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The Relationship Between Community College Academic Advising and Time to Degree Completion

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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Walden University
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Abstract

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MM, Temple University, 2000

MM, Cleveland State University, 1996

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Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Increasing student on-time completion is a challenge for many higher education institutions. In the community college chosen for this study, only 5.2% of its first-time-in-college, full-time students graduated within 3 years with a 2-year degree. The purpose of this study was to explore the relationship between participation in the college's academic advising program and students' time-to-degree completion, based on the pre- and post-entry attributes outlined in Tinto's institutional departure theory. A non-experimental, correlational, quantitative research method with multiple regression analysis was applied, using a convenience sample of 190 graduating students from the institution's 2011 Integrated Postsecondary Education Data System (IPEDS) cohort. Specifically, the quantitative design employed bivariate correlation analysis to select applicable pre- and post-entry characteristics and then regression analysis to determine the degree to which academic advising predicted time-to-degree completion based on characteristics. The regression analysis indicated that the variables of first-generation, intent to transfer, use of services, club participation, and financial aid eligibility significantly impacted student time to degree completion. The data analysis also indicated that students who did not see an academic advisor graduated faster than those who did. These findings led to a white paper recommending implementation of a tiered academic advising approach, development of specific advising outcomes, and increased data collection to improve the advising structure at the institution. By working to increase the IPEDS graduation rate, the institution can provide opportunities for students to increase their employment and earnings potential, improving the overall quality of life for students, their families, and the community, thus promoting positive social change.

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Dedication

This document is dedicated to my wonderful husband and children who supported me throughout this process and allowed me the time to complete my degree. I would also like to thank my parents, who always believed I would obtain my doctorate. And to my in-laws, who are very excited to have a Dr. Pongracz in the family!

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Section 1: The Problem

Introduction

The issues of college retention and completion continue to be of major concern at the national, state, and local levels in the United States. More and more, higher education leaders must meet expectations for student completion metrics in order to maintain state funding, accreditation, and public support for the institutions they represent (Manning, 2011). Completion of a postsecondary degree equates to higher wage earnings, better quality of life, and increased economic competitiveness for the United States (Boggs, 2011). By the year 2020, Carnevale, Smith, and Strohl (2013) estimated that 65% of jobs in the United States will require some advanced training. Even now, students must complete a degree to compete in the current economic environment (Yeado, Haycock, Johnstone, & Chaptlot, 2014).

In acknowledgement of the importance of degree attainment at all levels, President Barack Obama implemented an aggressive higher education agenda, requesting all citizens commit to at least one year of higher education or workforce training (Obama, 2009). Within this initiative, Obama included a plan to educate an additional 5 million students in community colleges through the American Graduation Initiative (Obama, 2009).

At the national level, community college leaders recognized the challenges in graduating more students and took steps to fulfill the President's request. The American Association of Community Colleges (AACC) implemented the Voluntary Framework of Accountability in an attempt to provide measures of student success, completion, and

benchmarks to accurately report results (Boggs, 2011). Other national initiatives to increase student completion include the Bill and Melinda Gates Foundation's Achieving the Dream—launched in 2004 to promote best practices for student completion (Baldwin, Bensimon, Dowd, & Kleinman, 2011)—and Complete College America—an alliance of state governors attempting to increase completion by basing state funding formulas on institutional performance metrics (Complete College America, 2014).

Definition of the Problem

Despite these initiatives, improving student completion is difficult (Bers & Schuetz, 2014). Community colleges still face significant challenges in terms of student success and completion. With open access and a variety of program offerings, community colleges offer a protected environment for students to investigate future educational and occupational opportunities (Allen, Smith, & Muehleck, 2013). However, open access brings challenges as well. Students arrive on campus unprepared, requiring remedial coursework and additional support (Scrivener, Weiss, & Sommo, 2012). In the United States, only half of all undergraduates complete a degree in 6 years (NCES, 2014). At community colleges, the completion rates are even lower, especially for those students who require remedial coursework (Scrivener, Weiss, & Sommo, 2012). In addition, Christian and Sprinkle (2013) predicted graduation rates for students in urban environments fall 3.5% below the national rate.

The Integrated Postsecondary Education Data System (IPEDS) calculates completion rates at 150% of the time needed to complete a degree, or 3 years for 2-year colleges (NCES, 2014). However, the Complete College America (2014) report stated

that the current 2-year college on-time graduation rate (within 2 years) is only 5%. In the state of Ohio, the rate is currently 3% (Complete College America, 2014). Community colleges in the United States face increased enrollment attrition, with many students leaving after only three semesters (Wiseman & Messitt, 2010). Furthermore, many students attend only part-time, have additional work and family obligations, and face financial hardships that reduce the likelihood they will complete degrees (Kolenovic, Linderman, & Karp, 2013).

Low graduation rates impact student employability and the economy. For students who would otherwise not have access to middle class incomes, a college credential provides long-term earning potential (Kolenovic et al., 2013). Community colleges enroll over 7 million degree seeking students, which equates to about 40% of all undergraduates in the United States (Wyner, 2012). Wyner (2012) indicated that, "Improving community college graduation rates, then, must be a core part of any serious effort to improve national levels of degree attainment" (p. 14). Increasing graduation rates also increases tax revenue, decreases unemployment, lowers crime rates, reduces the need for public support, and promotes positive social change through higher education (Kolenovic, Linderman, & Karp, 2013).

