the systematic change necessary to shift the focus from "access alone to a focus on access with success" (Bailey et al., 2015a, p. 3). Research such as this calls attention to the need for a more targeted approach to addressing the low retention and completion rate of post-traditional, part-time students.

According to Forde (2002, p. 25), "While community colleges do an excellent job of fulfilling their open door mission, research shows that the completion rate for community college students is dismal." These students are more likely to be post-traditional and part-time students with many outside responsibilities that may inhibit the student's ability to remain in college continuously. They are often underrepresented with few programs available that focus on their specific needs (Forde, 2002). It is the responsibility of administrators and college officials to produce effective retention strategies and increase priority within college structures to improve retention and completion rates (Ellis-O'Quinn, 2012).

Research Questions and Hypotheses

The following questions guided this mixed methods study using a sequential, exploratory design. CAC's degree-seeking, part-time, post-traditional students 25-years or older are referred to as PTS.

1. What were the most common student characteristics of 2013-2015 PTS graduates?
2. What were the most common environmental experiences of 2013-2015 PTS graduates?
3. Do predictive indicators align with 2013-2015 PTS graduates' perceptions of what lead to their success?

4. Is there a significant difference between 2013-2015 PTS graduates at CAC who completed structured academic programs versus those who did not?

   $H_0$4. There is no statistically significant difference between 2013-2015 PTS graduates at CAC who completed structured academic programs versus those who did not.

   H4. There is a statistically significant difference between 2013-2015 PTS graduates at CAC who completed structured academic programs versus those who did not.

Identifying results to these research questions may help practitioners more fully understand completion models that more effectively increase student success rates for the targeted population. Quantitative data alone, however, will not paint the entire picture that may lead to implementation of future completion models. Also included in the narrative are qualitative perspectives of student perceptions related to their own success. Focus on the broad perspective of PTS graduates guided the methodology of this study.

Methodology

This mixed methods study using a sequential, exploratory design incorporated both quantitative and qualitative data sources. Data were triangulated and developed rich, comprehensive, and robust findings. Patton (1999) defined this form of triangulation as the process of using multiple data sources for more clear understanding of the data. It also identified complimentary aspects of the same situation and allowed the researcher to find overlap or areas of convergence. The two methods of data collection that were employed were individual interviews and quantitative analysis of archival data. Archival data were evaluated to determine the environmental experiences and student characteristics of successful graduates within the sample.

This population included all post-traditional (older than age 25) degree-seeking, part-time students who completed a certificate or degree from CAC during the time period from January 2013 to May 2015. The independent variables (IV) include student characteristics: age, gender, race/ethnicity, income-based financial aid recipients, first-generation college students, placement into developmental education courses, and environmental experiences including selected Program of Study/Major while attending CAC. The dependent variable (DV) was completion of a certificate or degree during the particular time period studied. The two methods of data collection provide perspective on completion strategies from the individual level and census data level.

Definitions of Terms

The following terms are used throughout this study and are operationally defined herein to facilitate context:

Completion rates- the number of students who reach their goal of certificate or associates degree while enrolled at their chosen institution of higher learning (Bailey et al., 2015b).

Developmental Education- Generally, developmental education can be described as college preparatory coursework in the areas of math, reading, and writing (CCCSE, 2016).

Environmental experiences- resources and strategies employed by students during their matriculation through an institution of higher learning (Astin, 1985).

Full-time status- student's enrollment in 12 or more credits during an academic semester Central Arizona College, 2017).

Guided pathways- Highly structured student support completion model incorporating clear goals, roadmaps to success, progress tracking, and feedback (Bailey et al., 2015b).

Structured Academic Program- As defined by the researcher and academic partners at CAC, it is a program that incorporates one or more of the following components:

- special requirements such as an admissions application, specific pre-requisites, director approval, program orientation, or information sessions;
- special course sequencing or a cohort model;
- an assigned academic advisor or mentor; or
- a required experiential learning experience such as an internship or practicum.

Input- Student characteristics: a chosen list of attributes such as first semester GPA, gender, ethnicity, and financial aid status, which could influence completion (Astin, 1985).

Post-traditional students (PTS)/Nontraditional students- For the purpose of this study, students who are greater than 25, degree-seeking, and enrolled less than full-time at CAC (Soares, 2013).

Retention- Continuing enrollment each academic semester, not to include winter or summer sessions (CAC, 2013).

List of Acronyms

AACC: American Association of Community Colleges

CAPSEE: Center for Analysis of Postsecondary Education and Employment

CAS: Council for the Advancement of Standards

CCSSE: Community College Survey of Student Engagement

CPD: Counseling and Personal Development

DHSI: Developing Hispanic Serving Institutions

USDoE: United States Department of Education

USDoL: United States Department of Labor

DV: Dependent Variable

GPA: Grade Point Average

HIS: Hispanic Serving Institution

IT: Institutional Technology

IV: Independent Variable

MAP: Master Academic Plan

NASPA: National Association of Student Personnel Administrators

NSO: New Student Orientation

PTS: Post-Traditional Students

CAC: Central Arizona College

SENSE: Survey of Entering Student Engagement

SPSS: Statistical Package for the Social Sciences

TRIO SSS: TRIO Student Support Services

WIOA: Workforce Innovation and Opportunity Act

Limitations

Due to internal and external validity, most studies encounter some degree of limitations (Mertens, 2005). Mixed methods, although defined by Patton (1999) as the process of using multiple data sources for more clear understanding of the data, poses additional limitations. The two methods used to gather and interpret data were qualitative research (through the use of individual interviews) and quantitative research (through the use of archival data) to determine the environmental experiences of graduates at CAC who meet the population criteria.

Limitations related to the collection of archival data, according to Check and Schutt (2012), include using extreme caution when making generalizations about the results since there

is no random assignment to the groups and no ability to control or manipulate the study in any way. This limitation is relevant for interviews in the same way. Krueger and Casey (2000) indicated that qualitative studies that offer breadth rather than depth can be generalized; however this study is an in-depth look at a specific population. Although there is a generalization limitation evident, the methods used can be transferrable. Lincoln and Guba (1989) emphasized that a researcher can review the methods, conditions and situations to determine use and fit in a similar study.

Delimitations

The term nontraditional, also referred to as post-traditional, does not have a specific definition, but rather it has a common set of student characteristics that define it with regard to students enrolled in institutions of higher learning (Bean & Metzner, 1985). Among these characteristics are students aged older than 25, part-time, delayed enrollment, full-time employment, have dependents other than their spouse, lack a high school diploma, single parent, and/or financially independent (Horn & Carroll, 1996). For the purposes of this study, students aged more than 25 and having part-time status were the only two characteristics mandatory to be included in the census population. In addition, sample participants for the qualitative study were selected from this census group. Although other student characteristics were explored within the study of the census group, it was determined that those aged greater than 25 and part-time status were the two characteristics most common in students enrolled at CAC during the time period studied. Therefore, the study was delimited to these students only.

Furthermore, the study at CAC was time-bound to the period from January 2013 to May 2015. These boundary conditions could impact generalization and are included as a reminder

that results and findings from this study may not be relevant for future time periods, thus creating an added delimitation to the study.

Assumptions

Several assumptions accompany this study. It was assumed that participants answered questions completely and truthfully. Participants were assumed to have a sincere interested in participating in the study and were not coerced into doing so. Additionally, an assumption was made that analyzing the data results of all students in this sample selected cohort would end with similar results for like populations. Furthermore, the researcher assumed that by randomly selecting interview participants from the selected cohort there would be a cross-sectional sample of responses that could be generalized to represent the larger group (Check & Schutt, 2012).

Significance of the Study

For many years, retention and completion specialists, such as Vincent Tinto, have studied college student success and provided various resources to assist in the development of retention and completion plans. As indicated in his presentation at the National Conference of Student Recruitment, Marketing and Retention in 2005, however, Tinto recognized the need to reevaluate his theory. He urged people to undergo a change in the way student retention is addressed based on the ever-changing student demographic in colleges and universities (Tinto, 2005). This study would analyze the best environmental experiences and success strategies that PTS at CAC have employed in order to succeed. The question remains, how different would the strategies be when compared to those utilized by full-time, traditional-aged students.

Results of this study might inform CAC, as well as peer institutions, if approaches such as a guided pathways model should be used to increase the retention and completion rate of one of the largest populations of students in community colleges, those who are part-time, post-

traditional, and degree-seeking. Additionally, college administrators might be provided with a litany of strategies and tools that would aid them in the development of a completion strategy specific to this population. The shift in focus for programming and systematic change could benefit students with similar characteristics to complete their educational goals.

Information from the findings of this study are intended to support the initiation of a guided pathways model in order to further increase completion rates for post-traditional, part-time students. Currently, there are few research studies and data focusing on the given population regarding student completion to support such projects.

Summary

Community colleges nationwide face challenges regarding the retention and completion of their students, CAC is no different. These challenges are magnified when focusing on students who are categorized as post-traditional. This study was designed to determine the environmental experiences and common characteristics that lead to the successful completion of PTS identified within the selected time period. In addition to the quantitative data collected, select participants were given the opportunity to identify the perceptions of what lead to their success through qualitative means and if their participation in a structured academic program contributed to completion. The subsequent chapter will incorporate a review of the literature and research related to the history of community colleges, provide a foundation for theoretical models of student completion, and include support of the value and significance of student characteristics and environmental experiences on student success.

Chapter 2

Review of the Literature

Introduction

The primary focus for this study was to investigate the relationship between student characteristics and environmental experiences and their effect on completion for students who are part-time, degree-seeking and over the age of 25 who attend CAC. For the purposes of this study, this population of students will be referred to as post-traditional students (PTS). This chapter will establish the appropriate context for the study through a thorough review of the literature pertaining to three major sections. The first section includes an overview of the community college. The second section furnishes a foundation for early research and theoretical models related to college student completion. The third section provides theoretical support on the value and significance of specific student characteristics and environmental experiences on student success.

Overview of the Community College

Once referred to as a uniquely American invention, community colleges derived from the success of institutions such as normal schools. Normal schools were created to serve as state-sponsored, lower-division schools to train elementary school teachers (Beach, 2011). They were seen as more accessible by students due to proximity, lower tuition costs, and less stringent admissions policies. Soon students began to demand more liberal arts courses and enrollment increased rapidly in academic areas outside of the teaching field. Due to the opportunity for many citizens to attend an institution of higher learning who might not have been able to otherwise, David F. Labaree called normal schools the first *people's college* (Beach, 2011). Shortly after the rise in normal schools, educational reformers began to develop the concept of

the community college or junior college as it was initially referred to, in an attempt to make postsecondary education more attainable for high school students (Webb, 2006). The first free-standing public junior college, Joliet Junior College located in Joliet, Illinois, was a popular choice for women and other students who were not typically admitted to universities. Initially, Joliet offered only courses that would transfer to four-year programs. Soon, however, terminal degrees and vocational programs were offered and expanded drastically in the late 1920s with the Smith-Hughes Act which provided federal aid for vocational education (Webb, 2006). Later, in 1926, Stanford University President, Ray Lyman Wilbur regarded community colleges as, "an open institution that would allow new generations of students to 'try out' higher education without great economic disadvantage and without leaving home after high school graduation" (Webb, 2006, p. 5).

Today, nearly half of all undergraduate students in the United States attend community college. According to the American Association of Community Colleges (AACC), in 2017 there were 1,108 community colleges in the United States with over 12.2 million students enrolled in courses (p. 1). Mentioned in the same report, the average age of a community college student was 28 and 62% of students attended college part-time (AACC, 2017, p. 2). More than half of baccalaureate degree recipients started their postsecondary education at a community college due to close proximity to their community, lower cost, and/or a more seamless transition to the university of their choice (Cohen & Kisker, 2010).

Although enrollment has increased dramatically across the United States over the years, accurately measuring student success has been challenging due to students stopping and starting, moving from institution to institution, or not participating in programs that provide a clear pathway to success (Cohen & Kisker, 2010). Fewer than four of every ten students who enter

college complete a degree or certificate within six years, although many aspire to do so (Radford, Berkner, Wheeless, & Shepherd, 2010). This lack of college completion has led to frustration, disappointment, and the absence of confidence to achieve students' overall educational goals (Cohen & Kisker, 2010). Over the years, less than noteworthy outcomes of community colleges have led policymakers to focus attention on accountability and increased transparency for postsecondary performance both at the community college and university levels. While this pressure is being applied, however, state and federal funding is not likely to follow (Bailey et al., 2015a).

In order for community colleges to develop effective programming and move the completion needle in a positive direction, they must draw on the research and models that have been developed over decades. It is necessary for this to be done in concert with analyzing the student population and its needs as well as the needs of the surrounding community (Cohen & Kisker, 2010). Over the years, there have been an enumerable amount of studies and articles published focusing on the retention and completion of college students. Although the studies claimed to be investigating the same issues, often different terminology was used as well as different variables and methodologies (Astin, 1984). Most recently, a study by Terenzini and Reason (2005) took a comprehensive look at the factors surrounding completion. The study synthesized the idea that it is necessary to understand factors and develop models to increase completion rates through the use of a comprehensive conceptual framework. This can be achieved by incorporating the views of theorists such as Astin (1985, 1993), Tinto (1975, 1993), Bean and Metzner (1985), and Pascarella and Terenzini (1979, 2005) rather than looking independently at any one theory.

Comprehensive Conceptual Framework for Student Completion

After more than 30 years of research, Terenzini and Reason (2005) concluded that there was no independent theory that was broad enough to address student completion. It is necessary to take what has been studied and analyzed over the last few decades to determine the best way to systematically change the approach to student completion (Reason, 2009). The underlying theoretical framework that will be expanded upon in this study is that of Alexander Astin's Student Involvement model. This model provided the structure for many years of research on persistence and completion of students in colleges and universities (Metz, 2004). Following the development of this model, in 1975 Vincent Tinto established the Student Integration model expanding on the work of Astin by incorporating the idea that involvement and engagement do not have to occur in social domains in order for students to be successful (Roberts & McNeese, 2010). Almost a decade later, John Bean and Barbara Metzner added to the research by incorporating an emphasis on social and academic integration of nontraditional students, many of which begin their educational journey in community colleges (Laing & Watson, 2014). Finally, in 1991 Ernest Pascarella and Patrick Terenzini began their analysis which included the addition of a study on the impact of the college culture and on the nature of students' personal college experiences including resources such as orientation to college and academic advising (Donaldson & Graham, 1999).

Student involvement model. Alexander Astin blazed the trail for the study of access and persistence in 1975 when he began his groundbreaking research (Metz, 2004). In his first study, Astin developed the input-process-output model of student involvement. This model theorized the need to understand the input, environmental experiences, and output for each student in order to fully assess effectiveness (Astin, 1985). First, input refers to the background

knowledge, demographic characteristics, and previous understandings the individual students bring to a college or university. Astin refers to this input information as student characteristics. The environment accounts for all of the experiences students encounter during their college experience. Astin referred to these encounters as environmental experiences. Finally, outputs encompass the characteristics, knowledge, attitudes, and belief of the students at the conclusion of their experience at a college or university (Astin, 1985). For this study, the output measured would be completion of a certificate or degree at CAC.

Astin (1984) defined involvement as "the amount of physical and psychological energy that the students devote to the academic experience" (p. 297). He posits that an involved student can best be described as a student who communicates regularly with faculty and staff, spends considerable time on campus while focusing on academics, and is involved in clubs and organizations (Astin, 1985). In his later model of student involvement (1985), Astin identified five assumptions. First, involvement requires an investment of both psychological and physical energy. Second, the amount of energy varies from student to student and occurs along a continuum. Third, involvement can be measured through qualitative or quantitative measures. Next, there is a direct association between the level of involvement of the student and the development of the student overall. Finally, the more involved a student is the better he or she will perform academically (Astin, 1984). Astin's longitudinal study demonstrated that factors that contributed to students completing their college degree pointed to higher levels of involvement, whereas students who were not involved were less likely to persist (Astin, 1985). As further demonstrated in his 1995 research efforts, Astin provided evidence that assessments previously used to measure academic program quality had no direct effect on student

development. Student interactions with peers and faculty inside and outside of the classroom led to greater student success (Donaldson & Graham, 1999).

Student integration model. While very similar to Astin's theory of involvement, Vincent Tinto's Student Integration Model provided a detailed theoretical structure that led to further research and the development of models by other theorists (Metz, 2004). The basis for Tinto's (1975) initial sociological perspective was the premise that academic and social integration and immersion in college life led to persistence and completion. Academic integration could be accomplished through sharing academic values, whereas social integration was thought to be achieved through the development of relationships with students and faculty (Demetriou & Schmitz-Sciborski, 2011). Tinto (1975) believed that students enter college with certain expectations and goals, thus the level of integration within the college would directly affect the student's outcome (Metz, 2004). He posits that students enter college with characteristics and individual attributes such as race, academic ability, and gender that can directly influence their chances for success (Braxton, 2003). At the onset of enrollment at a college, students undergo a transition whereby they must separate from their primary group such as family members and peers and interact in new ways with the members of the new group they are seeking to be a part of (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007). Students who are unable to juggle and balance this dynamic relationship between the family and college community are at higher risk of leaving college (Kuh et al., 2007).

Tinto's theory began to evolve in 1993 due in part to criticism that his study did not incorporate factors relating to students of color, underrepresented populations, or students from disadvantaged backgrounds (Demetriou & Schmitz-Sciborski, 2011). Furthermore, Tinto later incorporated additional elements relating to adult students, transfer students, and other unique

student types that warrant individual resources or interventions (Demetriou & Schmitz-Sciborski, 2011). Taking these characteristics into account, Tinto (1999) identified five conditions imperative to student completion: well-defined expectations, a holistic approach to student support, ongoing feedback, academic and social integration, and relevant learning.

Tinto (1999) further revised his position to include discussion of other post-secondary institution types such as community colleges. This led to his suggestion that in a two-year setting it is imperative that student integration occurs within the classroom rather than in social settings as Astin first theorized (Metz, 2004). Tinto (1993) stated, "It is entirely possible for individuals to achieve integration in the academic system of the college without doing so in the social domain" (p. 120). He acknowledged the challenges however with the limited amount of time a community college student is on campus for interaction to take place. This phenomenon is contrary to that of the typical traditional, residential student who participates in a college or university setting. Within community colleges, the classroom must become the primary location to increase engagement as it is the only place on campus every student will regularly occupy (Reason, 2009). Further expanding on the research of community college students, Bean and Metzner (1985) developed a model of student persistence that focused primarily on nontraditional students, community colleges' principal attendees.

Nontraditional model. John Bean and Barbara Metzner (1985) added to the research of Astin and Tinto by incorporating an emphasis on social and academic integration of nontraditional students (Laing & Watson, 2014). Reasons for attending college for traditional students often include both social and academic motivation, whereas, nontraditional students are often motivated to attend primarily by academic or career advancement (Davidson, 2013). Nontraditional students, more recently referred to as post-traditional students (PTS), have less

interaction with others on campus than do traditional, residential students. The nontraditional model was developed with the idea of reducing the emphasis on social integration as Tinto previously identified (Bean & Metzner, 1985). This population of students, identified as over the age of 25 and primarily commuter students who enroll in less than a full-time load of coursework, has rapidly increased in colleges and universities nationwide (Wyatt, 2011).

PTS are presented with a unique set of challenges. According to Bean and Metzner (1985), without integration into the college academic environment and focus on addressing the unique challenges students face, the outcome for PTS may be departure from the college. Predictors of PTS attrition may include external environmental variables such as family obligations, financial burden, work responsibilities, and lack of educational preparedness (Bean & Metzner, 1985). Bean and Metzner's model added a focus on grade point average, high school performance, stress, and family support in predicting student outcomes. Additional academic variables that explain attrition include limited interaction with support staff, sparse use of campus resources, unclear career goals, and insufficient connection between academic coursework and real life (Laing & Watson, 2014).

The model of nontraditional persistence emphasizes that what occurs in the classroom is extremely important for PTS. Bean and Metzner (1985) articulated that collaboration with faculty and staff to support the needs of PTS is imperative. Contrary to the needs of traditional, residential students, PTS may not seek or need deep connections with peers in order to succeed. They do, however, require specific resources and prescribed support opportunities in order to be successful (Laing & Watson, 2014). This study coupled with Astin and Tinto's research on factors that contribute to success in colleges and universities led to Ernest Pascarella and Patrick

Terenzini's work on the impact of college on students and the nature of their personal experiences (Donaldson & Graham, 1999).

Impact of college culture and personal experience. The most comprehensive work on college completion for adult students was developed by Ernest Pascarella and Patrick Terenzini (2005) who initiated their work by incorporating the persistence research of past theorists such as Astin, Tinto, and Bean (Donaldson & Graham, 1999). The pair focused on the direct and indirect effects of student involvement and interaction with faculty and peers (Metz, 2004). This work demonstrated the strong correlation between time spent with faculty in and out of the classroom and both intent and persistence in college. In 1991 Pascarella and Terenzini included the addition of a study on the impact of the college culture and the nature of students' personal college experiences including resources such as orientation to college and academic advising (Donaldson & Graham, 1999). This study also recognized the limited inclusion of community colleges in previous work. The researchers noted no sufficient evidence to demonstrate that factors leading to completion were the same for two-year and four-year college students, particularly those who are nontraditional commuter students (Metz, 2004).

Different from many theorists, Pascarella and Terenzini recognized the importance of a comprehensive overview of a student's education experience rather than independent factors or specific, individual programmatic interventions (Reason, 2009). As indicated in their 2005 review, "the magnitude of change on any particular variable or set of variables during the undergraduate years may not be as important as the pronounced breadth of interconnected changes" (p. 578). Their belief was that the overall student experience while in college played a larger role in success than specific engagement opportunities or independent interventions and practices. This student experience, however, might look markedly different depending on the

unique characteristics of the student or group of students such as those who are identified as post-traditional (Donaldson & Graham, 1999).

For this purpose, Terenzini and Reason (2005) introduced a conceptual framework combining decades of research that takes into account the need to consider a multifaceted array of both environmental experiences and student characteristics as identified by Astin (1985) so many years prior. In addition, there is great value in Tinto's (1993) focus on student engagement in a setting outside of the social domain. This idea warrants distinct attention for those students who are nonresidential or enrolled in less than a full-time course-load. To further expand the understanding of specific student populations such as those who are post-traditional, it is imperative to understand adult learners and their unique needs (Bean & Metzner, 1985). Astin (1993) revisited his research on what matters most in college and identified many student characteristics and environmental experiences that may lead to college completion. Thus, a closer examination of those characteristics and experiences that were identified as critical to PTS is necessary to expand upon for this study.

Student Characteristics and Environmental Experiences

Student characteristics and environmental experiences comprise the input and environment that may lead to positive outputs such as retention and completion (Astin, 1985). Specific characteristics and experiences selected to be addressed in this research were identified as data elements gathered by the selected institution. These elements may positively or negatively affect completion for the chosen population. Terenzini and Reason's (2005) conceptual framework theorized that certain student characteristics prepare students for formal and informal learning situations. These situations within the academic setting can influence outcomes in college and shape subsequent college interactions. The selected characteristics are:

age at the time of enrollment, placement in developmental education, and underrepresented student populations such as women, ethnic minorities, students who are first generation to college, and those who are from low income backgrounds. Astin (1993) conveys that student characteristics are not only important in order to measure student change over time, but also to account for the different environments students are exposed to prior to attending college. Selected environmental experiences include participation in new student orientation, veteran's benefits, academic advising, student success courses, academic support services, academic and student support grants, and student employment. Also included in the research was the student's selected program of study and if that program required an internship or practicum experience. The following will provide a review of the impact of each student characteristic or environmental experience on completion for post-traditional, part-time students in community colleges.

Student characteristics.

Age at time of enrollment. According to the AACC (2017) the average age of a community college student was 28 and 62% of students attend in part-time status (p. 1). Of the PTS enrolled, more are likely to earn a certificate rather than a degree, although many aspire to complete the latter (Swett & Culp, 2014). Ruffalo Noel Levitz (2015) indicated that students who are over 25 years of age overwhelmingly desire to complete their degrees or certificates and demonstrate dedication to do so. This desire includes a willingness to make sacrifices as necessary in order to succeed. In spite of their strong desire for success, many have significant responsibilities such as family, work, and financial obligations that lead to complicated barriers to overcome (Kasworm & Pike, 1994).

In the study entitled, *Model of College Outcomes for Adult Students,* Donaldson and Graham (1999) shared that despite low levels of campus involvement, adult students demonstrate

substantial academic progress toward achieving their goals. If provided the opportunity in the classroom to do so, adults have considerably more life-experience and prior knowledge to make connections to new learning. This leads to the creation of significant, meaningful educational experiences (Kasworm & Pike, 1994). Furthermore, as a result, PTS are able to experience authentic involvement that can be applied directly to their work or life environment providing them with a clearer purpose for education. Also noted is that although school is a priority for adult learners, it does not rank as high of a priority as family or work. If challenged with time limitations, school involvement will be sacrificed, which makes involvement within the classroom for PTS even more critical (Donaldson & Graham, 1999).

Developmental education. Developmental education has been described as "one of the most difficult issues confronting community colleges" (Bailey, 2009, p. 11). In an article written by Stephen Pelletier (2010), James Merisotis, president of the Lumina Foundation for Education, remarked that the longer it takes for students to achieve their desired credentials the less likely they are to complete them. Although there is significant research pointing to success among adult learners, there is a marked decrease in the level of success for students who enter their college experience faced with developmental coursework in order to facilitate remediation. (Reason, 2009).

Developmental education, formerly referred to as remedial, foundational, or basic-skills education, got its start in the 1960s in order to assist students deemed underprepared for college (Community College Center for Student Engagement [CCCSE], 2016). Generally, developmental education can be described as college preparatory coursework in the areas of math, reading, and writing. Depending on the number of courses required, this venture can take upwards of three or more semesters to complete prior to a student being permitted to enroll in

college-level coursework (CCCSE, 2016). Developmental courses cannot be applied toward college-level degree requirements. The courses are however counted as attempted or completed courses with regard to financial aid. This in turn reduces the allotted time a student is permitted to complete a degree and continue to receive aid even though not progressing through the prescribed degree plan (Bailey et al., 2015a).

Of the over 63,000 students who responded to the Survey of Entering Student Engagement (SENSE) 2014 Promising Practices survey, 86% believed they were academically prepared for college, yet Jaggers and Stacy (2014) indicated that 68% were required to take at least one developmental course (***as cited in*** CCCSE, 2016, p. 8). Additionally, according to the same SENSE 2014 data, 76% of students indicated they were on track academically to reach their goals within their expected time-frame, yet only 39% of students earn a degree or certificate within six years (Shapiro, Dundar, Yuan, Harrell, & Wakhungu, 2014, p. 5). In light of this bleak data, students who enter the developmental education track must have resilience and commitment in order to complete. The reality, however, is that negative experiences in developmental education often undermine the confidence students enter college with and can lead to departure from higher education (Nodine, Jaeger, Venezia, & Bracco, 2012). Many students who enter developmental education programs, referred to in a Complete College America report (2011) as the Bermuda Triangle of higher education, consequently never earn the credential they started their journey working toward. Unfortunately, this is not the only group that struggles with completion. Underrepresented student populations such as females, ethnic minorities, students who are first generation to college, and those who are from low income backgrounds are also faced with completion challenges different from their counterparts.

Underrepresented student populations. Community college has been identified in many public policies as the entry point to higher education for underrepresented students in the United States (Bragg, 2012). It is evident when the demographics of community colleges are examined, that there is a disproportionate number of underrepresented students served (Bailey et al., 2015a). For many of these students, community college is the only viable option. Without the opportunity to enroll in community colleges, higher education would be out of reach for many potential students (Bragg, 2012). Although there has been a general increase in enrollment and completion over time, there remains an increasing gap in completion rates when segmented by race, ethnicity, and other underrepresented populations (Melguizo, 2010). According to the AACC 2017 Fact Sheet, women make up 56% of enrollment, the average age is 28, and 52% of students in community colleges identify their ethnicity as other than white (p. 1). The same report indicated that 36% are first generation to college, 22% of full-time students are working full-time, and 41% of part-time students are working full- time (p. 1). For underrepresented students, although academic performance and preparation play a key role in success, up to 75% leave college due to non-academic reasons (Tinto, 1993, p. 112).

Among the nonacademic reasons for departing, financing an education is the most prevalent. The ability to pay for college, as well as the many expenses related to college, can be overwhelming for all students, but even more so for underrepresented students (Goldrick-Rab, 2010). Many of the higher education judicial decisions and policies driven by legislation came as a result of legacy programs such as the post-World War II GI Bill or the 1965 Higher Education Act. Over the years assistance associated with these programs has come in the form of access related aid such as Pell Grants and other Title IV student aid (Bragg, 2012). Although extremely beneficial to students, guidelines governing financial aid can make it difficult for

community college students to maintain aid. Furthermore, students who are the first generation in their family to attend college are less likely to receive information assisting them with both applying and maintaining student aid (Goldrick-Rab, 2010). With the majority of students identifying as part-time, the amount of aid is reduced due to a less than full-time enrollment status. Conversely, taking more courses to gain full-time enrollment status can greatly reduce the ability to earn wages due to lack of time devoted to employment (Goldrick-Rab, 2010). There is also very little room for mistakes or trial and error in the selection or completion of courses. The cost for such occurrences affects students from low income families much more dramatically than for students who are not (Bailey et al., 2015a). According to Public Agenda (2009), when asked, adult students indicated the primary reason for dropping out of community college is the stress of combining work and school.

According to the United States Department of Education (USDoE), the new majority of students on community college campuses are managing some combination of work, family, and school while commuting to class (Complete College America, 2011). In addition, according to the United States Census Bureau, by 2043 the United States will become a "majority-minority nation" which directly affects community colleges whose student population strongly reflect the demographics of the nation overall (Mellow & Heelan, 2015, p. 284). It is not enough, however, just to be aware of students who are from underrepresented populations; one must also ensure they are graduating and that effective environmental experiences are available to assist with completion (Complete College America, 2011).

Environmental experiences. Research by Stebleton and Schmidt (2010) indicated that as community colleges increase the number of PTS served, they must conversely focus on integrating a culture that focuses on retention and engagement strategies which lead to

completion. "High performing organizations implement their core functions in a coordinated, complementary fashion that is aligned with the organizational goals" (Bailey et al., 2015a, p. 15). According to the same research, when developing student resources and services one must start with the end in mind. Programming must be developed to support students with completing their academic program goals rather than just individual course challenges or obstacles that may present themselves. A growing number of colleges and universities are developing guided pathways models to drive students to success while strategically placing a comprehensive array of resources and wrap-around services along their route to completion. Results will not be achieved by chance; engagement efforts must be coordinated deliberately and intentionally (McClenney, 2007).

Historically, underrepresented populations of students benefit at higher rates from engaging in high-impact support services and resources, however the same populations are often the least likely to take advantage of such resources voluntarily (Stebleton & Schmidt, 2010). By definition, PTS have not been the focus of retention and completion efforts and little research has been conducted to determine how to best serve this large cohort of community college students (Pelletier, 2010). As many colleges deal with an increase in federal regulation and a decrease in state and federal funding leading to tightened budgets, they are looking for ways to purposefully connect to all students (Nodine et al., 2012). In order to guide this pathway, colleges are focusing on engaging students from their first connection to the college to the last course they complete. This full-service approach provides a focus on the entire continuum of college experiences depending on the needs of the student group (Nodine et al., 2012).

According to the *Journal of Continuing Higher Education* (Wyatt, 2011, p. 17), student engagement for PTS requires creativity and a variety of approaches including:

- institutional commitment;
- faculty experience in the teaching and learning of PTS;
- staff who recognize the respect that this mature group deserves;
- advisors trained to meet the specific needs of PTS;
- curriculum development that takes into account the many barriers PTS face with regard to time and flexibility;
- appealing programing and services attractive to more mature students;
- targeted marketing and communication plans; and
- a campus environment that encourages PTS to remain on campus and become engaged in the college environment in a way that is meaningful to them.

After decades of research and more than 50,000 studies on the topic of college completion, there is no doubt student experiences during their college years greatly influence success (Pascarella & Terenzini, 2005). Oftentimes studies, however, are segmented or analyzed in a discrete fashion that implies that one experience can shape the chances of successful persistence and completion. This however only shows a partial picture of what can lead to success. It is the combined curricular, classroom and out-of-class experiences that truly guide success (Terenzini & Reason, 2005). The following will describe the student experiences that will be evaluated in this study and the overall impact on completion for PTS.

New student orientation. Researchers such as Pascarella and Terenzini (2005) indicated that involvement in programing such as New Student Orientation (NSO) at the time of enrollment or shortly after can add to the likelihood of student success. According to the

CCCSE (2012, p. 11), “orientation services lead to higher student satisfaction, greater use of student support services, and improved retention of at-risk students.” The significance of such engagement increases greatly if a student begins college with two or more characteristics associated with early departure such as low income, first generation to college, or entering college academically underprepared (Stebleton & Schmidt, 2010).

Paramount to the effectiveness of NSO are both the format in which it is delivered and the content selected to be incorporated. The report entitled *Completion by Design* (Nodine et al., 2012) indicates that students who found their orientation program to be valuable stated they learned where people, resources, and programs were located that could help them stay on track and succeed. They also, however, noted that it would be even more helpful if the information presented to students was targeted to their specific needs rather than in general for all students. One student stated, “Orientation programs at [my college] always teach to the lowest common denominator” (Nodine et al., 2012, p. 8). If students find themselves bored, presented with information they are already familiar with or that could easily have been accessed elsewhere, they may get frustrated with college prior to ever beginning their courses. With limited time available in their busy schedules, students indicate that if resources such as orientations are mandatory, they must be engaging, specifically targeted, and connected to their educational goals, and of high quality (Nodine et al., 2012).

Adult Learner Focused Initiatives were developed through the National Association of Student Personnel Administrators (NASPA) in order to consider the unique needs of adult learners. Specific to NSO, students want to:

- learn to navigate the institution’s website effectively;
- understand degree requirements;

- identify resources such as financial aid assistance, advising, counseling, tutoring, etc;
- learn how to access services outside of the typical work day;
- recognize course and program expectations and workload; and
- learn how to communicate and interact with faculty. (Wertheim, 2014, p. 30)

In addition, making the experience mandatory is imperative, knowing that busy adults will not always make the time to access all important information available to them, assuming they recognize its importance (Wertheim, 2014).

In 2005 the National Survey of Student Engagement reported that nearly 87% of incoming college students attended an orientation to college program (Kuh et al., 2007, p. 79). Students who did:

- participated in a higher number of academic based activities;
- recognized the college community as more supportive;
- developed at a faster rate their first year of college; and
- experienced a more engaging college experience overall (Kuh et al., 2007, p. 79).

After taking into account the students' level of academic preparedness, educational aspirations, and socioeconomic status, however, orientation to college may have only minimally directly affected persistence which appears to be in contrast to studies specific to community colleges (Pascarella & Terenzini, 2005). It is difficult to determine the direct effect since very few programs engage in co-curricular assessment that would identify if students were meeting intended learning outcomes (Zeidenberg, Jenkins, & Calcagno, 2007). Furthermore, participation in more in-depth orientation programs has a larger indirect effect on persistence than shorter summer orientations, although they are also effective (Kuh et al., 2007). What the study did not show, however, is that the NSO completion data are far smaller for community

college students. The CCCSE (2012) found that merely 19% of entering community college student studied were aware of orientation programs at their college (p. 11). This bleak number is despite the fact that orientation programs can improve retention rates of at-risk students, increase use of support services, and lead to higher satisfaction (CCCSE, 2012).

Veteran's benefits. Another experience deemed beneficial to students is the use of Veteran's Benefits for those who qualify. As World War II began to near its conclusion, Washington officials, including President Franklin Delano Roosevelt, felt concern for the more than 15.7 million American veterans who would be returning home to less than favorable conditions (Altschuler & Blumin, 2009). What resulted was the passing of the *Servicemen's Readjustment Act* of 1944, more commonly referred to as the GI Bill of Rights (US Department of Veterans Affairs, 2013).

The original proposal of the GI Bill was presented in 1943 to the American Legion by Democratic Senator Ernest McFarland of Arizona. Among many other accolades, McFarland was deemed the "Father of the GI Bill" prior to thriving as the majority leader in Arizona, and serving as a U.S. Senator, Arizona Governor and Chief Justice of the Arizona Supreme Court. Upon introducing his first GI Bill, McFarland remained behind the scenes to assist in supporting the veteran's organizations as well as congress (United States Senate, n.d.). The actual bill that would soon be passed was first drafted by the national commander of the American Legion and former Republican National Chairman, Harry W. Colmery, and introduced in the House on January 10, 1944 (U.S. Department of Veterans Affairs, 2013). Although there was an overwhelming acceptance of the need to "reinvigorate the American economy", there was not agreement initially on how to "aid in replenishing the nation's human capital which had been ravaged by years of depression and war" (Serow, 2004, p. 481). The bill was almost halted due

to members of the House of Representatives and Senate debating over specific provisions of the bill. On June 22, 1944, President Franklin D. Roosevelt officially signed the *Servicemen's Readjustment Act* into law after heated discussion. Provisions of the bill included, "a year of unemployment insurance; medical care; counseling services; and tuition, books, and living expenses while attending any educational program" (Cohen & Kisker, 2010, p. 194). Different from other pieces of legislation, this law created an entitlement to federal financial aid that was portable to the accredited educational institution of choice for the veteran and available after only serving 90 days.