In the face of such demands, community colleges work to find successful practices to increase student retention and completion. These institutions must confront the systematic issues that lead to failure to graduate over half their student population (Applegate, 2014). Although graduation rates do not track part-time students, transfer rates, or other background issues that community college students face, these rates are

published frequently and cited as reasons to reduce funding for higher education (Talbert, 2012). As community colleges cannot control the characteristics of the students they admit, leaders must find other ways to improve student completion, such as implementing mandatory orientations and placement testing, developmental courses in the first year, and other college success courses (Bers & Schuetz, 2014).

Academic advising provides one method to increase student success by offering a venue for institutions to educate and support students outside of the classroom (Burt, Young-Jones, Yadon, Carr, 2013). As community colleges seek to retain and graduate more students, academic advising offers a key to student engagement and student academic, career, and personal success (Shaffer, Zalewski, & Leveille, 2010). The support and encouragement provided through a quality academic advising program contributes to student success (Wiseman & Messitt, 2010).

At the local level, a problem exists at Buckeye Community College [pseudonym], a public community college in a metropolitan area of Ohio. Student graduation rates are lower than the national average. In 2014, only 5.2% of first-time, full-time students graduated within 3 years (NCES, 2014). This is up from 4% in 2013, but still well below the national average for 2-year community colleges of 31% (NCES, 2014). This low graduation rate has a negative impact on students, their families, and the community. Students who leave without completing a credential are not prepared for the workforce, have increased debt, and are less likely to come back at a later date to complete their degree (Complete College America, 2014).

Buckeye Community College has not reviewed its current academic advising structure in relation to recent literature and methods for academic advising to increase student engagement and completion (Buckeye Community College, Campus President, personal communication, October 7, 2015). Lack of information on the impact of the current academic advising structure on student retention and completion creates a gap in practice for the institution. Without evidence of academic advising's influence on student time to graduation, the institution cannot implement measures to improve its graduation rates. Buckeye Community College needs to review the current academic advising structure and determine ways to assist more students in completing degrees.

Rationale

In order to improve student completion, higher education institutions must review their student data and analyze patterns in a variety of ways. Despite the increased cost of higher education, demand continues to increase (Tovar, 2015). Community colleges need to move past access to focus on student success, improving outcomes, and providing accountability for funding received (Yeado et al., 2014). Strong leadership combined with close monitoring of student progress, enables institutions to move past older access models and increase completion rates (Yeado et al., 2014). Within community colleges, this analysis assists in redesigning the learning environment, financial resources, and support services to meet the needs of current and future students (Applegate, 2012).

Evidence of the Problem at the National Level

Although community colleges provide students a key point of entry to higher education, institutions must work to ensure these students graduate or earn some type of

credential (Kolenovic, Linderman, & Karp, 2013). As stated, the current on time completion rate for students at 2-year colleges in Ohio is only 3% (Complete College America, 2014). The average IPEDs completion rate of 31% leaves many students without a degree after 3 years of enrollment (NCES, 2014). In addition, many students enroll and complete coursework, but never graduate. According to the National Student Clearinghouse, 60% of first-time community college students successfully complete 30 or more credits after 6 years (as cited in Bers & Schuetz, 2014). However, very few community college students maintain full-time enrollment or follow a traditional path (Crosta, 2014). Community colleges must provide adequate resources to assist students in completing a degree despite these challenges.

As academic advising provides a clear way to provide students a pathway to graduation, community colleges need to determine best practices for successful advising (Wiseman & Messitt, 2010). Although several studies review the various models for advising, relatively few studies address the effects of these models in a community college setting. Studies provide correlational information between advising and student outcomes, but do not predict student learning outside the classroom (Burt et al., 2013). Burt et al. (2013) suggested that additional research is needed to understand the impact of advising on learning and completion, beyond student satisfaction with services.

A study by McArthur in 2005 evaluated the theory that increased interaction between faculty advisors and students affected student retention at a specific community college. The study reviewed developmental academic advising methods and discussed incentives for faculty to reach out to students more frequently, personalizing the process.

However, this study concentrated on a different model of advising than the one present at Buckeye Community College.

A few studies investigated individual advising and retention initiatives at specific institutions. The City University of New York (CUNY) system's Accelerate Study in Associates Programs (ASAP) (Kolenovic, Linderman, & Karp, 2013) model and study provided some insight into the need for prescriptive, required advising and pathways for community college students. The study determined that frequent advising has a positive correlation to student completion. However, the ASAP model does not include students requiring remedial coursework.

A study by Corradetti, Cuomo, Fichera, and Madera (2013) reviewed Queensborough Community College's freshman academies, which provided expanded student and academic support for all new students including a first-year experience, service learning opportunities, e-portfolios, writing-intensive instruction, and learning communities. This study showed a correlation between increased services and student retention, but focused on several support services beyond academic advising.

Finally, a study by Thorngren, Nelson, Baker, Zuck, and Koltz (2013) reviewed a pilot study at a midsized Western University using graduate school counseling interns to advise students, applying the American School Counselor Association (ASCA) model. Interns met with students at least twice a semester and focused on academic, personal, and career development. The study reported positive results, but it did not occur in a community college setting. Additionally, the use of graduate student interns requires resources not available at Buckeye Community College.

Evidence of the Problem at the Local Level

As stated, the current IPEDS graduation rate at Buckeye Community College is 5.2% (NCES, 2014). The current institutional goals include increasing its IPEDS graduation rate to 10% by 2020. The college accepts an average of 1,700 students who fit the IPEDS cohort definition annually (Buckeye Community College, Research Analyst, personal communication, August 10, 2015). Beginning in 2014, the college required these students to register for the new First Year Experience course, which includes academic advising and planning. However, before the implementation of this course, the requirements included attending new student orientation either in-person or online, but did not require completion of an academic plan (Buckeye Community College, Dean of Student Affairs, personal communication, April 27, 2015).

Buckeye Community College employs 33 full-time faculty counselor/advisors and 35 part-time counselors/advisors across the four main campuses and two branch locations (Buckeye Community College, Dean of Student Affairs, personal communication, April 27, 2015). These counselors/advisors see students on a first-come, first-serve basis based on a college-wide scheduling system. Although recommended, the college does not require advising sessions for students after the initial meeting during new student orientation. The faculty counselors/advisors maintain access to records for all students, including previous counseling notes and course registrations, but a systematic approach for tracking the effects of advising on student completion does not exist (Buckeye Community College, Dean of Student Affairs, personal communication, April 27, 2015).

The institution's president gave a directive to implement more intentional advising structures, including faculty advising, intrusive advising, and mandatory advising to make sure students remain on track (Buckeye Community College, College President, personal communication, May 8, 2015). In speaking about enhancing advising services in this manner, the college president stated, "There is an opportunity there" (Buckeye Community College, College President, personal communication, May 8, 2015). Based on the new requirement for all students to complete and follow an academic plan, the current model does not provide the resources necessary to provide active support for student success and completion. The purpose of this study was to determine the predictive relationship, if any, that advising model variables, specifically consistently seeing the same advisor, had on first-time, full-time associate degree seeking students' time-to-degree completion, after controlling for pre- and post-entry attributes defined in Tinto's institutional departure theory.

Definitions

Special terms related to this study include:

Academic advising: Meetings with faculty, staff, or others at the institution with a student for the purpose of planning the student's academic course load, academic major, degree plan, and career goals. Also referred to as academic counseling, mentoring, or faculty advising (Grites, 2013).

Advisor type: Academic advising appointment data for this study were divided into three types, based on various advising models from the literature. These include the following:

1. *consistent advisor type* - those students who self-select to make appointments with the same academic advisor during their months enrolled at the institution, following a case management model of advising (Reynolds, 2007),
2. *inconsistent advisor type* – those students who make academic advising appointments with whichever academic advisor is available, following Buckeye Community Colleges current academic advising model (Wiseman & Messitt, 2010), and
3. *no advisor type* – those students who do not make any appointments with an academic advisor during their months of enrollment at the institution past the initial mandatory appointment during new student orientation (Swecker, Fifolt, & Searby, 2013).

Developmental advising: Advising that involves shared decision making and requires a deeper relationship between advisor and student, aiming to enhance the student's skills-development and self-awareness (Gravel, 2012; O'Banion, 2012; Swecker, Fifolt, & Searby, 2013; Teasley & Buchanan, 2013).

Graduation rate: The number of first-time, full-time students who graduate within 3 years of initial enrollment (NCES, 2014).

Intrusive advising: Intrusive advising, also called proactive advising, involves a combination of required advising appointments and goal setting for each appointment, with the intent of increasing student motivation and reducing attrition (Schwebel, Walburn, Jacobson, Jerrolds, & Klyce, 2008). Academic advisors reach out to students on a regular basis via various communication methods, and often students must fulfill

certain appointment obligations or face academic consequences (Linderman & Kolenovic, 2013; Schwebel, Walburn, Klyce, & Jerrolds, 2012).

Persistence: Whether a student remains at the institution from semester to semester with continuous course enrollment (Tovar, 2015).

Prescriptive advising: Advising that is authority-based, with the advisor providing students with information on course offerings, degree sequences, student services, and graduation requirements (Gravel, 2012; O'Banion, 2012).

Retention: The ability of the institution to keep students enrolled from semester to semester until graduation (Price & Tovar, 2014; Smith & Allen, 2014).

Stop-out students: Students who enroll in higher education, then stop attending for a period of time, then re-enroll (Bers & Schultz, 2014; Goldrick-Rab, 2010).

Student engagement: Maintaining student interest and focus on academic studies as well as participation in higher education institution activities and services (Price & Tovar, 2014; Saenz, Hatch, Bukowski, Kim, Lee, & Valdez, (2011).

Student success and completion: A focus on student degree attainment and transition to post-collegiate opportunities after graduation (Clotfelter, Ladd, Muschkin, & Vigdor, 2013; Jenkins & Cho, 2013).