Many veterans returned to an unfamiliar and harsh civilian world after serving in the US military. They visualized life back home without the intent or possibility of enrolling in higher education. The GI Bill changed this outlook for millions of veterans (Batten, 2011). Although it was believed by policy makers that a mere 12% or fewer veterans would attend colleges or universities using GI benefits, the results were astounding (Altschuler & Blumin, 2009. p. 72). More than 51% of veterans took advantage of educational provisions which resulted in 2.2 million veterans enrolling in college and 5.6 million opting for vocational training (Altschuler & Blumin, 2009, p. 72). This was a tremendous increase from the 1.5 million students enrolled in colleges during the 1939-40 enrollment period (Lucas, 1994).

The most influential, comprehensive education benefit for veterans since the original GI Bill is the Post-911 GI Bill. This $60 billion investment in United States veterans' futures promises hope while also creating a new challenge in navigating how to take advantage of such benefits (American Council on Education [ACE], 2010). The benefits nearly eliminate the cost of higher education for the more than 4% of students who identified as veterans and are currently seeking services (AACC, 2017, p. 1). This population of students however, is the most unique

and least understood that population community colleges serve (Vacchi, 2014). According to Radford (2011) more than 60% of veterans are between the ages of 24 and 39 and are married, married with children, or are single parents (p. 7). Also important to note is that veterans may not respond to the same student development and classroom instructional techniques due to their socialization to the military culture which is markedly different (Vacchi, 2014).

Despite limited resources including campus housing, veterans were more successful and "earned higher grades than their civilian counterparts" (Altschuler & Blumin, 2009, p. 96). Suzanne Mettler (2005) added that veterans who took advantage of education benefits also participated more often in civic and political organizations. They were quickly identified as serious students with higher levels of maturity, experience and desire to complete their degrees in order to transition into the workforce and long-term careers (Lucas, 1994). Research as to how to serve this population is extremely limited. The effective way for institutions to determine the needs of their student veteran population is to survey them rather than rely on best practices of other institutions (ACE, 2010). General consensus, however, is that veteran students need a strong certifying official to assist with benefit processing, navigation through college practices and services that provide support for academic and wellness needs while assisting with transition to civilian life. Furthermore, it is critical to provide such services in a manner that does not alienate or isolate students, but rather provides the means for a healthy transition (Vacchi, 2014). Just as with many other student populations, the goal is to eliminate major distractions so that the focus can be on academics rather than navigation or transition issues with can deter students from their goals (Vacchi, 2014).

Academic advising. Although there are many theories that guide academic advising, one common belief is that academic advisors are the most important resource in assisting students

with proper course selection as well as clarification of goals (Bailey et al., 2015a). According to an article in the *Chronicle of Higher Education,* however, although 67% of college students acknowledge that academic advising is important, only 26% of students enrolled in developmental education courses and 41% of students enrolled in college-level course take advantage of advising services (Ashburn, 2006, p. 1). Reasons for this lack of utilization include the unlikelihood of seeing the same advisor more than one time, a belief that self-advising is just as effective, and as one student stated, "I feel like I am wasting my time because counselors just write down the classes you need and give you the paper" (CCSSE, 2012, p. 11).

Community college students needs strong academic advising their first semester of college in particular in order to select courses that lead to their career goals. Unfortunately, many community college students do not enter college with clear goals and struggle due to the complexity of responsibilities in their life (Mellow & Heelan, 2015). Students who have prolonged uncertainty regarding their goals may question the reason they continue taking courses if they do not see a direct correlation to completion which may be difficult without an academic goal (Tinto, 1993). Helping students overcome this challenge early can ward off the threat of drop-out or stop-out of college. Many colleges, however, are not structured in a way that allows them to provide the developmental advising services necessary to achieve this lofty goal, thus leading to the early unraveling of student focus (Mellow & Heelan, 2015).

In order for advising services to be effective they must be presented in a multiphase, sustained process and be recognized as a form of teaching rather than a prescriptive service (Bailey et al., 2015a). The Council for the Advancement of Standards (CAS) developed data-driven standards that provide a framework which guides community colleges in the construction of an advising program (Miller, 2012). This construction ensures the advising process would

include exploration of skills and interests, investigation into multiple professional careers, and occupations and followed up by the creation of a master academic plan to guide the selection of course particular to the path selected (Bailey et al., 2015a). Additional suggested approaches within community colleges include: defining clear pathways for students, developing online advising systems, training advisors to work specifically with adult learners, and preparing adult learners to succeed in college (Swett & Culp, 2014). In order to be more effective, academic advising must be more structurally and intentionally integrated into the first year experience in order to teach self-advising and decision making skills across the student's entire college career (Bailey et al., 2015a).

Program of study. Another environmental experience that can positively impact a student's chance for completion is the major or program of study the student selects (Astin, 1993). When students are more engaged with faculty, staff, and the program in which they are enrolled, their chances of success are more likely (Center for Community College Student Engagement [CCCSE], 2010). Many programs are developed as cohorts and provide a more structured path including built-in support resources and opportunities for relationship building. *Connection by Design*, a report based on the 2012 study completed by WestEd and Public Agenda, indicated that in hindsight successful students wished their college had provided them with a more structured program and career exploration process early in their educational endeavor (Nodine et al., 2012). Furthermore, the group indicated that although community college is the place for career exploration it must be structured and promptly completed in order to avoid aimlessly proceeding with college courses (Nodine et al., 2012). Too many course and program choices that do not connect to one another can lead to unnecessary confusion and unneeded course completion (CCSSE, 2012).

Essentials for cohort based programs of study include: an emphasis on full-time enrollment of 15 credits per semester, structured scheduling with limited course choices, and student cohort, also referred to as learning communities (Complete College America, 2013). Each of these elements can lead to the overall success of students who select this program format. Students who take courses on a full-time basis are more likely to persist and graduate (CCSSE, 2012). Using a structured schedule where a student takes a minimum of 15 credits per semester can make accomplishing his or her goals more attainable. It is critical, however, to structure the course schedule in a way that is predictable in order to make family and work planning a less difficult task (Complete College America, 2013). Offering an array of disconnected courses forces students to self-navigate which often leads to suboptimal enrollment patterns and excess credits due to poor course-selection or lack of availability of courses (Bailey et al., 2015a). Assisting students with selecting a well-defined program rather than selecting courses individually is key, but equally as important are the services found in a learning community. Learning communities generally assist in building a sense of community through increased engagement of faculty and staff, linking courses together in order to be taken as a cohort, and readily available education resources (CCSSE, 2012).

Although not every program is structured in this manner, Terry O'Banion (2013, p. 15-16) indicated, "It is the college's responsibility to facilitate the ebb and flow of traffic to ensure that each student reaches the desired destination as smoothly as possible." The program of study a student selects can greatly affect the outcome of his or her college experience. A highly structured program deliberately created to guide a student's progress and offer support will assist the student in reaching his or her overall completion goal (Swett & Culp, 2014).

Student success courses. Student success courses are "specifically designed to teach skills to help students succeed in college" (CCSSE, 2012, p. 4). Areas of focus generally included are to:

- identify and apply time management strategies;
- identify and apply goal-setting strategies;
- identify preferred learning style and describe its relationship to teaching and learning strategies;
- identify and utilize interpersonal communication skills;
- identify and utilize strategies to organize study materials;
- identify and utilize note-taking strategies;
- identify and utilize textbook, academic and classroom strategies; and
- identify and utilize test-taking strategies. (Hanover Research Project, 2014, p. 15)

Courses such as this are offered at an estimated 83% of community colleges nationwide, with one in four students participating at one time or another in their college journey (CCSSE, 2012, p. 16). Challenges community colleges face with teaching such courses range from lack of faculty input or support, no connection to academic curriculum, limited time to cover such extensive objectives, resistance to charging for a nontransferable course, and lack of evidence of overall value (Bailey et al., 2015a).

Student success courses have long been a key component of the first year experience for many community colleges. This is due in part to the large number of students who enter college underprepared both with academic and non-academic deficiencies (Zeidenberg et al., 2007). Despite the prevalence of these courses, very little research has been conducted to determine course effectiveness. In 1993 an experimental research project was completed at the University

of Maryland, College Park which indicated that freshmen who took a student success course were more likely to have stayed in school two years later (Pascarella & Terenzini, 2005). This study, however, did not apply specifically to community college students. Cho and Karp (2012) noted that in a later study led by Dr. Patricia Windham at the Florida Department of Education specifically looking at Florida community colleges:

> Students who enroll in a student success course within their first semester were 10 percentage points more likely to earn college-level credits in the first year compared with their non-enrollee counterparts, and they were 10 percentage points more likely to persist to the next year. (p. 1)

It appears based on limited research that student success courses are associated with an increase in engagement and first-year completion (Hanover Research Project, 2014). What the study does not show, however, is a long-term positive effect on a student's chance of persisting, transferring, or earning a degree (Zeidenberg et al., 2007). Given this evidence as well as the many responsibilities community college students have outside of school (Nodine et al., 2012), administrators may want to carefully consider evaluating course outcomes and connection to academic programming prior to mandating such a course be taken by all students (CCSSE, 2012).

Academic support services. When colleges link academic support services such as tutoring and supplemental instruction to courses and academic programs, student persistence is enhanced (Tinto, 2005). The importance of this linkage is intensified when referring to commuter students who are on campus a limited amount of time and may not take advantage of academic support services otherwise (Kuh et al., 2007). Although both services provide academic support outside of the regular class-time, tutoring generally refers to one-on-one or

small group, informal academic support environments, whereas supplemental instruction is a more formal, large group arrangement for particular courses (Hanover Research Project, 2014).

Supplemental instruction was first developed by Dr. Deanna Martin at the University of Missouri-Kansas City in 1973 as a way to compliment difficult courses through the use of informal group sessions led by peer tutors (Tinto, 1993). In addition, supplemental instruction like tutoring can reinforce the learning taking place in the classroom while providing extra time for clarification and further exploration. Tutoring, on the other hand, can offer peer encouragement and academic intervention in a personal setting which can be critical for students transitioning to college life. Both services may be facilitated by trained assistants, faculty or peers who have previously been successful in the course (CCSSE, 2012).

Although individual institutions have reported great success related to both forms of academic support, there are inconclusive results related to efficacy overall (Hanover Research Project, 2014). Self-selection issues in research on supplemental instruction and tutoring have made it extremely difficult to determine the impact of such services. Key indicators of effective programs have been linked to implementation strategies. Research indicates that continuous and targeted training for tutors and supplemental instruction that focuses on collaboration with faculty and connected learning lead to the success of individual programs (Boylan, Bliss, & Bonham, 1997; Pascarella & Terenzini, 2005).

According to the CCCSE (2012), only 19% of faculty require supplemental instruction, however 81% make it optional for their students (p. 24). Of the students for which it is available, only 18% indicated they have ever used such services (p. 24). Tutoring, although used at slightly higher rate, is also not highly sought after by the masses. While 73% of students surveyed indicated that tutoring is somewhat or very important and 80% of faculty indicated they

sometimes or often refer their students, fewer than 25% of students utilize tutoring services (CCSSE, 2012, p. 23). Research, although limited, does suggest that well-implemented academic support services are effective; however, it is apparent that many students are either unaware of these services or choose not to take advantage of them (Bailey et al., 2015a).

Academic and student support grants. Colleges are becoming more and more dependent on federal, private, state, and corporate academic and student support grants due to a declining funding stream (Mellow & Heelan, 2015). Grants such as TRIO Student Support Services, Title V- Hispanic Serving Institution grants, and Workforce Innovation and Opportunity Act grants allow colleges and universities the ability to pilot programs, focus services on specific populations of students, and expand the ability to provide workforce development needs (Keener, 2002).

TRIO Student Support Services (TRIO SSS) was developed out of the *Economic Opportunities Act* of 1964 and was the Administration's response to the War on Poverty. Grant programs were developed to provide outreach and services to underprivileged students wanting to attend college (Peterson's, 2016). By the end of the 1960s, three programs had emerged: Upward Bound, Talent Search and Student Support Services, which prompted the name of the grouping of grants as TRIO. Today, there are eight different TRIO grants which serve the original demographic of students, but each with a specific, targeted focus (USDoE, 2011). Unlike Talent Search or Upward Bound that focus on high school student completion and subsequent enrollment in higher education, TRIO SSS strives to increase college retention and completion rates by focusing on currently enrolled college students. Mentoring and support services are specifically designed to assist students throughout their college career in order to

ensure success continues throughout matriculation (Peterson's, 2016). Key components included among the services are:

- a declared program of study at the time of admission;
- targeted, developmental advising including transfer advising;
- university tours and transfer opportunities;
- career focused student groups and cultural experiences; and
- professional conferences or training opportunities (Mellow & Heelan, 2015, p. 223).

In addition to support services, direct financial assistance is often available to students in need who are making satisfactory academic progress as defined by the specific college.

Similar to TRIO SSS grants, Developing Hispanic Serving Institutions (DHSI) grants provide services to students in order to increase retention and completion for a specific population of students. DHSI grants are discretionary, competitive grants that are a part of Title V, part A of the *Higher Education Act* (USDoE, 2017). These grants are developed to expand educational opportunities for Hispanic students. In order for an institution to be permitted to apply they must be recognized as a Hispanic Serving Institution (HSI). This designation is determined based on the enrollment of Hispanic students at the end of the year preceding the application date for the grant. This number must exceed 25% of the population. In addition, the college is required to meet other specific program requirements (USDoE, 2016). According to the USDoE (2017):

Funds awarded through an HSI grant can be used for activities such as:

- scientific or laboratory equipment for teaching;
- construction and renovation of instructional facilities;
- faculty development;

- purchase of educational materials;
- academic tutoring or counseling programs;
- funds and administrative management;
- joint use of facilities;
- endowment funds;
- distance education technologies;
- teacher education, and;
- student support services. (para. 4)

In addition, the 2008 *Higher Education Opportunity Act* amended the original act to include authorized activities such as:

- activities to improve student services, including innovative and customized instruction courses designed to retain students and move the students into core courses;
- articulation agreements and student support programs designed to facilitate the transfer of students from two-year to four-year institutions; and
- providing education, counseling services, and financial information designed to improve the financial and economic literacy of students and their families. (USDoE, 2017, para. 4).

This all-encompassing grant allows colleges the flexibility necessary to meet the needs of their Hispanic students while requiring structured procedures and comprehensive reporting.

Unlike TRIO SSS and HSI grants, the *Workforce Innovation and Opportunity Act* (WIOA) grants are administered by the United States Department of Labor (USDoL). Replacing the *Workforce Investment Act* of 1998 and amending the *Adult Education and Family Literacy*

Act, *Wagner-Peyser Act*, and *Rehabilitation Act* of 1973, President Barack Obama signed the WIOA into law in 2014. The anticipated outcome of the act is to provide prospective employees opportunities to access education, employment, support services and training to assist them in securing careers as skilled workers (USDoL, 2017). Among the 2014 reform changes are:

- requiring workforce investment programs to strategically align with the state;
- encouraging accountability and transparency;
- promoting regional collaboration;
- refining the American Job Center system;
- promoting work-based training and improving service to employers;
- enhancing workforce services, the Job Corp program and services to individuals with disabilities, and;
- strengthening Workforce Development Board strategic plans. (USDoL, 2017, para. 3)

Colleges and communities can use the funds in order to help the working poor to achieve greater skills and complete higher levels of education in order to escape poverty and build their careers (Mellow & Heelan, 2015).

Combined, the benefits to students who qualify to take advantage of such federal programs is astonishing. Grants account for more than $1.2 billion and the award amounts rose tenfold between 1980 and 1996 (Keener, 2002). Such grants have increased the ability for community colleges to offer programming focused on student services and preparing the nation's workforce to levels that might not have been achieved otherwise (Mellow & Heelan, 2015). Although federal funding has somewhat steadied, the effects of such grants on community college students are great.

Student employment and Federal work-study programs. The Federal work-study program, developed in 1964, is one of the oldest federal programs created to increase college access and promote persistence for low-income students (Scott-Clayton & Zhou, 2017, p. 1). Annually, the program provides approximately $1 billion each year to colleges and universities to pay student employment wages for up to 75% of the total earned by students (Scott-Clayton & Zhou, 2017, p. 1). The remaining 25% must be made up by the participating institution through the use of its own funds or in the form of documented services such as tuition and fees. During the 2014-15 academic year, 18% of the federal funds awarded to community colleges were in the form of federal work-study funds (AACC, 2017, p. 1). Students can be employed at the college they are attending, or off-campus if arranged through the institution and in line with federal regulations. Jobs must be reasonably available to all students who are eligible and are encouraged to compliment the program of study the student has selected, if possible (USDoE, 2015). Most students work 10-15 hours per week with an average award of $2,270 which represents 66% of tuition and fees at most public two-year colleges, vastly reducing the student's educational expenses (Scott-Clayton & Zhou, 2017, p. 1).

In general, over the years, studies have shown that employment while attending college can have a negative impact on both student cumulative grade point average (GPA) and overall persistence, however this is not the case for students who participate in Federal work-study programs (Tinto, 1993). The negative impact of employment is correlated to the amount of time off-campus and away from academic programming. Conversely, a higher rate of persistence is shown for students who work on campus in a part-time capacity. This may be due in part to a deepened integration into campus life and interactions with additional faculty or staff members within the institution. In addition to campus integration, while students are working, they are

also reducing the financial burden college can impose (Astin, 1975). According to a recent study conducted by the Center for Analysis of Post-secondary Education and Employment (CAPSEE), the federal work-study program positively impacts student persistence and completion as well as post-college employment outcomes. This impact is greatest among low-income students who attend college at public institutions (Scott-Clayton & Zhou, 2017). A major challenge is that the current allocation structure developed by the federal government makes the likelihood of those students who are seen to benefit the most, the least likely to be provided access to the program. For those students who do participate, although there is a minimal increase semester to semester in GPA, the positive effect can be seen much more dramatically with regard to overall persistence (Scott-Clayton & Minaya, 2016).

Summary

The purpose of this literature review was to study the student characteristics and environmental experiences that lead to completion and persistence for part-time, degree-seeking community college students who are over 25 year of age. Although the study was conducted based primarily on Astin's Student Involvement theory, it is imperative to incorporate an understanding of other theories, as indicated by Terenzini and Reason (2005), in order to broadly address completion. Thoroughly understanding the student characteristics and environmental experiences being examined in the study allowed for a critical analysis of the inputs and environment that lead most often to positive outputs for the selected demographic. As indicated by Bailey et al. (2015a), in order to move the needle on completion institutions must determine the processes and programs that individually increase persistence and systematically change the culture of the college to incorporate them on a large scale.

Chapter 3

Methodology and Procedures

Introduction

This chapter will delineate the methodology and procedures used to complete this study. As previously mentioned, the purpose of the study was to determine the environmental experiences and student characteristics of students over 25 years of age who graduated from CAC and were identified when they were admitted to CAC as part-time, degree seeking students. As a means of achieving that objective research questions were raised. This chapter will also include a description of the research design and explain the procedures used for data collection and data analysis.