Significance

Data from the Community College Survey of Student Engagement ([CCSSE], 2013) and Survey of Entering Student Engagement ([SENSE], 2012) for Buckeye Community College provided information supporting the need to review academic advising structures at the institution. The CCSSE study presented findings for five

benchmark areas that related to key aspects of student engagement (CCSSE, 2013). The CCSSE (2013) results for Buckeye Community College indicated lower than average student satisfaction scores in the area of "Support for Learners," which included academic advising services as part of the support model. The overall institutional score was 49.3%, falling below the CCSSE average of 50% and well below that of top performing institutions at 59.7% (CCSSE, 2013).

The SENSE (2012) survey looked at key aspects of engagement for entering students. This survey measured both a student's early connections to supportive staff and faculty as well as the development of a clear academic pathway. Both of these areas related to the purpose and goals of academic advising. In both areas, Buckeye Community College scored above the overall SENSE average, but still far below the top performing institutions (SENSE, 2012). Improvement in these areas would allow the institution to increase student engagement and completion (SENSE, 2012).

Buckeye Community College had not examined the effects of its current advising model on student success and completion (Buckeye Community College, Campus President, personal communication, October 7, 2015). Of particular interest to me as a researcher was the lack of consistency in advising at the institution. The current advising structure does not assign specific advisors to students. Unless a student requests the same advisor for each appointment, the student may meet with a different academic advisor each time. This may lead to inconsistency of information, lack of relationship building and engagement, and confusion for students (Nitecki, 2011).

Community College Funding

Rather than providing funding based on the number of students enrolled at the institution, the state moved to performance-based funding in 2012, which includes several completion criteria (Ohio Board of Regents, 2015). Institutions receive 50% of their share of state funds based on course completions, 25% based on success points (completion of developmental math, completion of 12, 24, and 36 credits), and 25 % based on completion milestones (degree and certificate completion or transfer). The state provides additional weighted funding for students from minority backgrounds and students requiring remedial education (Ohio Board of Regents, 2015). Based on this new model, all community colleges must implement additional methods to retain and graduate more students or risk losing funding from the state.

Graduation rates at community colleges reflect the difference in the student population they serve (Bragg & Durham, 2012). Community colleges must work to ensure minority and low-income students continue to have access to higher education and do not become excluded due to budgetary constraints or funding models based on completion (González Canché, 2014). Finding ways to increase graduation rates for all students will ensure adequate funding and resources to support all students (Bragg & Durham, 2012).

Accreditation

Accreditation standards for community colleges rely heavily on completion metrics. Chaden (2013) stated, “These new criteria for accreditation call on institutions to move discussions of retention and completion from the margins of institutional effort

and engage in a much broader discussion with faculty and other stakeholders" (p. 94). Institutions must address the issues of retention and graduation rates in order to remain in good standing with the accreditation agencies (Chaden, 2013). Furthermore, institutions must collect accurate and reliable data to determine student outcomes and reasons for student attrition (Phillips & Horowitz, 2013). For Buckeye Community College, accreditation standards from the Higher Learning Commission place an emphasis on how the institution helps students learn, requiring reporting on programs and services that enhance student completion (Higher Learning Commission, 2015).

Student Financial Impact

Low completion rates affect more than institutional funding. Implications exist for students in terms of debt levels, time without employment, and decreasing financial aid eligibility (González Canché, 2014). Many students take additional credits while enrolled in community college, surpassing the amount needed to earn a degree without ever graduating. Many students surpass the timeframe for financial aid eligibility without graduating, taking on additional debt in the process. Student loan debt now exceeds the trillion-dollar mark, exceeding America's combined credit card and auto loan debt (Complete College America, 2014). This increase in financial burden has a tremendous financial impact on students and the national economy (González Canché, 2014).

Employment and Economic Impact

Tovar (2015) said, "Like all forms of education, community colleges represent an investment, by the student and the public taxpayers who subsidize that education, in return for future benefits that will accrue to the student or to the broader society" (p. 808).

One of the main benefits of obtaining a higher education degree is increased employment and earnings opportunities. McClenney (2013) indicated that the United States and community colleges face a decline in the middle class, family income, and educational attainment relative to other nations. Within the higher education leadership community, concern continues to mount that community colleges fail to produce enough graduates for high-demand occupations (McClenney, 2013). Community colleges must strengthen their contributions to educating the workforce of the United States effectively (Talbert, 2012).

The local economy impacts student success and completion as the job market may influence student degree choices (Stuart, Rios-Aguilar, & Deil-Amen, 2014). Buckeye Community College is located in an area with low higher education attainment. The 2009-2013 American Community Survey (U.S. Census Bureau, 2015) indicated that only 40% of residents between 18 and 24 years of age completed some college or an associate's degree. Of the population of individuals 25 years or older, 22.2% hold some college experience but no degree, with only 6.9% holding an associate's degree (U.S. Census Bureau, 2015). Of these population groups combined, 29.7% hold a bachelor's degree or higher. These low percentages affect overall wage earnings, with those completing some college or an associate's degree earning an average of $31,853 annually compared to high school graduates in the population, who average $26,443 annually (U.S. Census Bureau, 2015). Furthermore, those in the population with a completed bachelor's degree earn an average of $47,200 annually (U. S. Census Bureau, 2015).

Buckeye Community College strives to produce graduates to contribute to the local economy and workforce (Buckeye Community College, Campus President, personal communication, October 2, 2015). For the local institution, industry growth in health careers and sciences increased demand for skilled workers in the area. With more than 85% of the institution's graduates remaining in the community after graduation (Buckeye Community College, Campus President, personal communication, October 7, 2015), increasing graduation rates plays an important role in strengthening the local economy and ensuring a qualified workforce.

Guiding/Research Question

There is a lack of data at Buckeye Community College on the current academic advising structure and its impact on student completion (Buckeye Community College, Dean of Student Affairs, personal communication, April 27, 2015). The data and statistics on academic advising are housed in the Scheduling and Reporting System (SARS), while information on students' academic progress is stored in the Banner Enterprise Resource Planning (ERP) system. These two programs share information on student and faculty advisor identification numbers and basic contact information, but do not share other data. In addition, not all faculty and staff have access to both systems or to all functionalities within the systems. As a result, faculty and staff must use both software programs to obtain an accurate picture of student progress.

Community colleges monitor student enrollment closely, but the data are rarely linked to student program completion. Many community college students end up self-advising rather than seeking out the support services available (Jenkins & Cho, 2013).

Like many community colleges, Buckeye Community College does not track student progress in specific degrees (Buckeye Community College, Dean of Student Affairs, personal communication, April 27, 2015). Students declare a major at the beginning of their studies, but rarely maintain steady progress toward this degree. It is difficult for those in charge of academic programs to grasp who their students truly are, what courses they need, and how to help students complete a degree (Buckeye Community College, Dean of Student Affairs, personal communication, April 27, 2015). Faculty members in various disciplines work closely with students to advise them on course selection and employment options, but do so outside of the standard college policies and procedures. Even though Buckeye set goals for student completion and tracks this information closely through Banner as well as through a system of dashboards and metrics, there is no statistical analysis to connect these measures to academic advising (Buckeye Community College, Campus President, personal communication, October 7, 2015).

In light of the external factors outlined above, including changes to the state funding formula, IPEDS reported low graduation rates, and national accreditation standards, Buckeye Community College needs to gain a better understanding of the impact of the current advising structure on student time to degree completion. As previously stated, Tinto (1993) suggested academic advising offers one of the few meaningful engagement opportunities for students in higher education. However, Tinto (1993) also identified several pre- and post-entry attributes in his institutional departure theory that impacted time-to-degree completion. These variables needed to be considered and controlled for before analyzing the predictive relationship between completion and

academic advising at Buckeye Community College. Therefore, the following research questions formed the basis of this study:

RQ1 – How do student pre- and post-entry attributes (excluding advisor type), as defined by Tinto's (1993) institutional departure theory, relate to student time-to-degree completion as measured by the IPEDS definition at Buckeye Community College?

Null hypothesis ($H_0$1) – There is no predictive relationship between student pre- and post-entry attributes (excluding advisor type), and student time-to-degree completion.

Alternative Hypothesis (H1) – There is a predictive relationship between student pre- and post-entry attributes (excluding advisor type), and student time-to-degree completion.

RQ2 – After controlling for other identified student pre- and post-entry attributes, how does advisor type relate to degree completion for students in the 2011 IPEDS cohort at Buckeye Community College?

Null hypothesis ($H_0$2) – After controlling for other identified student pre- and post-entry attributes, there is no predictive relationship between advisor type and time to degree completion for students in the 2011 IPEDS cohort at Buckeye Community College.

Alternative Hypothesis (H2) – After controlling for other identified student pre- and post-entry attributes, there is a predictive relationship between advisor type and time to

degree completion for students in the 2011 IPEDS cohort at Buckeye Community College.

Research Question Alignment with the Problem, Purpose, and Literature

Both research questions align with the problem of low student completion rates at Buckeye Community College. Tinto (1993) outlined several factors that lead to a student's departure from a higher education institution. He suggested that academic advising increases student engagement, retention, and completion by providing contact with a key member of the institution, thus preventing institutional departure (Tinto, 1993). Tinto (1993) suggested that all academic advising should be intrusive and an integral part of the student experience. However, Buckeye Community College does not have an intrusive or mandatory advising structure (Buckeye Community College, Dean of Student Affairs, personal communication, April 27, 2015). The first research question addresses the impact of Tinto's (1993) pre- and post-entry variables on time-to-degree completion, measured in semesters, absent of academic advising, determining the effect of these pre- and post-entry variables on student completion. Once these variables were controlled for in the regression analysis, the second research question addressed the influence of advisor type on student time-to-degree completion. If students in one of the groups of three advisor types identified completed faster than others, this information may be used by Buckeye Community College to review the effectiveness of the current academic advising structure and determine changes that may increase completion rates at the institution.

Review of the Literature

This study examined the factors that contribute to student success and completion at Buckeye Community College. Factors identified in Tinto's (1993) institutional departure theory provided key pre- and post-entry attributes for the analysis. My goal was to determine the predictive influence that advising model variables, in this case consistently seeing the same advisor, had on first-time, full-time associate degree seeking students' time-to-degree completion after controlling for the effects of other pre- and post-entry attributes.