Restatement of the Problem

CAC, although increasing the retention of degree-seeking, full-time students, is struggling to retain and graduate part-time students. As noted in the CAC fact book (2013), this population of students comprises, on average, 83% of the entire student population, however; only 33% were retained from year to year (p. 1). This issue poses a challenge regarding student completion, transfer to universities, and entrance into the workforce. As indicated in the book, *Redesigning America's Community Colleges* by Bailey et al. (2015a), there is a need to restructure colleges in an effort to create clearly designed programs with significant guidance and instructional change in order to assist students with reaching their educational goals.

More fully understanding the key environmental experiences of post-traditional, part-time, degree-seeking completers would provide a valuable resource for Student Services in the development of programs to support retention and completion efforts for this population. In addition, determining if there is a significant difference between students who completed a

structured academic program versus those who did not will help the researcher to determine if a Guided Pathways model would be appropriate to institute college-wide through systematic change. Many colleges have made attempts to improve completion rates over the years; however, these attempts have typically involved focusing on discrete interventions rather than systematic and college-wide change (Bailey et al., 2015b).

Restatement of Research Questions and Hypotheses

The following questions guided this mixed methods study using a sequential, exploratory design. CAC's degree-seeking, part-time, post-traditional students 25 years or older are referred to as PTS.

1. What were the most common student characteristics of 2013-2015 PTS graduates?
2. What were the most common environmental experiences of 2013-2015 PTS graduates?
3. Do predictive indicators align with 2013-2015 PTS graduates' perceptions of what lead to their success?
4. Is there a significant difference between 2013-2015 PTS graduates at CAC who completed structured academic programs versus those who did not?

   $H_0$4. There is no statistically significant difference between 2013-2015 PTS graduates at CAC who completed structured academic programs versus those who did not.

   H4. There is a statistically significant difference between 2013-2015 PTS graduates at CAC who completed structured academic programs versus those who did not.

Research Design Procedures

To ensure a more comprehensive look at the student characteristics and environmental experiences of CAC PTS, part-time graduates, the study utilized a qualitative methodology and holistic, single-case study design while evaluating archival, quantitative data. This form of research called mixed methods research is an approach which was believed to have originated in 1959 through the work of Donald Fiske and Donald Campbell (Creswell, 2003). Their use of multiple methods to determine validity of psychological traits was the first example of such an approach (Creswell, 2003). More specifically sequential, exploratory research was the design used for the study. This study included a two phase process where the quantitative data were collected first, followed by qualitative data collection through the use of individual interviews. The purpose of this mixed methods was to use the qualitative results to further explain and interpret the findings from the quantitative analysis (Creswell, 2003). Each research question was carefully examined and the proper design was selected to collect and evaluate the data.

The first three research questions warranted the use of a case study design. Richards and Morse (2013, p. 159) described case study as "methods seeking to understand how those under study experience their world," which is appropriate for this study. Case studies further offer a powerful representation of the situation or person interviewed with thick description so that the audience can see a vivid picture of the experience or situation. Yin (2014), a leading qualitative researcher, indicated case study designs are to be used when attempting to determine how or why questions when there is little or no control of behaviors, and when a real life or contemporary event or phenomenon is being studied.

As reported by Check and Schutt (2012), an archival data study or statistical analysis of archival data was appropriate to use due to the lack of control of assignments to each group. The

groups are predetermined based on the student characteristics or environmental experiences, but are not determined by the researcher and cannot be randomly assigned. In addition, the study was identified as a holistic, single-case study because the data were limited to one organization (Yin, 2014). Since the researcher was not able to manipulate the data, there were also many more uncontrolled variables to reliably determine cause and effect. In this type of quasi-experimental study, a researcher can investigate possible relationships by observing existing data in retrospect to determine possible connections to success and increased retention (Cohen, Manion, & Morison, 2000).

Research question four, however, warranted a different design than the previous three. Causal-comparative must be used in order to assess this specific question. Creswell (2012) defined causal-comparative as a comparison between two or more groups in order to determine an association among variables with existing differences. In this case, the noteworthy variable was completion or graduation of the identified student. The comparison assisted the researcher in determining if participation in structured academic programs was significantly associated with completion of a certificate or degree.

As previously indicated, mixed methodology was used to develop rich, comprehensive and robust findings. Patton (1999) defined this form of triangulation as the process of using multiple data sources for more clear understanding of the data. It also identifies complementary aspects of the same situation and allows the researcher to find overlap or areas of convergence. The two approaches to data collection were individual interviews and quantitative data analysis of archival data. The archival data were evaluated to determine the best success strategies and characteristics of successful graduates within the chosen population. This population included all CAC PTS who completed a certificate or degree during the time period from January 2013

until May 2015. These two data sources provided a perspective from the individual level and archival data that represented the larger evaluation of census data.

Population and Sample

The population was CAC students and the specific target sample was all PTS who completed a certificate or degree from CAC during the time period from January 2013 through May 2015. Census data were used for the quantitative portion of the study, which means data were gathered from the entire population (Creswell, 2013). From that larger population, the key demographic characteristics of the group were determined with assistance from the Office of Institutional Research and Effectiveness at CAC. The student characteristics which were investigated included, age, gender, race/ethnicity, income-based financial aid recipients, first-generation college students, and placement into developmental education courses.

The purpose for the two methods of information gathered was to ensure there was representation from each category in the sample. Participants in the qualitative portion of the study were selected using a purposive sample to ensure there was ample participation from individuals who were identified at high rates based on the descriptive statistics gathered, both with respect to student characteristics and environmental experiences. Purposive sampling technique is defined as "a nonprobability sampling process in which participants are selected for a purpose, usually because of their unique position" (Check & Schutt, 2012, p. 104). The minimum number of graduates to be interviewed was 12; however, this number could increase depending on the completeness and saturation of responses gathered (Creswell, 2013).

Sources of Information

The initial quantitative portion of the study involved gathering the necessary data from the sample listed above. The Office of Institutional Research and Effectiveness helped generate

the appropriate data sets from the college student information system, Banner, which is an Ellucian product. According to Check and Schutt (2012), extreme caution must be exercised when making generalizations about the results since there is no random assignment to the groups and no ability to control or manipulate the study in any way. Tables 1 and 2 depict the variables included in the data analysis and provides a description of each. Table 1 aids in the identification of the student characteristic variables including age at the time of enrollment, gender, race/ethnicity, financial aid status, if the student identified as first generation to college, and if the student placed into developmental education courses. Table 2 presents the environmental experience variables evaluated which included attendance in New Student Orientation, Veteran's benefits, academic advising, program of study, participation in academic support grants, student success courses, support services, or student employment. Both lists aided in the quantitative statistical analysis and served as a data guide in determining the common student characteristics and environmental experiences of students who earned a certificate or degree.

Table 1

Description of Student Characteristics Variables

Student Characteristic Variable	Description of Variables
Age at time of first enrollment	1 = 25-34 2 = 35+
Gender	1 = Female 2 = Male 0 = Otherwise
Ethnicity	1 = Asian 2 = Black or African American 3 = Native Hawaiian or other Pacific Islander 4 = Hispanic or Latino 5 = American Indian or Alaska Native 6 = White 7 = Two or More Races 0 = Race/Ethnicity Unknown
First Generation to Attend College	1 = First Generation to Attend College 0 = Otherwise
Low Income Status	1 = Low Income 2 = Otherwise
Financial Aid Status	1 = Scholarship and/or grant with loan 2 = Scholarship and/or grant with no loan 3 = Loan only 0 = No aid
Developmental Education	1 = Developmental Education Course required 0 = Otherwise
Degree or Certificate	1 = Associate of Applied Science 2 = Associate of Arts 3 = Associate of Elementary Education 4 = Associate of Business 5 = Associate of General Studies 6 = Associate of Science 7 = Certificate

Table 2

Description of Environmental Experience Variables

Environmental Experience Variable	Description of Variables
New Student Orientation	1 = Attended New Student Orientation 2 = Otherwise
Academic Advising	1 = Utilized Academic Advising services 2 = Otherwise
Major/Program of Study	1 = Participated in a *structured academic program of study 2 = Otherwise
Student Success Course	1 = **CPD 101 completed with 2.0+ 2 = **CPD 110 completed with 2.0+ 3 = Otherwise
Academic Support Services	1 = Utilized tutoring or learning support services 2 = Otherwise
Veteran's Benefits	1 = Used Veteran's Benefits for funding 2 = Otherwise
Academic Support Grants	1 = TRIO – Student Support Services participant 2 = Title V - Hispanic Serving Institutions Grant participant 3 = WIOA participant 4 = Participant in more than one program 5 = Otherwise
Student Employee	1 = Worked as a Student Employee 2 = Otherwise

Note. CPD = Counseling and Personal Development; WIOA = *Workforce Innovation and Opportunity Act*. *A list of structured and non-structured academic programs can be found in Appendix A, **Course descriptions for CPD101 and CPD110 can be found in Appendix B

Instrumentation

Quantitative data analysis was performed first, followed by qualitative interviews in order to garner a thick and rich description of information. This sequential, explanatory design allowed for triangulation in order to obtain additional details related to successful completion from the perspective of the student rather than solely on the characteristics or strategies collected from the data analysis. The primary reason for collecting the quantitative data first was to analyze the descriptive statistics related to the student characteristics and environmental experiences which occurred at an elevated rate in students who successfully graduated or completed a certificate. Subsequently, the qualitative analysis was used to validate these findings and/or discover additional information.

The qualitative data collection used was to conduct individual student interviews. There were several advantages to using this approach. Among them were an increased response rate, the ability to lengthen the questionnaire and make it more complex, and the ability to offer both closed and open-ended questions to gain further clarification. The downside, however, was that the interviewer ideally must employ the exact interview procedures for each interview to ensure the same experience for each person or group (Check & Schutt, 2012). Participants were purposively selected based on identified characteristics. Characteristics included those students interviewed being PTS who completed a certificate or degree from CAC during the time period from January 2013 through May 2015. Interview questions were self-generated to support the research questions and developed to identify if students' perceptions of what lead to their success was aligned with the data collected. Both the protocol and a description of the interview recruitment are included in the Data Collection and Data Analysis Procedures sections.

Interviews were recorded for later transcription by an independent professional to insure the trustworthiness of data collection and interpretation. Interview questions included:

1. Did you participate in a Student Engagement activity outside of the classroom more than one time per semester? If so, what activities?
2. Did you meet with an academic advisor more than three times when you were a student? If so, what were the reasons for your meeting?
3. Can you identify a faculty or staff member who served as a mentor to you? If so, what areas of your education did he or she assist you with?
4. Did you participate in an internship or job shadow experience? If so, was it required for your program of study or major?
5. Do you feel the Early Alert warning notification helped you to stay on track academically? If so, in what way? Please describe.
6. What other strategies do you think helped you to be successful at CAC?
7. What resources could have been offered that would have been beneficial to your success?

Reliability

In order to determine reliability in a quantitative study, procedures were developed to ensure consistent student characteristics and completion data were gathered. In order to ensure this consistency, the Office of Institutional Research and Effectiveness and the Information Technology Functional Analysts were consulted to retrieve data from the Student Information System, Banner. A program was written by the Functional Analyst, who developed a report that allowed for the creation of additional data points or fields if necessary as the study proceeded, ensuring inconsistent data were not extracted. Check and Schutt (2012) explained that in order

for a study to be considered valid, it must first be deemed reliable. If results are inconsistent, validity cannot be determined. It is helpful to pretest critical processes using a smaller data set to ensure reliability of formulas and calculations.

Reliability, when referring to qualitative studies, is much different than when referring to quantitative studies. In qualitative portions of a mixed methods study such as this one, there are many perspectives from different people and, "there is no one benchmark by which one can take repeated measures and establish reliability in the traditional sense" (Merriam, 1995, p. 56). Instead, consistency and dependability of information are key to establishing reliability. Reliability measures such as verifying there are no errors in transcription by the use of an independent transcriber and re-verified by another independent professional who was familiar with this type of data rechecking, coding for consistency with an independent verifier, and examining how data are interpreted by other researchers or peers can be used for consistency (Creswell, 2013). Generalizations beyond this case may not be valid. Although peer groups may have similar demographics or challenges, findings cannot be transferred to other institutions without further exploratory research (Check & Schutt, 2012).

Validity

Validation of data that have been gathered through the use of reports generated by the Functional Analyst using the Banner student information system was challenging, mainly because of the amount of extraneous and uncontrolled variables that possibly exist. Further investigation of correlations to completion through the use of qualitative measures can assist in validating or nullifying these assumptions. McNiff and Whitehead (2006) suggested using validation groups to scrutinize data, listening to claims made by subjects participating in interviews and providing feedback to further ensure validity. In addition, further insurance of

validity occurred by not gathering data independently, rather relying on professional researchers and institutional technology support personnel. Years of employment with the college enhanced validity, due to significant institutional familiarity and access to verifying information in the student information system, Banner.

Just as when referring to reliability of qualitative research, validity can be difficult to determine in this type of study, because the goal is to ensure findings are aligned with reality. One method is to determine if the measurement is assessing what the study was designed to unpack (Merriam, 1995). This can be done through the use of triangulation, using multiple data sources to validate findings, incorporating rich, thick description, and clarifying any and all possible bias (Creswell, 2013). In addition to confirmability, which was described above, Lincoln and Guba (1985) emphasized the need to establish transferability and applicability to similar situations, dependability and consistency, and credibility and truth in findings.

Data Collection Procedures

To gather the data necessary for analyses of research questions one and two, the Executive Director for Institutional Research and Effectiveness was contacted to determine the feasibility of the study. Following this acknowledgment, approval was provided by both the Northern Arizona University and CAC Internal Review Boards (Appendix C & D) to begin the data collection process. Data were available and accessible for viewing in read-only format within the Banner student information system. A request was then submitted to the Functional Analyst from the Institutional Technology (IT) division for approval to create an Excel spreadsheet containing all required fields and data for the study.

Research question three required data to be collected in a qualitative manner using structured individual interviews. Each method was designed as indicated in the section entitled

Instrumentation. These interactions included both closed and open-ended questions and allowed for the interviewer to ask for clarification. Students who were selected to participate in the study were contacted over the phone using a phone script (Appendix E) to schedule a meeting time. If they were unable to be reached via phone after two attempts they were sent an interview recruitment email (Appendix F). Potential participants were asked to participate in an individual interview during the selected date range. If the student was in agreement to participate they were informed of the estimated time the interaction would last, the general subject of the questions, and who would interview them. This information was also sent to them either via email or in a mailed letter depending on student preference (Appendix G) and included a Human Subject Informed Consent Form (Appendix H) to be completed. If they were not available they were thanked for their time and their participation in the study ended. Each interview participant was offered the opportunity to choose the closest CAC campus for convenience. For consistency, each interview was conducted by the researcher personally. After several attempts were made to reach each participant, many of which were unsuccessful, the researcher was able to schedule 10 individual interviews.

Data for research question four were gathered in the same quantitative data collection method used in research questions one and two. Upon receipt of the raw data, the program of study/major element was removed and included in its own report in order to evaluate whether the means of one of the two independent groups was significantly different from the other. This information was then analyzed through the use of a 2x2 Chi-Square Test of Independence.

The complete data report will be provided to the researcher in an Excel spreadsheet via email within the CAC network and will be housed on a laptop which has been encrypted and password protected by CAC. In the event the researcher is no longer an employee of CAC, the

information will be housed on a password protected flash drive and disposed of after five years by the researcher.

Table 3 contains data match-up illustrating the sources of data and corresponding data analysis procedure for each research question followed by a more in depth description of each procedure.

Table 3

Data Match-Up

Research Question	Corresponding Sources of Data	Corresponding Data Analysis Procedure(s)
1. (RQ1) What were the most common student characteristics of 2013-2015 PTS graduates?	Quantitative Archival Data Data analysis of student characteristics.	• Researcher was granted approval to gather the data as indicated in the Data Collection Procedures. • Data were retrieved, made available in an Excel document, and used to perform statistical analyses to determine percentages and rates of occurrence. Statistical Package for the Social Sciences (SPSS) v. 24, was utilized to compute descriptive statistics.
2. (RQ2) What were the most common environmental experiences of 2013-2015 PTS graduates?	Quantitative Archival Data Data analysis of success strategies.	• Researcher was granted approval to gather the data as indicated in the Data Collection Procedures. • Data were retrieved, made available in an Excel document, and used to perform statistical analyses to determine percentages and rates of occurrence. Statistical Package for the Social Sciences (SPSS) v. 24, was utilized to compute descriptive statistics.

Table 3 (continued)

Research Question	Corresponding Sources of Data	Corresponding Data Analysis Procedure(s)
3. (RQ3) Do predictive indicators align with 2013-2015 PTS graduates' perceptions of what lead to their success?	Qualitative analyses of individual interviews.	• Individual interviews were conducted to gather qualitative data. • Upon completion of the qualitative data collection the information was analyzed using QDA Miner Lite, a qualitative coding software designed to be used in mixed methods studies. • Both written notes and an auditory recording were kept for each interview to utilize during the coding period. • It is suggested that the researcher first identify topic codes and then develop further from these codes in order to "establish significance and meaning" (Richards & Morse, 2013, p. 159).

Table 3 (continued)

Research Question	Corresponding Sources of Data	Corresponding Data Analysis Procedure(s)
4. (RQ4) Is there a significant difference between 2013-2015 PTS graduates at CAC who completed structured academic programs versus those who did not? $H_0$4. There is no statistically significant difference between 2013-2015 PTS graduates at CAC who completed structured academic programs versus those who did not. *H*4. There is a statistically significant difference between 2013-2015 PTS graduates at CAC who completed structured academic programs versus those who did not.	Quantitative Archival Data Data analyses of the specific environmental experience, Major/Program of Study.	• Researcher evaluated the difference between the two unrelated groups, those who participated in structured academic programs and those who did not through the use of a 2x2 Chi-Square Test of Independence. • This data analysis design, also referred to as a goodness of fit test, allowed the researcher to determine if there was a significant difference between the two groups (McHugh, 2013).

Data Analysis Procedures

Research Questions 1 and 2 (RQ1 and RQ2): Once the researcher was granted approval to gather the data as indicated in the Data Collection Procedures section, it was retrieved, made available in an Excel document, and used to perform statistical analysis in order to determine percentages and rates of occurrence. Statistical Package for the Social Sciences (SPSS) v. 24, was utilized to compute descriptive statistics. According to Johnson and Christiansen (2000), descriptive statistics are used to summarize the data and identify characteristics that are common to the sample through measures of central tendency and variability.

Research Question 3 (RQ3). Using the process indicated in the Data Collection Procedures section participants were identified to complete the individual interviews. Upon completion of the qualitative data collection the information was analyzed using QDA Miner Lite, a qualitative coding software designed to be used in mixed methods studies. It was determined if the perception of what lead to success matched the quantitative data analysis which demonstrated the characteristics and services that were used by the largest percentage of students or at the highest rates.

Both written notes and auditory recordings were maintained for each interview for coding and saved on a laptop which has been encrypted and password protected by CAC. In the event the researcher is no longer an employee of CAC the information will be housed on a password protected flash drive and disposed of after five years by the researcher. Coding involved "aggregating the text or visual data into small categories of information, seeking evidence for the code from different databases being used in a study, and then assigning a label to each code" (Creswell, 2013, p. 184). The researcher first identified topic codes and then further develop

them to “establish significance and meaning” (Richards & Morse, 2013, p. 159). Once coding was completed, the researcher began the data analysis process as outlined by Creswell (2013) in *Qualitative Inquiry and Research Design*. The steps included:

- organize the details of the case study;
- categorize data that has been collected;
- interpret single instances for further understanding;
- identify patterns in the data; and
- synthesize and generalize data in order to draw conclusions and determine if there are implications for further review. (p. 199)

Research Question 4 (RQ4). To address this, the researcher evaluated if there was an association between the two unrelated groups, those who participated in structured academic programs and those who did not, as well as if they had earned a certificate or degree through the use of a 2x2 Chi-Square Test of Independence followed by a strength statistic. This data analysis design, also referred to as a goodness of fit statistic, allowed the researcher to determine if there was a significant difference between the two groups. (McHugh, 2013). The null hypotheses for this research question is that there is no significant difference between the two identified groups. The alternate hypothesis, however, is that there is a significant difference between those students who completed structured academic programs versus those who did not. In order to accept or reject the null hypothesis a significance level or alpha was set at .05 as the threshold for the rate of error. Among the advantages of using the 2x2 Chi-Square Test of Independence are robustness with regard to the richness in data, the ability to have an unequal number of variances, and the ease of calculation. Disadvantages include sample size requirements as well as difficulty of interpreting data if there are multiple categories (McHugh, 2013).

According to McHugh (2013), in order to ensure the results are valid it was necessary for the data to pass the following six assumptions:

- data in cells should be frequencies or counts,
- categories must be mutually exclusive,
- each subject may contribute to only one cell,
- groups must be independent of one another,
- there are two variables and each are measured as categories, and
- the value of the cells should be five or more in at least 80% of the cells and none should be less than one. (p.144)

Summary

The primary purpose of this study was to examine the student characteristics and environmental experiences of CAC post-traditional, part-time graduates. The study included a qualitative aspect and holistic, single-case study design while evaluating archival quantitative data. More specifically, sequential, exploratory research was the design used for the study. The goal of this chapter was to delineate the way in which this objective would be accomplished. The chapter included a description of the population and sample, sources of information and procedures for data analysis, instrumentation, and a discussion of validity and reliability of the study. The following chapter will report the findings of the study.

Chapter 4

Findings and Results

Introduction

The primary purpose of this study was to determine the environmental experiences and common characteristics of students over 25 years of age who graduated from CAC and were identified when they were admitted to CAC as part-time, degree-seeking students. This chapter contains the results from the statistical analysis and individual interviews that were conducted. These findings will lead to recommendations for further study and conclusions in Chapter 5.

Participant Demographics

The sample included in the statistical analyses for this research study was described as a total of 1012 students who graduated from CAC. Each student was identified as over the age of 25 at the time of enrollment with more than 60% over the age of 35 during their time as a student. Some 621 of the students were female while only 389 were male. All students earned a certificate or degree from CAC at some point from January of 2013 to May of 2015 and attended college on a part-time basis during at least one semester.

Research Question 1 Findings

What were the most common student characteristics of 2013-2015 PTS graduates? As shown in Table 4, 310 of the respondents were in the range of 25-34 years of age while the remaining 702 were 35+ years of age at the time of first enrollment. Determining if a student was first generation to college proved to be a challenge, being that the data are only collected for those students who complete a financial aid application, 273 students did not. There were 354 students who stated they were the first in their family to attend college while 385 indicated they

were not. Of the population 61.4% identified as low income, meaning their family earned less than twice the federal poverty line.

Table 4 includes academic information, both related to placement into developmental education at the time of admission to the college, and the highest certificate or degree awarded to the student. Surprisingly, fewer students tested into developmental education than did not. Less than 50% required developmental education courses at their time of admission to the college which is significantly lower than the 68% who were required to take these courses as indicated in a study of community college students by Jaggers and Stacey (2014). Regarding completion, 47% of students earned a certificate while 53% earned a degree.

Table 4

Student Characteristics

Category		Frequency	Percent
Age at the time of first enrollment			
25-34		310	30.6
35+		702	69.4
	Total	1012	100
Gender			
Female		621	61.4
Male		389	38.4
Not Identified		2	0.2
	Total	1012	100

Table 4 (continued)

Category		Frequency	Percent
Ethnicity			
American Indian/Alaska Native		38	3.8
Asian		18	1.8
Black/African American		46	4.5
Hispanic/Latino		226	22.3
Native Hawaiian/Other Pacific Islander		3	0.3
White		609	60.2
Two or more races		16	1.6
Race/Ethnicity Unknown		56	5.5
	Total	1012	100
First Generation to Attend College			
Yes		354	35
No		385	38
Unknown		273	27
Total		1012	100
Low Income Status*			
Yes		621	61.4
No		363	35.8
Unknown**		28	2.8
	Total	1012	100
Financial Aid Status			
Scholarship and/or grant with loan		291	28.8
Scholarship and/or grant with no loan		357	35.2
Loan only		35	3.5
Total with Aid of some kind		683	67.5
No Aid of some kind		329	32.5
	Total	1012	100

Table 4 (continued)

Category		Frequency	Percent
Developmental Education			
Yes		508	49.8
No		504	50.2
Total		1012	100
Degree or Certificate Completion			
Associate of Applied Science		329	32.5
Associate of Arts		79	7.8
Associate of Elementary Education		15	1.5
Associate of Business		15	1.5
Associate of General Studies		79	7.8
Associate of Science		19	1.9
	Total Degrees	536	53.0
	Total Certificates	476	47.0
	Total	1012	100

Note. *As defined by the USDoE. **Unable to determine, did not complete the Free Application for Federal Student Aid (FAFSA).

Research question 1 summary. The common characteristics of students within the selected population, as compared to the general population of students during the same time period, had both similarities and differences. In terms of gender and age, the findings were similar, the majority of students, over 59% in both cases, were female and over the age of 28 (CAC, 2013, p. 3). Ethnicity showed a difference, the cohort included 60.2% white students who completed their degree or certificate, whereas the general population was comprised of only 45.7% White students (CAC, 2013, p. 3). With regard to financial aid, just under 80% of the general population of students received financial aid, whereas only 67.5% of the selected cohort received some form of aid.

The most glaring difference was related to the percentage of students who took one or more developmental courses upon admission to CAC. Based on the results of the College ACT Compass placement test during the two year time period indicated, 91.5% of the general population of students needed algebra, 83% pre-algebra, 34.6% reading, and 44.3% writing remediation, whereas only 49.8% of the cohort required developmental education overall in any subject (CAC, 2013, p. 5). This seemingly significant difference warrants further discussion and possibly investigation to be addressed in Chapter 5.

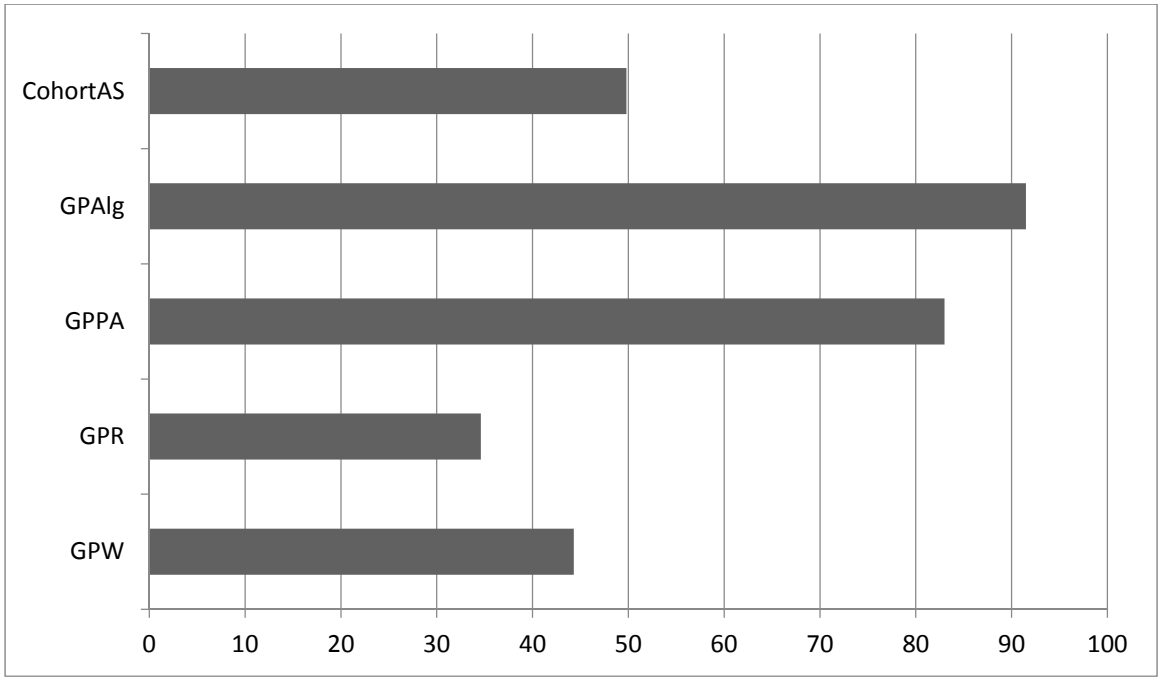

Figure 1. Development education: General populations versus cohort group by percentage. GPW: General population writing, GPR: General population reading, GPPA: general population pre-algebra, GPAlg: General population algebra, CohortAS: Cohort any subject. Adapted from *Central Arizona College Fact Book,* 2013.

Research Question 2 Findings

What were the most common environmental experiences of 2013-2015 PTS graduates? As shown in Table 5, in the category of Academic Advising, a substantial number of students, 862 (85.2%), did utilize this service and 150 (14.8%) did not. During the study, there were 35

(48.6%) structured and 37 (51.4%) non-structured majors or programs of study in which students' earned a certificate or degree. The final grouping that was of interest, Academic Support Grants, included TRIO Student Support Services (.9%), STEM and Title V (6%) WIOA (0%) and those who participated in more than one grant (.3%). Overall, 92.8% of the students did not participate in Academic Support Grants.

Table 5

Environmental Experiences

Category		Frequency	Percent
New Student Orientation			
Attended		86	8.5
Did not Attend		926	91.5
	Total	1012	100
Academic Advising			
Utilized Academic Advising Services		862	85.2
Did not see an Academic Advisor		150	14.8
	Total	1012	100
Major or Program of Study			
Structured		35	48.6
Not Structured		37	51.4
	Total	72	100
Student Success Course			
Completed CPD101 or CPD110		46	4.5
Did not Complete CPD101 or CPD110		966	95.5
	Total	1012	100

Table 5 (continued)

Category		Frequency	Percent
Academic Support Services			
Utilized Tutoring or Learning Support Services		242	23.9
Did not use Tutoring or Learning Support Services		770	76.1
	Total	1012	100
Veteran's Benefits			
Receiving Benefits		69	6.8
Not Receiving Benefits		943	93.2
	Total	1012	100
Academic Support Grants			
TRIO Student Support Services		9	0.9
Title V-Hispanic Serving Institutions: STEM & Title V		61	6.0
WIOA		0	0
More than one grant		3	0.3
Participated in no grants		939	92.8
	Total	1012	100

Research question 2 summary. Surprisingly, the only environmental experience that rose to the top and was utilized by the large majority of students, 85.2%, was academic advising. See figure 2 which depicts a graphical representation of all of the experiential opportunities available and those used by the cohort.

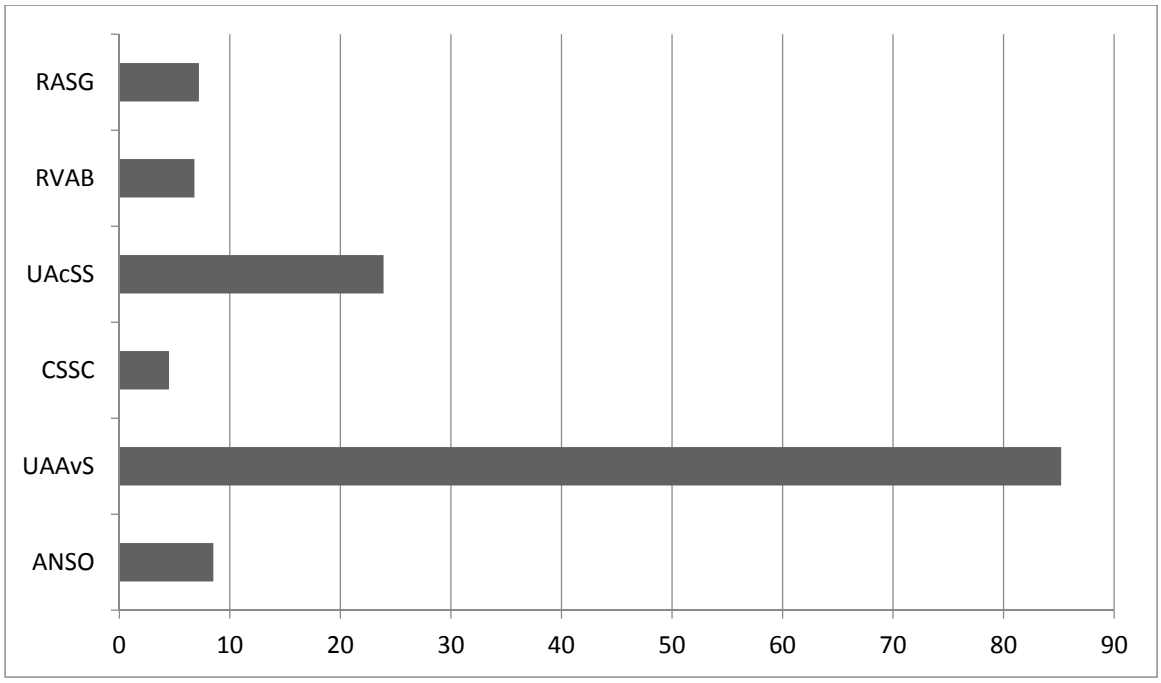

Figure 2. Environmental experiences utilized, by percentage. RASG: Received Academic Support Grants, RVAB: Received Veteran's Administration Grant, UAcSS: Utilized Academic Support Services, CSSC: Completed Student Success Course, UAAvS: Utilized Academic Advising Services, ANSO: Attended New Student Orientation.

Although, Laing and Watson (2014) indicated PTS required specific resources and prescribed support opportunities, this specific cohort did not, with the exception of the use of their academic advisor, which according to Donaldson and Graham (1999), is expected. All other resources, however, were minimally used, if at all.

Research Question 3 Findings

Do predictive indicators align with 2013-2015 PTS graduates' perceptions of what lead to their success? Ten individual interviews were conducted following the interview process outlined in Data Collection Procedure in Chapter 3. Although the 10 students who participated, do not represent the larger sample group, there were many similarities between the two as outlined in Table 6. Two areas that were identified as different from the larger group overall, and warrant mentioning, are the large number of students who identified as having taken a

developmental education course (70% vs. 49.8%) and those who worked with an academic tutor (70% vs. 23.9%). This is a possible area for further exploration.

Table 6

Student Descriptors: Interview Cohort versus Sample Population

Item	% Interview Cohort	% Sample Population
Over the age of 35	90	69.4
Female	70	61.4
Caucasian	80	60.2
Hispanic	20	22.3
First Generation to College	40	35
Low Income	60	61
Received Financial Aid	50	67.5
Earned a Degree	80	53
Earned a Certificate	20	47
Developmental Education	70	23.9
Used Academic Support Services	70	49.8
Saw an Academic Advisor	100	85.2

IQ1. Did you participate in a student engagement activity outside of the classroom more than one time per semester? If so, what activities? The majority, 7 out of the 10, of the participants who were interviewed did not participate in student engagement activities outside of the classroom. As shown in Table 7, the most common student engagement activity outside of the classroom was, in fact, that they did not have time to participate due to lack of time. I9

described, “I just wasn't interested. I was watching my grandson because my daughter worked every other weekend.” Another student I5 recalled being a part of Phi Theta Kappa Honor Society, however, stated “It was good on a resume, but I never had time to attend the functions.”

The next common theme involved those related to academic events and community service or volunteering. In each instance the two types of events overlapped. Two of the participants explained their involvement in academic events such as Science Night for the STEM club. I7 shared, “We did the little science experiments with the kids; it was fun and a part of what we were learning in class.” The third student, I3, indicated she volunteered for a community service event which was part of her participation in the TRIO Student Support Services academic grant.

Table 7

Student Engagement Activity Outside of the Classroom (IQ1)

Themes
Did not participate due to lack of time
Participated in Academic Events
Participated in Community Service/Volunteer Events

IQ2. Did you meet with an academic advisor more than three times when you were a student? If so, what were the reasons for your meeting? All but one of the interviewees stated that they visited an academic advisor on more than three occasions during their time as a student. Also noted, all but one of the nine indicated they saw multiple advisors. In some instances this proved to be helpful. I9 shared, “The first one was fine, but I felt more comfortable with the second one and went back to her more.” In other instances, seeing multiple advisors was not

positive, “I started getting conflicting information and so I started seeing the same advisor every time and that seemed to help navigate my path (I10).” As shown in Table 8, the two most common themes that surfaced as the reasons for meeting with the advisor included a time for check-in and reassurance and course scheduling.

Check-In and Reassurance. Having an advisor to check-in with and provide reassurance that they were on the right track was indicated by 50% of the students interviewed as being important. I3 said, “I wanted to make sure I took classes that really went towards my degree and not something that didn’t and was wasting my time.” I1 indicated, “I would meet with an advisor one semester and then meet again the next semester to make sure what I needed from that point on.” The sense of reassurance that the courses being taken were appropriate for their degree and leading them to success was very important to the graduates. I4 shared, “I actually kind of looked through the catalog and picked out what I would take. I even met with an online advisor telling them this is what I was thinking just to be sure.”

Course Scheduling. Determining the courses to take proved to be the most significant reason students chose to see an academic advisor. Eight out of the 10 students shared that time was a key factor and they did not feel as though they were equipped to determine the courses to take on their own. I8 stated, “I had lots of credits to bring from previous colleges and needed to see what worked and what I still needed.” I10 indicated, “It was so important that I had that streamlined communication so what I was taking was relevant to what I was trying to graduate with. I had no time to waste classes.” Another student indicated it was her academic advisor that evaluated her transcript when she arrived at CAC letting her know she was six courses shy of earning her associates degree which was both encouraging and a surprise to her. She had been taking classes for many years without earning a credential.