Literature for this study was obtained through a comprehensive search of scholarly articles using the Walden library, Google Scholar, and the Buckeye Community College Library. Boolean searches were conducted using the Education Search Complete, Academic Search Complete, ERIC, and EBSCOhost databases. Searches were narrowed to the last 5 years whenever possible. However, some older, relevant research articles were included to provide a more comprehensive understanding of the problem. I focused my searches on *community college completion*, *graduation rates*, *academic advising*, *counseling*, *student retention*, *persistence*, *engagement*, and *Tinto's (1993) institutional departure theory*. Additional sources were obtained by reviewing references from relevant articles as well as national, state, and local sources related to community college student completion, education, and employment. The searches yielded over 105 articles and reference materials. As articles repeated or confirmed previously recorded information, I determined I had achieved saturation.

The following review provides the context of current scholarly literature and research findings on factors that influence attrition, persistence, and completion. The theory that framed this study, Vincent Tinto's institutional departure theory (1993), is described. The relationship of this theory to the research questions under study is discussed, followed by a critical analysis of the extant literature. A summary of the variables in relation to the theory is presented, along with a description of the proposed study in relation to current literature and theory. Specifically, the review concentrates on both the student and institutional factors impacting student attrition and retention, focusing on those supported by the literature. These include student preparation, planning for higher education, goals and commitments, involvement, attendance patterns, advising influences, financial considerations, and overall engagement.

Theoretical Foundation

Many theories exist to explain student engagement and persistence in higher education. However, Vincent Tinto provided one of the most referenced and supported theories to explain the factors that influence institutional departure from higher education (Price & Tovar, 2014). Since his initial theoretical publication in 1975, widespread use of this theory permeated the literature on higher education retention and completion. Tinto's theories evolved with testing and use in research using various student data sets, leading to his 1993 theory of institutional departure. His more recent study, *Completing College* (2012) expands upon his initial findings, attempting to provide best practices for teaching and learning to increase student retention and completion.

Most of the studies found when reviewing the literature for this study referred to Tinto's (1993) theory of institutional departure. Therefore, this theoretical framework forms the basis to support the current study. Tinto's (1993) theory suggests that students who form a strong relationship with an advisor build a stronger connection to the higher education institution and, therefore, integrate and persist.

With his theory of institutional departure, Tinto (1993) strove to determine the various student characteristics and higher education institution environments that factor into student academic and social integration. According to Tinto (1993), institutional departure happens either voluntarily due to the various experiences after entry, or involuntary due to lack of academic preparation. Departure may also be a permanent withdrawal from higher education, a temporary stop in attendance, or transfer to a different institution (Tinto, 1993).

Tinto's (1993) theory included eight factors leading to student departure including the student's disposition upon entering the institution (intentions and commitment), various experiences after entering higher education (adjustment, difficulty, congruence, isolation), and, finally, external forces that influence the student's experiences (obligations and finances). These internal and external factors influence whether or not a student integrates with the chosen higher education institution and therefore stays to complete a degree. Inadequate integration in any one of these areas may lead to student departure. By contrast, strong, positive integration experiences serve to strengthen a student's goals and commitment to higher education (Deil-Amen, 2011; Tinto, 1993). Figure 1 depicts Tinto's model.

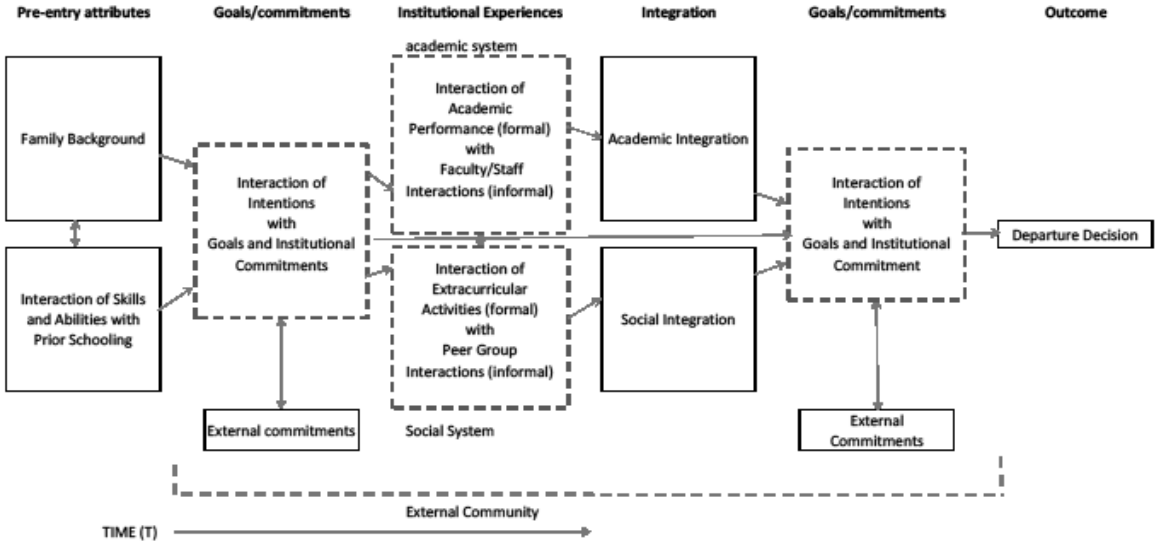

Figure 1. A Longitudinal model of institutional departure. Adapted from *Leaving college: Rethinking the causes and cures of student attrition*, by V. Tinto, 1993, Chicago, IL: The University of Chicago Press. Reprinted with permission.