Table 8

Reasons for Meeting Academic Advisors (IQ2)

Themes
Check-in and Reassurance
Course Scheduling

IQ3. Can you identify a faculty or staff member who served as a mentor to you? If so, what areas of your education did he or she assist you with? Like the results for the use of an academic advisor, having a mentor at CAC appears to have been a key factor in the success of the students interviewed, see Table 9. All ten of them had a mentor that they used for various reasons such as a having a person to connect them to resources (most common theme) or for personal motivation (next common theme). Five of the students connected to a professor and five of them connected to a mentor within Student Services or another nonacademic position within the college.

Connection to Resources. I1 indicated that just having a mentor on campus was helpful, "she was a familiar face so even before she became an academic advisor she was the one that kind of guided me on what to do and what was offered". Similarly, I3 stated that her mentor, who was a professor,

> took us to the tutoring area, told us this was the area we could go, and gave us directions on how to make an appointment with a tutor. She always did things of that nature and gave us all of those guidelines.

Just knowing the programs that were being offered and having someone to talk to about them is what I1 indicated was helpful. Finally, with regard to adjusting to college life, I6 shared, "She

showed me how to read and evaluate degree requirements and better balance work, life and school."

Motivation. Several of the interview participants shared their lack of self confidence in returning to college for some after many years of not participating in a formal educational setting. I9 stated, "She just encouraged me, saying I could do it. I was older, but that I could do it." For some, high school or their first attempt at college ended negatively after a less than satisfactory academic showing. For instance, I8 said, "I didn't finish at the four year school twice, I felt like it was easy to let it go and not finish here too. She helped me to stay on track." Others felt as though they may be too old to fit in and set minimal goals for themselves in order to achieve a level of success quickly. I3 indicated her mentor encouraged her, "You need to get your bachelors and things like that, very encouraging as far as education. You could feel they were passionate about it." Similarly, I2 explained, "They just basically encouraged me to get the degree. It was more career mentoring than it was degree or educational mentoring. They just gave me guidance on paths I could take that might benefit me in the long run."

Table 9

Faculty or Staff Member who served as a Mentor (IQ3)

Themes
Connection to Resources
Motivation

IQ4. Did you participate in an internship or job shadow experience? If so, was it required for your program of study or major? There were no students interviewed who completed an internship at CAC, thus no common theme(s). One student, I7, indicated that her

mentor, one of her professors, assisted her with securing an internship at the university she transferred to so the relationship in her words was “valuable”. Several other students stated they did not complete a formal internship at CAC, but were either employed by the college as a student employee or college employee. They shared that they felt as though the experience they received assisted them as a student and also prepared them for future employment. I6 shared,

> I discovered iTV and they hired me part-time up there so I worked part-time and went to school part-time, that's why it took my five years to get my degree. After I got my degree, I applied and got the position through the Title V Grant as Technology Assistant and I'm still doing that but not through the grant.”

When asked if he participated in an internship, I1 shared, “No, I was a student employee, I felt that was enough for me because I got to be familiar with everybody on campus so if I did have any type of question, I already knew who to go to.”

IQ5. Do you feel the Early Alert warning notification helped you to stay on track academically? If so, in what way? Please describe. The Early Alert program at CAC did not appear to be a contributor to the success of the students interviewed, thus no common theme(s). Of the 10 students only two recall receiving the notifications. I1 indicated math was a challenging topic for him and he used the Early Alert grade warning notification to remind him to “get it together.” The other student, I7, who indicated she was aware of the program shared, “I got them, but I already knew because I checked my grades constantly.” The remaining students were not familiar with Early Alert, but I10 shared, “I always knew where I was, I monitored my grades and my transcripts constantly. I6 stated, “When I saw it was fluctuating, I was my own Early Alert, and if I saw a drop, I'd go to tutoring or I sought other assistance when I could.”

IQ6. What other strategies do you think helped you to be successful at CAC? Although there were many success strategies mentioned in the interviews, four rose to the top as overarching themes. As shown in Table 10, among them were self-motivation, flexible course offerings online, connections and support from the college, and library and learning support. In addition, I6 shared,

> I feel like I got my degree despite the obstacles. I can see it's easy to fail at this because of the demographics. There's so much other stuff going on. You think, it's hard, I'm exhausted and will I really get anywhere, but you work hard and you do.

My own motivation. Of the 10 students interviewed eight believed that among the biggest thing that led to their success was their own self-determination and motivation. Among the statements made, I7 stated,

> I tried going there when I was younger, I didn't feel it, but it was important to me now and I had kids and I didn't want them to see me quit. I had something to prove to myself too.

I5 said, "I had the support of my husband and my family, but if I didn't want it for myself, I don't think there was anything else anyone could say or do." I10, explained, "I'm just driven, I wasn't going to be a statistic. I said, 'I'm not wasting this money.'" Finally, I8 reported, "I was ready to finish it was my time of life and the right time. I was not motivated before. I didn't have the drive. This time I wanted to do it for me that made it easier."

Flexible Course Offerings - Online. Two of the 10 students indicated having flexile online course offerings was important while others shared that having face to face course at flexible times would have proven to be helpful. I2 indicated, "I started as a college student in 1982 so I don't know that any of the strategies helped me because obviously it took me thirty

years to do it, but I did particularly like the online classes, having the ability to do it after my kids went to sleep."

Support from the college: Connections. As mentioned previously several of the students interviewed worked for the college in some capacity. For the six of them, having a personal connection to the college was an important factor in their success. Statements from such students include, I3,

> My employer was flexible with my schedule for classes. It was the connections that helped to be honest with you because it gives you that support system and it gives you the drive to go further. I didn't really think about a bachelor's degree, I was more about getting an associate's degree, but I knew people in advising that encouraged me to go for it and I said, why not.

I1 said,

> Being a student employee was one of the main parts that helped just because it showed you the opportunities you could get while being here and just getting familiar with everybody, just being comfortable going to someone and saying, I need help with this.

The same student shared that initially he was only interested in a General Studies degree because he wanted to have a sense of accomplishment through finishing something. After further discussion with college staff he decided to change to an Associate of Arts and pursue a Bachelor's degree at a university.

He indicated, "The staff just makes you want to do more."

Library and learning support. Three of the 10 students indicated their reliance on the library and learning supports during their enrollment at CAC. I3 explained, "The library helped me a lot, especially when I had to do research work. The staff there was really good, they really

helped me to find the resources or the subject I was trying to find. In addition, I6 indicated that he "loved what the Title V program did because they actually did workshop for time management and organization for the students, these are the best strategies."

Table 10

Strategies that helped Participants Succeed at CAC (IQ6)

Themes
My Own Motivation
Flexible Course Offerings – Online
Support from the College – Connections
Library and Learning Support

IQ7. What resources could have been offered that would have been beneficial to your success? Overall, the beliefs from the students who were interviewed were that what contributed to their success was less the resources or services that were available and more the connections; however, for the services that were used there were improvements that could have been made, see Table 11.

More robust online support and teaching. Several students touted online learning for its flexibility; however, I3, for instance, indicated her online experience at the university helped her to see that the online courses at CAC may not be as robust as they could be or provide the support she required. She said, "A lot of the times online, you feel like you're doing it yourself." Another student, I9, stated,

> I knew computers, but that was still the scariest thing for me. The students were so nice and they were younger and they would help me. We have tutors that offer computer help, but computers are scary for older people.

Finally, I5 shared a different perspective related to online learning.

> I was working, one thing I found was that a lot of the classes that I might have wanted to take were only offered during the day or face-to-face and having a job and working, I needed them to be online or in the evening.

Consistent communication. As mentioned previously, students were very focused on not taking course they did not need. I10 indicated:

> When it came to advising, we (CAC) needed help. I was frustrated all the time leaving there and I felt like it was a lack of guidance even when I tried staying with the same advisors. If they streamline the process a little bit when it comes to advisement it would help students to get consistent information.

Different from the previous comment, but within the theme of communication, I1 stated,

> I feel that some students only use workshops if you're a student employee, not if you're just a regular student. I mean just publicizing it more and sending it out like blast emails that we have on campus, like hey, we have a workshop and it's about this.

The final student concerned with communication, I6, shared,

> One thing I wished for every time I was enrolling in classes, I wish there was a way to contact instructors before enrolling in the class. Not everyone meshes and it would be nice to just have an opportunity to have a little introduction with the classes that you know are going to be difficult.

Table 11

Other Resources that would have been Beneficial to Success (IQ7)

Themes
More Robust Online Support and Teaching
Consistent Communication

Research question 3 summary. At the conclusion of the individual interviews it was evident that students shared in the belief that both the connections they made at CAC with either an academic advisor or mentor and their own self-motivation are what primarily led to their success. I5 shared, “It wasn't easy. I had to work really hard. I'm a hands-on person. Reading and testing is not my thing, but just the determination and wanting to do it makes you successful.” Similarly, I8 said, “People need to remember this is their degree and not anyone else's. In order to succeed you must be ready and doing it for the right reasons.”

Overall, the individual interviews supported the data analyses which indicated that the primary environmental experience utilized, while at CAC, was academic advising. What the interviews expanded upon was that this connection was also developed through employment at the college, both as a student employee or college employee, and through identifying a faculty or staff mentor.

Research Question 4 Findings

Is there a significant difference between 2013-2015 PTS graduates at CAC who completed structured academic programs versus those who did not?

$H_0$4. There is no statistically significant difference between 2013-2015 PTS graduates at CAC who completed structured academic programs versus those who did not.

*H*4. There is a statistically significant difference between 2013-2015 PTS graduates at CAC who completed structured academic programs versus those who did not.

As visible in Table 12, it was determined that there is a statistically significant difference between structured academic programs versus not and degree or certificate completion using a 2 x 2 Chi-Square; $x^2 = 38.06$, $p < .001$. Those students who participated in a structured program tended to earn a degree (57.6%) and certificate (38.2%). Those students who participated in non-structured academic programs tended to earn a degree (42.4%) and certificate (61.8%). This suggests that students who participated in structured programs of study completed degrees at higher rates than those who did not and those who are were in non-structured programs completed certificates at higher rates than those who were not. It is likely that this phenomenon occurred due to a lack of prescribed course scheduling and guidance that lead students to accumulate large numbers of credits without earning a specific credential. Students in non-structured programs who were fortunate enough to complete, finished the credential they were closest to which in many circumstances may have been a certificate opposed to a degree.

Table 12

Chi-Square Test of Independence

	Degree		Certificate		Total	
	#	%	#	%	#	%
Structured	308	57.6	182	38.2	490	48.4
Not Structured	227	42.4	295	61.8	522	51.6

Research question 4 summary. In total, there were 83 programs of study included, 45 of which were structured (21 certificates and 24 degrees) and 38 were non-structured (26

certificates and 12 degrees). Data analysis of the 1012 students in the selected population of PTS graduates from CAC illustrated that 48.4% of the students were in structured programs versus 51.6% who were in non-structured programs. Of the students who were in structured programs, the majority were able to complete an associate's degree, whereas those in non-structured programs were likely to complete a certificate.

Chapter Summary

In conclusion, the analyses results from the four research questions explored, helped reveal a picture of student characteristics and environmental experiences determined to be of importance for PTS graduates, both based on data analysis and individual interviews. In addition, the likely credential based on the structure of the program was identified. The majority of students in the 1012 participant cohort were female (61.4%), over the age of 35 (69.4%), White (60.2%), low income (61.4%), receiving some form of financial aid (67.5%), not first generation to college or unknown (65%), and did not require developmental education courses (50.2%). Graduates consisted of 53% who completed a degree and 47% who completed a certificate. Among the environmental experiences that were seemingly important to participants, the only significant factor appeared to be the use of an academic advisor (85.2%). Supporting these data were individual interviews, which indicated academic advising or some form of mentorship from either a college faculty or staff member, coupled with a high level of self-motivation led to success and completion of a degree or certificate. Table 13 provides the triangulation of quantitative and qualitative survey data.

Table 13

Triangulation of Quantitative and Qualitative Survey Data

Quantitative	Qualitative	Overall
Data analysis indicates the only relevant environmental experience identified was academic advising.	Individual interviews showed the use of an academic advisor or mentor paired with a high level of self-motivation lead to success.	Qualitative data supported the finding that a connection to an academic advisor was the key factor in determining success. In addition, interviews identified that self-motivation must be a present factor as well.

In addition, it was determined through the use of a Chi-Square Test of Independence that there is a significant difference between students who are enrolled in a structured academic program versus a non-structured academic program. Those students who participated in a structured program tended to earn a degree (57.6%) and certificate (38.2%) at a higher level than those students who participated in non-structured academic programs; degree (42.4%) and certificate (61.8%).

CHAPTER 5

Summary, Conclusions, Implications, and Recommendations

Introduction and Overview of the Study

The purpose of this study was to determine the environmental experiences and common characteristics of students over 25 years of age who graduated from CAC and were identified when they were admitted to CAC as part-time, degree seeking students. The data collected from this sample of students helped to determine if there was a significant difference between structured academic programs and non-structured academic programs with regard to completion of a certificate or degree.

This mixed method study used a sequential, exploratory design, incorporated both quantitative and qualitative data sources. The two methods of data collection employed were quantitative analysis of archival data and individual interviews. The archival data were evaluated to determine the student characteristics and environmental experiences of successful graduates within the sample. This sample included all post-traditional students (older than age 25) degree-seeking, part-time student who completed a certificate or degree from CAC during the time period January 2013 – May 2015.

The study included a two phase process where the quantitative data were collected first, followed by qualitative data collection through the use of individual interviews. The first three research questions warranted the use of a case study design. Research question four, however, warranted a different design; causal-comparative design was used in order to determine if there was a significant difference between participating in a structured versus non-structured program of study and subsequent completion of a certificate or degree. A 2 x 2 Chi-Square Test of Independence was conducted to determine the level of association between the groups. Previous

chapters introduced the study, provided a review of the literature, shared the selected methodology, and presented the findings of the statistical analyses and individual interviews. This chapter includes an overview of the study, relationships to theory and practice, implications for practice and policy, recommendations for further studies and concluding remarks.

Relationship to Theory and Prior Studies

The four research questions developed for this study were designed based on the Student Involvement Model created by Alexander Astin many years ago. This model, although modified over the years, laid the groundwork for the way one understands student completion in its most basic form. As shown in Figure 3, the general concept posits that Input + Environment = Output (Astin, 1985).

Figure 3. Astin's (1993) input-environment-output model.

In terms of this study, the input refers to the student characteristics identified, the environment is determined by the environmental experiences the student participates in, and when combined the two equal completion of a certificate or degree. The challenge for each institution is to determine what input and environment comprise the best recipe for the completion output for specific populations.

Research question 1. Student characteristics of PTS students over 25 years of age who graduated from CAC from January 2013 to May 2015 and were identified when they were

admitted to CAC as part-time, degree seeking students totaled 1,012 graduates. The majority of these completers were over the age of 35, female, white, not first generation to college or the information was unknown, low income, and receiving some form of financial aid. In addition, more than half of them did not take a developmental course and earned a degree upon completion opposed to a certificate. In line with the research on graduation and completion, it is not uncommon for students who require developmental education not to complete. Developmental education has been described as "one of the most difficult issues confronting community colleges" (Bailey, 2009, p. 11). Although there is significant research pointing to success among adult learners, there is a marked decrease in the level of success for students who enter their college experience faced with developmental coursework in order to facilitate remediation (Reason, 2009). It is however less common for underrepresented students, such as low income and female students, to complete college as their challenges are often different from their counterparts (Complete College America, 2011). Once the student characteristics of the sample were identified a statistical analysis of the data regarding environmental experiences was conducted.

Research questions 2 and 3. The analyses of seven different environmental experiences common to community college students, and in particular PTS, led to only one experience rising to the top: academic advising. This discovery supports research that states that although there are many theories that guide academic advising, one common belief is that academic advisors are the most important resource in assisting students with proper course selection as well as clarification of goals (Bailey et al., 2015a). There were no other experiences that were utilized by even a quarter of the students in the sample indicating that as a group, only academic advising was influential in completion. This analysis coupled with individual interviews solidified the

finding. Students interviewed indicated the key factors in their success were the relationship they developed with an academic advisor or mentor and their own self-determination and motivation. Donaldson (2013) indicated nontraditional students were often motivated to attend college primarily by academic or career advancement which may have led to their interest in seeking an academic advisor or mentor for guidance. Contrary to Laing & Watson (2014), who stated PTS require specific resources and prescribed support opportunities in order to be successful, the sample studied were clear that the guidance and confidence provided by the advisor or mentor was more beneficial and lead to success more often.

Research question 4. With regard to the output or the program of study selected by the students who completed a degree or certificate, the majority finished their degree opposed to a certificate. In addition, students who selected a structured academic program to participate in completed a degree more often than a certificate. This supports research such as *Connection by Design,* a report based on the 2012 study completed by WestEd and Public Agenda, which indicated that in hindsight successful students wished their college had provided them with a more structured program and career exploration process early in their educational endeavor (Nodine et al., 2012). Furthermore, the group shared that although community college is the place for career exploration it must be structured and promptly completed in order to avoid aimlessly proceeding with college courses (Nodine et al., 2012). For those only completing a certificate, it is likely that a lack of structure led to confusion, an increased number of credits earned but not needed to graduate, and a lack of direction. This finding also supports the premise that too many course and program choices that do not connect to one another can lead to unnecessary confusion and unneeded course completion (CCSSE, 2012). Tinto (1993) shared that students who have prolonged uncertainty regarding their goals may question the reason they

continue taking courses if they do not see a direct correlation to completion, which may be difficult without an academic goal or advisor.

For many PTS, it had been years since their last educational experience and as mentioned in individual interviews, for some students the last experience was not a positive one leaving them extremely motivated, but lacking confidence in their academic ability. The Center for Community College Student Engagement (CCCSE, 2018) stated that possibly the most important part of an advisor's role is that they assist students with early career and academic planning and builds their confidence through experiencing early successes such as meeting deadlines, enrolling in courses pertinent to graduation, and understanding how to navigate college. As shown in Figure 4, the general concept posits that High Level of Self-Motivation + Advising and/or Mentor = Degree or Certificate Completion (Astin, 1985).

Figure 4. Finding of study using Astin's (1993) model.

The confidence built coupled with the self-motivation the student carries with them may ultimately be what leads to success and completion of a degree or certificate for PTS, but how does this lead to implications for practice for similar students?

Implications for Practice and Policy

Although findings cannot be transferred to other institutions, similar studies can be conducted following the same methodology in order to determine the specific experiences key to

identified populations. At CAC, this study can be used both as a foundation for the discussion of implementation of a Guided Pathways model and also to support the implementation of a college-wide mentoring/advising program. CCCSE (2018) explains that advising is important because it focuses on the core elements of each student's success. Such elements include:

- setting lofty goals;
- enrolling in courses and developing a Master Academic Plan;
- helping students help themselves, and;
- shifting the focus from details to the larger picture.

Although these elements have been historically addressed by professional academic advisors the research in this study indicates that whether it is addressed by an advisor, faculty, or staff member the outcome can be the same. Expansion of a mentoring/advising program to include any staff or faculty member interested in assisting students to reach their goals through interaction outside of the classroom is imperative.

Oftentimes faculty and staff do not realize the incredible impact that they have on students. Individual interviews revealed that half of the students were impacted by a professor; however, the other half indicated they were impacted by a person in learning support, at the Student Help Desk, or by a student services representative. The nature of the role of the employee was less important than the overall connection to the college, motivation provided, and a sense of reassurance in the student's ability to succeed and transfer to a university or enter the workplace. Sharing this finding widely with faculty and staff may assist in developing a sense of urgency to make a change in the way students are served. After all, the largest population of students at CAC have demonstrated they are less reliant on the individual services provided, and more reliant on the connections developed with them. The role then becomes streamlining

processes so that focuses can be deterred from cumbersome procedures and dedicated to relationship building. In addition, if college leaders embrace the findings of this study we may begin to see a shift in the allocation of financial and human resources to focus more on relationship building and less on the provision of seemingly less effective resources.

In addition, the development of a scholarship program aimed at PTS will be recommended as a secondary method of developing or enhancing academic self-confidence and navigation of college life. This targeted approach will include a requirement to be paired with a career mentor/advisor based on the student's selected career path or program of study. The responsibility of the career mentor/advisor will be to ensure the student has selected a career path and is comfortable navigating their way through CAC. At the end of the first semester, pending successful completion of two courses applicable to completion, the student would be awarded in-state tuition for two courses the following semester and continued support from their career mentor.

These programmatic shifts paired with the institution-wide, integrated approach developed through the implementation of a Guided Pathways model sets the stage for success for CAC students. In order to simplify student decision-making, key components of the pathways model include "clear, educationally coherent program maps-which include specific course sequences, progress milestones, and program learning outcomes that are aligned to what will be expected of students upon completion" (AACC, n.d., p. 1). Findings of this study will be shared with the Guided Pathways investigation team at the college in order to support implementation which leads to the need for recommendations for further studies.

Recommendations for Future Studies

Two topics that warrant additional study are in the area of students who were not well represented in the sample and the number of credits earned by students within the cohort. This study was intentionally created with success in mind to determine how to best focus the attention of the college on experiences and resources that are the most likely to serve PTS. With regard to student characteristics, there was a group not well represented in the sample. CAC has a large number of students who require developmental education courses overall. This in line with the over 63,000 students who responded to the Survey of Entering Student Engagement (SENSE) 2014 Promising Practices survey. Within that cohort 86% believed they were academically prepared for college, yet Jaggers and Stacy (2014) indicated that 68% were required to take at least one developmental course (CCCSE, 2016, p. 8). Additionally, according to the same SENSE 2014 data, 76% of students indicated they were on track academically to reach their goals within their expected time-frame, yet only 39% of students earn a degree or certificate within six years (Shapiro, Dundar, Yuan, Harrell, & Wakhungu, 2014, p. 5). Based on the results of this study less than half of the students who completed were required to take a developmental education course at any time during their education journey. This is a staggering difference that justifies further investigation into the developmental education program and why so few PTS complete are within that group. It also is important to mention that since the sample population graduated, the developmental education program at CAC has undergone change through the implementation of a co-requisite model. Conducting the study in the coming years could produce an increase in students who complete and were required to take a developmental course during their enrollment at CAC.

The second area to explore further is with regard to the number of students who have accumulated an extensive number of credits while at CAC with no degree earned. This should be a secondary study that could support the need for implementation of Guided Pathways and re-evaluation of programs of study to streamline the requirements. As indicated by Mellow and Heelan (2015) many community college students do not enter college with clear career goals. Providing program maps with too many choices can lead to a lack of focus. Although community college is the place for career exploration it must be structured and promptly completed in order to avoid aimlessly proceeding with college courses (Nodine et al., 2012). As indicated by the results of research question four, when a student is in a non-structured program of study they are less likely to complete a degree. Further investigation will help to determine if this truly is due to choice or the closest program to complete after so many semesters of coursework.

A final area that was not measured in the study, but was mentioned as a key factor in the success of the students interviewed and may be a predictive indicator for success is the student's level of grit or self-motivation. Grit is defined by researcher Angela Duckworth as, "the tendency to sustain interest in and effort toward very long-term goals" (Duckworth, Peterson, Matthews, & Kelly, 2007, p. 1087). It is predicted that a student with a higher grit level will succeed at a higher rate than someone less motivated. The current project has laid the groundwork for supplementary research such as this and provided a basis for reforming strategies to assist PTS at CAC.

Concluding Remarks

As a result of this study, if used by CAC, this information may help better prepare CAC to provide excellent service to PTS who enroll in college courses with the hope of earning a

degree or certificate. Having an understanding of their needs, including the provision of an academic advisor or mentor early in their endeavor, is paramount. It is vital that advisors or mentors are properly trained to assist students with navigating the system and selecting a structured academic program. By doing so, students are afforded the opportunity to achieve success early and, as such, their self-confidence is built-up and greater accomplishments are achieved. President John F. Kennedy once said, "Let us think of education as the means of developing our greatest abilities, because in each of us there is a private hope and dream which, fulfilled, can be translated into benefit for everyone and greater strength for our nation." It is our responsibility in higher education to remove the limitations that have been placed on us by hundreds of years of consistency and tradition, and look to the future, and the evolving needs of our students and our nation. We must courageously transform our processes, build relationships, and develop clear paths to success through careful planning and innovation.

References

Altschuler, G., & Blumin, S. (2009). *The GI Bill: A new deal for veterans*. New York, NY: Oxford University Press.

American Association of Community Colleges (AACC). (n.d.). *What is the "pathways model?"* Retrieved from http://www.aacc.nche.edu/wp-content/uploads/2017/10/PathwaysModelDescription1021.pdf

American Association of Community Colleges (AACC). (2017). *Fact sheet.* Retrieved from http://www.aacc.nche.edu/AboutCC/Pages/fastfactsfactsheet.aspx

American Council on Education (ACE). (2010, May 3-6). *Ensuring success for returning veterans.* Veteran Success Jam. Retrieved from http://www.acenet.edu/news-room/Documents/Ensuring-Success-for-Returning-Veterans.pdf

Ashburn, E. (2006). 2-year college students rarely use advisers, survey shows. *The Chronicle of Higher Education, 53*(15), A1.

Astin, A. W. (1975). *Preventing students from dropping out.* San Francisco, CA: Jossey-Bass.

Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Development, 25*(4), 297–308.

Astin, A. W. (1985). *Achieving educational excellence: A critical assessment of priorities and practice in higher education.* San Francisco, CA: Jossey-Bass.

Astin, A. W. (1993). *What matters in college? Four critical years revisited.* San Francisco, CA: Jossey-Bass.

Bailey, T. R. (2009). Challenge and opportunity: Rethinking the role and function of developmental education in community college. *New Directions for Community Colleges,* (145), 11-30.

Bailey, T. R., Jaggars, S., & Jenkins, D. (2015a). *Redesigning America's community colleges: A clearer path to student success*. Cambridge, MA: Harvard University Press.

Bailey, T. R., Jaggars, S., & Jenkins, D. (2015b). *What we know about guided pathways.* New York, NY: Columbia University, Teachers College, Community College Research Center.

Batten, D. (2011). The G.I. Bill, higher education and American society. *Grove City Journal of Law and Public Policy, 2*(1).

Beach, J. (2011). *Gateway to opportunity? A history of the community college in the United States.* Sterling, VA: Stylus.

Bean, J., & Metzner, M. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research, 55*(4).

Boylan, H., Bliss, L., & Bonham, B. (1997). Program components and their relationship to student success. *Journal of Developmental Education, 20*(3), 2-4, 6, 8.

Bragg, D. D. (2012). Perspectives on access and equity in the era of (community) college completion. *Community College Review, 40*(2), 106-125.

Braxton, J. M. (2003). Student success. In S. Komives & D. Woodard (Eds.), *Student services: A handbook for the profession* (pp. 317-335). San Francisco, CA: Jossey-Bass.

Center for Community College Student Engagement (CCCSE). (2010). *The heart of student success: Teaching, learning, and college completion.* Austin, TX: The University of Texas at Austin, Community College Leadership Program.

Center for Community College Student Engagement (CCCSE). (2012). *A matter of degrees: Promising practices for community college student success—A first look.* Austin, TX: The University of Texas at Austin, College of Education, Department of Educational Administration, Program in Higher Education Leadership.

Center for Community College Student Engagement (CCCSE). (2016). *Expectations meet reality: The underprepared student and community colleges.* Austin, TX: The University of Texas at Austin, College of Education, Department of Educational Administration, Program in Higher Education Leadership.

Center for Community College Student Engagement (CCCSE). (2018). *Show me the way:The power of advising in community colleges.* Austin, TX: The University of Texas at Austin, College of Education, Department of Educational Administration, Program in Higher Education Leadership.

Central Arizona College (CAC). (2010). *National community college benchmark project peer report*. Retrieved from http://centralaz.edu/home/about_central/institutional_research/data_sharing_consortia_.htm?ss=print

Central Arizona College (CAC). (2013). *Central Arizona College fact book.* Retrieved from http://www.centralaz.edu/Home/About_Central/Institutional_Research/Fact_Book/FactBook_2012-2013.html

Central Arizona College (CAC). (2017). *Central Arizona College catalog.* Retrieved from https://centralaz.edu/academics/college-catalog/

Check, J., & Schutt, R. (2012). *Research methods in education*. Los Angeles, CA: SAGE.

Cho, S. W., & Karp, M. M. (2012). *Student success courses and educational outcomes at Virginia community colleges* (Report No. 40). Community College Research Center. Retrieved from ERIC database. ERIC Document 529867.

Cohen, A., & Kisker, C. (2010). *The shaping of American higher education: Experience and growth of the contemporary system.* San Francisco, CA: Jossey-Bass.

Cohen, L., Manion, L., & Morison, K. (2000). *Research methods in education*. London, UK: Routledge Falmer.

Complete College America. (2011). *Time is the enemy: The surprising truth about why today's college students aren't graduating... and what needs to change.* Washington, DC: Author.

Complete College America. (2013). *The game changers: Are states implementing the best reforms to get more college graduates?* Washington, DC: Author.

Creswell, J. (2003). *Research design: Qualitative, quantitative and mixed method approaches* (2nd ed.). Thousand Oaks, CA: SAGE.

Creswell, J. (2012). *Qualitative inquiry & research design: Choosing among five approaches* (4th ed.). Thousand Oaks, CA: SAGE.

Creswell, J. (2013). *Qualitative inquiry & research design*. Thousand Oaks, CA: SAGE.

Davidson, C. (2013). Reassessing Tinto's concepts of social and academic integration in student retention. *Journal of College Student Retention, 15*(3), 329-346.

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, 2011, Charleston* (pp. 300-312). Norman, OK: The University of Oklahoma.

Donaldson, J. F., & Graham, S. W. (1999). A model of college outcomes for adults. *Adult Education Quarterly, 50*(1), 24-40.

Duckworth, A. L., Peterson, C., Matthews, M. D., Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology, 92*(6), 1087-1101.

Ellis-O'Quinn, A. (2012). An ex post facto study of first-year student orientation as an indicator of student success at a community college. *Inquiry, 17*(1), 51-57.

Forde, M. L. (2002). Quality of life and resiliency: Student development success. *Community College Journal, 72*(3), 24-27.

Goldrick-Rab, S. (2010). Challenges and opportunities for improving community college student success. *Review of Education Research, 80*(3), 437-469.

Hanover Research Project. (2014). *Best practices in retention at community colleges.* Washington, D C: Hanover Research.

Horn, L., & Carroll, C. D. (1996). *Nontraditional undergraduates: Trends in enrollment from 1986 to 1992 and persistence and attainment among 1989-90, beginning postsecondary students* (NCES). Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.

Jaggers, S., & Stacy, G. W. (2014). *What we know about developmental education outcomes.* Retrieved from http://ccrc.tc.columbia.edu/media/k2/attachments/what-we-know-about-developemntal-education-outcomes.pdf

Johnson, B., & Christiansen, L. (2000). *Educational research: Quantitative and qualitative approaches.* Needham Heights, MA: Allyn & Bacon.

Kasworm, C., & Pike, G. (1994). Adult undergraduate students: Evaluating the appropriateness of a traditional model of academic performance. *Research in Higher Education, 35*(6), 689-710.

Keener, B. (2002). Research development in community colleges: A national review. *Community College Journal of Research and Practice, 26,* 7-23.

Krueger, R. A., & Casey, M. (2000). *Focus groups: A practical guide for applied research* (3rd ed.). Thousand Oaks, CA: SAGE.

Kuh G. D., Kinzie, J., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2007). Piecing together the student success puzzle: Research, propositions, and recommendations. *ASHE Higher Education Report, 3*(25), 1-182.

Laing, L. A., & Watson, H. (2014). The campus climate for adult students: Cloudy with a chance of success. In M. Culp & G. Dungy (Eds.), *Increasing adult learner persistence and completion rates* (pp. 67-89). Washington, DC: NASPA - Student Affairs Administrators in Higher Education.

Levitz, R. N. (2015). 2015 student retention and college completion practices report for four-year and two-year institutions. Coralville, IO: Noel Levitz. Retrieved from www.noellevitz.com/BenchmarkReports

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: SAGE.

Lincoln, Y. S., & Guba, E. G. (1989). *Fourth generation evaluation.* Newbury Park, CA: SAGE.

Lucas, C. (1994). *American higher education: A history*. New York, NY: St. Martin's Griffin.

McClenney, K. (2007). *Research update: The community college survey of student engagement. Community College Review, 35*(2), 137-146.

McHugh, M. (2013). The chi-square test of independence. *Biochemia Medica, 23*(2), 143-149. doi:10.11613/BM.2013.018. Retrieved from http://libproxy.nau.edu/login?url=http://search.ebscohost.com.libproxy.nau.edu/login.aspx?direct=true&db=a9h&AN=88845195&site=ehost-live&scope=site

McNiff, J., & Whitehead, J. (2006). *All you need to know about action research*. Thousand Oaks, CA: SAGE.

Melguizo, T. (2010). Are students of color more likely to graduate from college if they attend more selective institutions? Evidence from a cohort of recipients and non-recipients of the Gates Millennium Scholarship Program. *Educational Evaluation and Policy Analysis, 32*, 230-248.

Mellow, G. O., & Heelan, C. M. (2015). *Minding the dream: The process and practice of the American community college.* Lanham, MD: Rowman & Littlefield.

Merriam, S. B. (1995). What can you tell from an N of 1? Issues of validity and reliability in qualitative research. *Pennsylvania Association for Adult Continuing Education Journal of Lifelong Learning, 4*, 51-60.

Mertens, D. (2005). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods.* Thousand Oaks, CA: SAGE.

Mettler, S. (2005). The creation of the G.I. Bill of Rights of 1944: Melding social and participatory citizenship ideals. *Journal of Policy History, 17*(4), 345-374.

Metz, G. W. (2004). Challenge and changes to Tinto's persistence theory: A historical review. *Journal of College Student Retention, 6*, 191-207.

Miller, M. (2012). Interpreting the CAS standards for academic advising. Retrieved from http://www.nacada.ksu.edu/tabid/3318/articleType/ArticleView/articleId/1249/article.aspx

Nodine, T., Jaeger, L., Venezia, A., & Bracco, K. R. (2012). *Connections by design: Students' perceptions of their community college experiences.* San Francisco, CA: WestEd. Retrieved from http://www.wested.org/online_pubs/resource1268.pdf

O'Banion, T. (2013). *Access, success and completion: A primer for community college faculty, administrators, staff, and trustees.* Chandler, AZ: League for Innovations in the Community College.

Pascarella, E. T., & Terenzini, P. T. (1979). Interaction effects in Spady's and Tinto's conceptual models of college dropout. *Sociology of Education, 52*(4), 197-210.

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research.* San Francisco, CA: Jossey-Bass.

Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *HSR: Health Services Research*. *34*(5), 1189-1208.

Pelletier, S. G. (2010, Fall). Success for adult students. *Public Purpose,* 1-6. American Association of State Colleges and Universities. Retrieved from http://www.aascu.org/uploadedFiles/AASCU/Content/Root/MediaAndPublications/PublicPurposeMagazines/Issue/10fall_adultstudents.pdf

Peterson's. (2016, May 10). *Federal TRIO programs: A primer on college prep for the underprivileged*. Retrieved from https://www.petersons.com/college-search/trio-programs-college-prep.aspx#/sweeps-modal

Public Agenda. (2009). *With their whole lives ahead of them.* Retrieved from http://www.publicagenda.org/pages/with-their-whole-life-ahead-of-them

Radford, A. W. (2011). *Military service members and veterans: A profile of those enrolled in undergraduate and graduate education in 2007-08.* (NCES-163). Washington, DC: U.S. Department of Education.

Radford, A. W., Berkner, L., Wheeless, S., & Shepherd, B. (2010). *Persistence and attainment of 2003-04 beginning postsecondary students: After six years.* (NCES 2011-15). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.

Reason, R. (2009). An examination of persistence and research through the lens of a comprehensive conceptual framework. *Journal of College Student Development, 50*(6), 59-682.

Richards, L., & Morse, J. (2013). *Readme first for a user's guide to qualitative methods*. Thousand Oaks, CA: SAGE.

Roberts, J., & McNeese, M. N. (2010). Student involvement/engagement in higher education based on student origin. *Research in Higher Education Journal, 7*, 1-11.

Scott-Clayton, J., & Minaya, V. (2016). Should student employment be subsidized? Conditional counterfactuals and the outcomes of work-study participation. *Economics of Education Review, 52*, 1-18. doi:10.1016/j.econedurev.2015.06.006

Scott-Clayton, J., Zhou, R. (2017). *Does the federal work-study program really work- and for whom? A CAPSEE working paper*. Center for Analysis of Postsecondary Education and Employment.

Serow, R. (2004). Policy as symbol: Title II of the 1944 GI Bill. *Review of Higher Education, 27*, 481-483.

Shapiro, D., Dundar, A., Yuan, X., Harrell, A., & Wakhungu, P. K. (2014). *Completing college: A national view of student attainment rates- fall 2008 cohort* (Signature Report No. 8). Retrieved from http://nscresearchcenter.org/wp-content/uploads/SignatureReport8.pdf

Soares, L. (2013). *Post-traditional learners and the transformation of postsecondary education: A manifesto for college learners.* Retrieved from http://www.acenet.edu/news-room/Documents/Post-Traditional-Learners.pdf

Stebleton, M. J., & Schmidt, L. (2010). Building bridges: Community college practitioners as retention leaders. *Journal of Research and Practice, 35*(4), 281-300.