What a student experiences while at the institution, combined with various pre-entry and external influences, shapes the student's process of departure (Tinto, 1993). The first elements Tinto examined are those pre-entry factors, such as a student's intentions and commitments. Intentions include the student's goals, either educational or occupational. Tinto (1993) stated, "…the stronger the links between the goal of college completion and other valued goals, the greater the likelihood that the former goal will be obtained" (p. 38). Although most students' goals may not be clear when they enter higher education, if, after a period of discovery and identity formation, the uncertainty remains, students are more likely to depart from the institution. Commitments refer to the student's motivations and the amount of quality effort he/she expects to invest in his/her studies. Students with low commitment levels depart more frequently as they do not feel the need to stay (Nitecki, 2011). A student's willingness to work toward the goal of degree completion influences his/her ability to persist in higher education.

Tinto (1993) described the post-entry factors of the student experience after entering higher education as adjustment, difficulty, congruence, and isolation. Students who adjust to the social and academic life of higher education persist more than those who find the necessary changes difficult. Students with past experiences adjusting to new situations transition easier than those with no past adjustment experiences (Tinto, 1993). Difficulty refers to the academic issues encountered, such as lack of high school preparation or issues with academic rigor in higher education. Congruence describes the connection between the student's abilities, skills, and interests and those of the higher education institution. Lack of fit between these factors leads to incongruence, whereby the institution fails to meet the student's expectations and needs. Finally, isolation occurs when a student fails to find sufficient contact with someone at the institution, either a fellow student, a faculty member, or a staff mentor, to make them feel a part of the culture and life of the institution. Tinto (1993) stated "The absence of sufficient contact with other members of the institution proves to be the single most important predictor of eventual departure…" (p. 56). Students who find someone within the college to support them feel as though they belong and adjust to the new environment (Deil-Amen, 2011). Students need compatible social groups of some kind in order to avoid isolation.

Tinto's (1993) theory also accounted for external factors that influence the student experience in higher education. External community demands and other obligations such as family, employment, or commuter status factor into the student experience and decision to persist in higher education (Lundberg, 2014). Students with strong external

community expectations may experience competing demands between their community and their education. Tinto (1993) stated,

> For many students, going to college is but one of a number of obligations they have to meet during the course of a day. In these situations, the demands of external communities and obligations or commitments they entail may work counter to the demands of institutional life. When academic and social systems of the institution are weak, the countervailing external demands may seriously undermine the individual's ability to persist until degree completion. (p. 109)

This situation may be increased for disadvantaged students who must work while pursuing a degree. Finances also play a pivotal role for students, influencing initial educational goals, institutional choice, and full- or part-time attendance (Tinto, 1993).

Tinto (1993) acknowledged these factors may vary due to student ethnicity, social class, age, and sex as well as institutional type and size. Large institutions present students with numerous social group options, but this may become overwhelming for some, leading to isolation. Tinto (1993) also mentioned that incongruence and isolation occur more frequently at commuter schools and community colleges, where students often attend part-time while working to support their family and meet other expenses. In these instances, classroom experiences and other support services play a vital role in integrating students to the institution. However, overall, Tinto (1993) theorized that the elements of the departure theory affect students of all backgrounds and at any type of institution.

Tinto (1993) offered suggestions for institutional actions to offset the effects of the eight factors leading to student departure. For the purposes of this study, Tinto's (1993) discussion of developmental advising and counseling programs offers insight into the role academic advisors play in student retention and integration. Tinto (1993) suggested that all academic advising should be intrusive and an integral part of the student's experience at the institution. He suggested that academic advising be integrally linked to other support services and program elements. Tinto (1993) also recommended the creation of academic advising programs directed to at-risk populations, such as transfer students, minorities, and undecided students. Finally, Tinto (1993) felt that professional academic advising staff need to work together with faculty to provide student support, and all required training in developmental advising techniques.

Student Attrition

As a system, higher education institutions fail to help the majority of students through to completion (Applegate, 2012). Higher education institutions of all types face increased attrition as enrollments increase. Higher education enrollment increased 37% in 10 years, from 2000 – 2010 (Marquez, 2014). However, in 2011, 26% of students at 4-year institutions did not complete a degree (Mertes, 2015). As community colleges continue to enroll more students due to open access policies and low tuition rates, attrition rates for these institutions climb even higher as well (Wiseman & Messitt, 2010). Many students do not continue past the first three semesters, leaving long before completing a degree (Wiseman & Messitt, 2010). Of full-time community college students enrolled, only 45% complete a degree within 6 years (Mertes, 2015). In

addition, almost 50% of community college students depart prior to achieving their intended goals and objectives (Windham, Rehfuss, Williams, Pugh, & Tincher-Ladner, 2014).