Swett, D., & Culp, M. M. (2014). Increasing access and success for adult learners. In M. Culp & G. Dungy (Eds.), *Increasing adult learner persistence and completion rates* (pp. 41-66). Washington, DC: NASPA-Student Affairs Administrators in Higher Education.

Terenzini, P. T., & Reason, R. D. (2005, November 19). *Parsing the first year of college: Rethinking the effects of college on the student.* Paper presented at the Annual Conference of the Association of the Study of Higher Education, Philadelphia, PA.

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

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

Tinto, V. (1999). Taking student retention seriously: Rethinking the first year of college. *NACADA Journal, 19*(2), 5-9.

Tinto, V. (2005). Student retention: What's next? *National Conference on Student Recruitment, Marketing, and Retention,* July 27-30, Washington, DC.

United States Department of Education (USDoE). (2011). *History of the Federal TRIO programs.* Retrieved from https://www2.ed.gov/print/about/offices/list/ope/trio/triohistory.html

United States Department of Education. (USDoE), (2015). Federal work-study program (6-3). *Federal Student Aid Handbook* (Vol. 6), Campus based programs. Retrieved from https://ifap.ed.gov/fsahandbook/attachments/1516FSAHbkVol6Master.pdf

United States Department of Education (USDoE). (2016). *Definition of Hispanic-serving institutions.* Retrieved from https://www2.ed.gov/programs/idueshsi/definition.html

United States Department of Education (USDoE). (2017). *Developing Hispanic-serving institutions program - Title V.* Retrieved from https://www2.ed.gov/programs/idueshsi/index.html

United States Department of Labor (USDoL). (2017). *The Workforce Innovation and Opportunity Act.* Retrieved from https://www.doleta.gov/WIOA/Overview.cfm

United States Department of Veterans Affairs (VA). (2013). *History and timeline - education and training.* Retrieved from http://www.benefits.va.gov/gibill/history.asp

United States Senate. (n.d.). *Senate leaders: Earnest McFarland, "Father of the GI Bill."* Retrieved from http://www.senate.gov/artandhistory/history/common/generic/People_Leaders_McFarland.htm

Vacchi, D. (2014). Student veterans as adult learners in the Post-9/11 era. In M. Culp & G. Dungy (Eds.), *Increasing adult learner persistence and completion rates* (pp. 113-131). Washington, DC: NASPA - Student Affairs Administrators in Higher Education.

Webb, L. D. (2006). *The history of American education: A great American experiment* (1st ed.). Upper Saddle River, NJ: Pearson Prentice Education.

Wertheim, J. (2014). Principles for effectively serving adult learners. In M. Culp & G. Dungy (Eds.), *Increasing adult learner persistence and completion rates* (pp. 23-39). Washington, DC: NASPA - Student Affairs Administrators in Higher Education.

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

Yin, R. (2014). *Case study research: Designs and methods* (5th ed.). Thousand Oaks, CA: SAGE.

Zeidenberg, M., Jenkins, D., & Calcagno, J. C. (2007). *Do student success courses actually help community college students succeed?* New York, NY: Columbia University, Teacher's College, Community College Research Center. Retrieved from http://ccrc.tc.columbia.edu/media/k2/attachments/success-courses-help-students-succeed-brief.pdf

Appendix A

Structured Academic Programs

Major/Program of Study	Structured
A+ Certification Preparation	No
AAS Renewable Energy Technician	No
Accounting	Yes
Admin of Justice	No
AGEC - Arts	No
AGEC - Business	No
AGEC - Science	No
Agriculture	No
Agriculture General	No
Application Development and Web Design	No
Baking & Pastry	No
Basic EMT	Yes
Basic Firefighter	Yes
Biofuels Technician Certification	No
Biotechnology	No
Building Maintenance & Repair	Yes
Business	Yes
Carpenter's Helper	No
Carpentry Apprentice	No
Clinical Laboratory Assistant	No
Coding and Reimbursement	No
Community Nutrition Worker	Yes
Computer Aided Design	No
Computer Applications Training	No
Computer Programming	Yes
Corrections	No
Culinary Art I Certification	No
Custodian	No
Diabetes Care and Education Certification	No
Diagnostic Medical Sonography	No
Diesel & Heavy Equip Tech	Yes
Dietary Manager Program	Yes
Dietetic Technician	Yes
Driver Operator	No
ECE Family Child Care	Yes
ECE Infant/Toddler	Yes
ECE Management	Yes

Major/Program of Study	Structured
ECE Preschool	Yes
Elementary Education	Yes
Fire Science Technology	Yes
Firefighter Operations	Yes
General Studies	No
Graphic Design	No
Health Information Technology	Yes
Heavy Equipment Operator	Yes
Hotel/Restaurant Management	No
Institutional Food Preparation	No
Liberal Studies	No
Live Audio and Lighting	No
Management	Yes
Manufacturing Engineering	Yes
Massage Therapy	Yes
Med Admin Assistant	Yes
Medical Assistant	Yes
Medical Biller	Yes
Microcomputer Business Applications	Yes
Network Administration	Yes
Network Systems Administration	Yes
Nursing	Yes
Nutrition and Health Promotion	No
Operator Apprenticeship/AGC	No
Paramedicine	Yes
Pharmacy Technician	Yes
Practical Nursing	No
Professional Coder	No
Programming	Yes
Radiologic Technology	Yes
Recording Engineering	No
Recreation Management	No
Solar Photo Voltaic Tech Certification	Yes
Upholstery Assistant	No
Welding	Yes

Appendix B

Course Descriptions

Orientation to Student Development- CPD101

Exploration of campus, college, academic resources for student success, and development of the characteristics and strategies of lifelong learning. Includes and introduction to the learning technologies associated with academic success (Central Arizona College, 2017).

Transition to College and Career- CPD110

Focus on helping students develop the knowledge, skill, and attitudes needed to successfully examine their own lives, explore and evaluate a wide range of education and career options, and make reasoned and researched goals for their future (Central Arizona College, 2017).

Appendix C

NAU- IRB Approval

NORTHERN ARIZONA UNIVERSITY | Office of Regulatory Compliance

Institutional Review Board
Human Research Subjects Protection Program

805 S Beaver St
Building 22, Room 215
PO Box: 4062
Flagstaff AZ 86011
928-523-9551
http://nau.edu/Research/Compliance/Human-Subjects/Welcome

To:	Jennifer Cardenas
From:	NAU IRB Office
Date:	February 9, 2018
Project:	Factors Leading to Student Completion: A Study of Successful Post-Traditional Students
Project Number:	1179229-1
Submission:	New Project
Review Level:	Facilitated Review
Action:	APPROVED
Project Status:	Active

Institution Designated the IRB of Record: When an institution is the designated IRB of record, the NAU IRB will not review the project. Northern Arizona University agrees that it will rely on the review, approval, and continuing oversight by the institution IRB of those protocols approved by the institution pursuant to the terms of the Institutional Review Board Authorization Agreement.

- Northern Arizona University maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #0000357).
- The Principal Investigator should notify the IRB immediately of any proposed changes that affect the LOCAL protocol and report any LOCAL unanticipated problems involving risks to participants or others. Please refer to Guidance Ceded IRB Review for more information
- All research procedures should be conducted according to the approved protocol and the policies and guidance of the IRB of record.

This project has been reviewed and approved by an IRB Chair or designee.

Appendix D

CAC IRB approval

January 18, 2018

Institutional Review Board
Decision Letter

The institutional review board members at Central Arizona College reviewed and determined Jennifer Cardenas proposal titled "Factors Leading to Student Completion: A Study of Successful Post-Traditional Students" meets the requirements for a partial board review and is approved with an exempt status. This approval is limited to the activities described in the proposal submitted by the principle investigators (Jennifer Cardenas).

- **IRB #** 18002
- **Principle Investigator:** Jennifer Cardenas
- **Title:** "Factors Leading to Student Completion: A Study of Successful Post-Traditional Students"
- **Status**: Partial Board Review – Exempt - Approved
- **Date of Approval:** January 13, 2018

In approving the proposal, the IRB has made the following determinations:

1. The use of the survey instruments (mixed methods) presents no more than minimal risks to participants (CAC Students).
2. The privacy risks are reasonable relative to the anticipated benefits of research.
3. An adequate plan to protect participants from improper use and disclosers have been provided to the board and meet standard ethical guidelines.
4. Whenever appropriate and feasible, participants will be provided with additional pertinent information after participation.
5. The PI has completed appropriate training (CITI certificate #21300964 on file) and the board has a copy of the training certificate.

Signature of Institutional Review Board Chair (or designee)

Signature **Jennifer M. Moore** Date 1/18/2018

Printed Name Jennifer M. Moore Title: IRB Chair

Appendix E

Interview Recruitment Phone Script

"Hello, my name is Jenni Cardenas. I am a the Interim Vice President of Student Services at Central Arizona College and working on a research study as a part of my doctoral program through Northern Arizona University. I am conducting a research study about what factors lead to graduation from CAC for students who are over 25 years of age and part-time students. I am calling to ask if you would be willing to participate in a brief individual interview. The total time dedicated to the study will be less than one hour. If you would be interested in participating we can set up a time now or you can let me know when a good time would be to schedule it."

"I have you scheduled for an interview on _____. If you have questions, I can be reached at 520-494-5420 or Jenni.Cardenas@centralaz.edu. Thank you for your help."

If not interested, investigator will end the call: "Thank you for your time."

Appendix F

Interview Recruitment Email

Dear <<*insert name*>>:

Congratulations on completing your <<insert Degree or Certificate program>> from Central Arizona College (CAC) during the time period from January 2013- May 2015. As a successful post-traditional graduate (25 years of age or older) from CAC you are among a small percentage of completers. I am writing to let you know about an opportunity to participate in a research study regarding the factors that lead to your success at Central Arizona College.

The study is being conducted by Jenni Cardenas, Interim Vice President of Student Services in partial fulfillment of the requirements for the degree of Doctor of Education in Educational Leadership at Northern Arizona University. **The goal of this study is to increase the graduation rate of students like you.** With your help this study can assist CAC in determining the student experiences and programs that lead to your success. The information gathered in this study will help CAC to better assist part-time and post-traditional students to reach their goal of graduating and entering the workforce or transferring to a university.

This study will determine the environmental experiences and common characteristics of students over 25 years of age who graduated from Central Arizona College (CAC) and were identified when they were admitted to CAC as part-time, degree-seeking students. The data collected from this population of students will also help to determine if a structured academic model, often referred to as a guided pathways model for completion would be effective for part-time, degree-seeking, post-traditional students at CAC. Data will be collected through both the evaluation of archival data and interviews with students who successfully completed a certificate or degree during the time period selected.

You were randomly selected from cohort of students who graduated between January 2013 and May 2015 and met the criteria of being 25 years of age or older at the time of enrollment and designated as a part-time student at least one semester during your time at CAC. Your participation in this study will consist of an individual interview which will take no more than one hour of your time. You will be permitted to select the CAC campus of your choice in order to minimize travel time.

Further explanation of what your participation in this study will entail is listed in the consent form included in this correspondence. The consent form has been included for you to review, however, it can be completed when you arrive on campus should you choose to take part in the study. I look forward to your participation and hope to hear from you shortly.

If you are interested in participating or have further questions please contact me at the email and phone number listed below. Please respond prior to *Date*.

Thank you again for considering this research opportunity.

Sincerely,

Jennifer N. Cardenas, M.Ed.
Interim Vice President of Student Services
Central Arizona College
Jenni.Cardenas@centralaz.edu
520-494-5420

Appendix G

Recruitment Follow Up Email/Letter

<<Name>>,

Thank you for your participation in the study entitled Factors Leading to Student Completion: A Study of Successful Post-Secondary Students.

Individual Interview Information:

<<Date>>

<<Time>>

<<Location>>

Interviewer- Jenni Cardenas, Interim Vice President of Student Services

The time required to participate in the study is a maximum of 1 session not to exceed 1 hour excluding travel time to the selected CAC campus location.
Interview questions focus on participation in student engagement activities, academic advising, the use of a mentor and strategies that lead to your success as Central Arizona College. In addition, there will be an opportunity to share what might have also been beneficial to your success that was not available to you through the College.

Attached you will also find a copy of the consent form to be completed and submitted either via email or in person prior to participation. If you have any questions please feel free to contact me at any time.

Sincerely,

Jennifer N. Cardenas, M.Ed.
Interim Vice President of Student Services
Central Arizona College
Jenni.Cardenas@centralaz.edu
520-494-5420

Appendix H

Human Subject Informed Consent Form

NORTHERN ARIZONA UNIVERSITY

Human Subject Informed Consent

Title of Study: Factors Leading to Student Completion: A Study of Successful Post-Traditional Students

Principal Investigator: Jenni Cardenas

This is a consent form for research participation. It contains important information about this study and what to expect if you decide to participate. Please consider the information carefully. Feel free to discuss the study with your friends and family and to ask questions before making your decision whether or not to participate.

Why is this study being done?
The purpose of this study is to determine the environmental experiences and common characteristics of students over 25 years of age who graduated from Central Arizona College (CAC) and were identified when they were admitted to CAC as part-time, degree-seeking students. The data collected from graduates like you will also help to determine if a highly structured academic model, often referred to as a guided pathways model for completion would be effective for part-time, degree-seeking, post-traditional students at CAC. Data will be collected through both the evaluation of archival data and individual interviews with students who successfully completed a certificate or degree during the time period selected.

How many subjects will participate and how long will the study take?
The population for the study includes all CAC students who are part-time and post-traditional students (students 25 years of age or older) who completed a certificate or degree from CAC during the time period from January 2013 through May 2015. Of this group, a smaller subset of students will be asked to participate in the individual interviews (12 minimum).

The time required to participate in the study is a maximum of 1 session not to exceed 1 hour excluding travel time to the selected CAC campus location.

What will happen if I take part in this study?
Should you agree to participate in this study you will be asked to participate in either an individual interview or focus group consisting of 5-10 other graduates regarding what lead to your success at Central Arizona College. You will only be asked to visit campus one time for a maximum of 1 hour.

Will there be any cost to you to take part in this study?
The only cost incurred by participants in the study will be the travel time to and from campus. There are no parking or other fees associated with the study.

Will you be paid to take part in this study?
You will not be paid for your participation in this research study.

NORTHERN ARIZONA UNIVERSITY

Can I stop being in the study?
Participation in this study is voluntary, refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty.

Your participation is voluntary. You may refuse to participate in this study. If you decide to take part in the study, you may leave the study at any time. No matter what decision you make, there will be no penalty to you and you will not lose any of your usual benefits. Your decision will not affect your future relationship with Northern Arizona University or Central Arizona College. If you are a student or employee at Northern Arizona University or Central Arizona College, your decision will not affect your grades or employment status.

What are the risks and/or discomforts you might experience if you take part in this study?
There are no foreseeable risks or discomforts to graduates who participate in this study.

Are there any benefits for you (or for others) if you choose to take part in this research study?
As a successful post-traditional graduate from CAC you are among a small percentage of completers. **The goal of this study is to increase the graduation rate of students like you.** With your help this study can assist CAC in determining the student experiences and programs that lead to success. You may or may not personally benefit as a result of participating in this study, however, the information gathered will help CAC to better assist part-time and post-traditional students.

What other choices do I have if I do not take part in the study?
You may choose not to participate in this study without penalty or loss of benefits to which you are otherwise entitled.

Will my study-related information be kept confidential?
Efforts will be made to keep your study-related information confidential. However, there may be circumstances where this information must be released. For example, personal information regarding your participation in this study may be disclosed if required by state law.

Also, your records may be reviewed by the following groups:

- Office for Human Research Protections or other federal, state, or international regulatory agencies
- Northern Arizona University and Central Arizona College Institutional Review Board

The dissertation this research will be used in will not contain any personally identifiable information related to participants. Data will be presented and analyzed in aggregate form in order to determine trends and overall differences in educational experiences and programs of study. Personal interviews and focus groups will be evaluated in search of themes rather than specific to individual graduate information.

NORTHERN ARIZONA UNIVERSITY

Who can you call if you have any questions?

If you have any questions about taking part in this study or if you feel you may have suffered a research related injury, you can call the Principal Investigator, Jenni Cardenas at: 520-494-5420 or via email at jenni.cardenas@centralaz.edu.

For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact the Human Subjects Research Protection Program at 928-523-9551 or online at http://nau.edu/Research/Compliance/Human-Research/Welcome/.

An Institutional Review Board responsible for human subjects research at Northern Arizona University reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

AGREEMENT TO PARTICIPATE

I have read (or someone has read to me) this form, and I am aware that I am being asked to participate in a research study. I have had the opportunity to ask questions and have had them answered to my satisfaction. I voluntarily agree to participate in this study.

I am not giving up any legal rights by signing this form. I will be given a copy of this form.

Subject Name:_____

Subject Signature:_____ Date:_____

AGREEMENT TO BE AUDIORECORDED

Subject Signature:_____ Date:_____

AGREEMENT for the RELEASE of FERPA INFORMATION

The Family Educational Rights and Privacy Act (FERPA), affords certain rights to students concerning the privacy of and access to their education records. Under FERPA, educational records may include student medical and/or treatment records used for non-treatment purposes (research).

Subject Signature:_____ Date:_____

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Signature of Investigator/Individual Obtaining Consent:

To the best of my ability, I have explained and discussed the full contents of the study including all of the information contained in this consent form. All questions of the research subject and those of his/her parent or legal guardian have been accurately answered.

Investigator/Person Obtaining Consent:_____

Signature:_____ Date: _____

Biographical Information

Jennifer Cardenas was born in Riverside, California, but has spent most of her life in Coolidge, Arizona. In 1996, Jenni earned her Bachelor of Science degree in Elementary and Special Education from Northern Arizona University. Jenni taught second grade and was the parent liaison for the 21st Century grant for the Coolidge district for several years while she earned her Master's Degree of Education in Counseling with a Human Relations Emphasis, again from Northern Arizona University. In 2005, Jenni moved to Austin, TX where she was the director for a Child Development Center. She returned to Arizona with her family a couple of years later and began her career in Student Services as a grant director, then she became the Director for Student Retention and then Dean of Students for Central Arizona College (CAC). Before being hired full-time for CAC, she was a stay at home mom while teaching Psychology and Counseling & Personal Development for the college for several years. She currently holds the title of Interim Vice President of Student Services at CAC.

Jenni is happily married to her wife, Denise, who is the CAC Head Women's Basketball coach and fellow educator. They have two teenagers, Austin and Jenna. Austin is a sophomore at the University of Arizona working on a Bachelor of Science degree in Ecology, Management, and Restoration of Rangelands and is an active member in the Alpha Gamma Ro agriculture fraternity. Jenna is a sophomore in high school and focuses her time on both playing softball year-round and her academic endeavors with the hope of becoming an archaeologist. Jenni has been employed in an education setting for over 20 years and loves working with students of all ages to reach their academic and career goals, but looks forward to spending more time with her family when she completes the doctoral process and has one fewer plate spinning in the air.