As evidenced by Tinto's (1993) institutional departure theory, many factors influence student success and completion in higher education. Successful student retention requires several overlapping elements, based on the type of institution and its culture as well as student characteristics such as demographics and psychosocial characteristics (Nakajima, Dembo, & Mossler, 2012; Swecker, Fifolt, & Searby, 2013). In fact, the same factors that may lead one student to persist through to graduation may lead another student to depart early (Strayhorn, 2015). Students who are underprepared academically, attended college as a first-generation student, delayed entry after high school, lacked clear educational goals, committed to outside work and family obligations, failed to form satisfactory bonds with campus faculty and staff, neglected to apply for financial aid but were low-income, attended part-time, or commuted to school have increased risk of not successfully completing a degree (Britto & Rush, 2013; Cavanaugh, 2014; Dykes-Anderson, 2013; Linderman & Kolenovic, 2013; Marquez, 2014; McArther, 2005; Mertes, 2015; Mertes & Hoover, 2014).

In addition to these student characteristics, institutional factors such as high tuition costs, lack of clear degree sequences, unavailable courses, unsuccessful remediation curriculum, or increased credit and course requirements decrease student retention and completion as well (Britto & Rush, 2013; Complete College America, 2014). Higher education institutions must address both the student and institutional

factors that increase student attrition rates (Applegate, 2012). Additional information on successful measures to increase student persistence is needed (Mertes & Hoover, 2014). If not addressed, both the institution and the student lose resources and the community loses qualified, educated citizens (Britto & Rush, 2013). The literature reviewed for this study discussed many of the student variables that contribute to students' lack of success and completion in higher education (Applegate, 2012).

Academic preparation. Student preparation in high school directly impacts success in higher education, influencing student expectations, confidence, and ability to complete coursework (Crosta, 2014). Gigliotti (2012) determined that, "It is critical that higher education institutions have a robust pipeline of students well prepared for college-level work and equipped with the skills and knowledge to cooperate and compete in a global community" (p. 167). However, many students come to higher education with inadequate academic preparation. Over half of all first-time college students require some remediation (McClenney, 2013). In recent years, several major foundations such as the Lumina Foundation, Carnegie Foundation, and Gates Foundation focused attention on the need to increase student academic preparation as a way to remove impediments to degree completion nationwide (Sherwin, 2011).

Students that lack adequate preparation often struggle to find the resources needed to succeed (Strayhorn, 2015). Strayhorn (2014) stated that,

> For instance, 41% of all entering community college students lack proficiency in the basic math and literacy skills that are deemed necessary for success in college.

> Almost one third of all entering postsecondary students (including those at 4-year institutions) lack such basic skills. (p. 973)

The combined lack of information on higher education expectations and low performance in high school resulted in only 32% of students entering college prepared for college-level work (Sherwin, 2011). Additionally, in 2010 only 24% of students tested college-ready in all four core subject areas on the ACT (Gigliotti, 2012).

Testing at the remedial level often discourages students who believe high school coursework prepared them for higher education. Many students graduate from high school with good grades, only to find they must enroll in a series of remedial or developmental courses before ever taking a college-level course (Gigliotti, 2012). Both math and English placement scores directly impact student success and completion (Mertes, & Hoover, 2014; Windham et al., 2014). Inadequate preparation in either area leads to higher attrition rates for students (Nakajima, Dembo, & Mossler, 2012; Windham et al., 2014). High school GPA also impacts student success in higher education, with those students achieving higher GPAs persisting at a higher rate (McKinney & Novak, 2013; Nakajima, Dembo, & Mossler, 2012).

Academic preparation is a key indicator of success in higher education (Chiteng Kot, 2014). Students who arrive better prepared academically persist at a higher rate than those students needing remedial coursework (Wyner, 2012). Retention and completion rates cannot increase without improved academic preparation in high school (Baily & Alfonso, 2005). Those institutions with selective admissions have the advantage of only accepting students with strong academic backgrounds, increasing their chance for

completion (Talbert, 2012). Community colleges, on the other hand, enroll a higher percentage of academically underprepared students, affecting success and completion rates more significantly for these institutions (Bragg & Durham, 2012). Many students fail to complete the required remedial coursework and leave community college before moving on to college-level curriculum, assuming they are unable to complete a degree (Baily & Alfonso, 2005; Yeado et al., 2014).

First-generation students. First-generation college students depart from higher education at a higher rate than those with college-educated parents (McKinney & Novak, 2013). Students without the support of educated parents or family often lack the knowledge or skills needed to understand the requirements of higher education (McKinney & Novak, 2013). In comparison, parents who earned a higher education degree possess the experience to assist their children through the process, providing guidance and easier entrance into the system (Nakajima, Dembo, & Mossler, 2012). This lack of informational and financial resources available to first-generation students often causes them to take longer to graduate and puts them at higher risk for attrition (Sparkman, Maulding, & Roberts, 2012).

Adult students. Adult students leave higher education prior to completion at a higher rate than their younger classmates (Nakajima, Dembo, & Mossler, 2012). McKinney and Novak (2013) found that students with delayed entry to higher education were 42% less likely to persist through to completion than those who entered directly out of high school. However, Windham et al. (2014) reported that students over 40 years of age persisted at a higher rate from fall semester to fall semester than 18 year-old students.

This study found students in the age range of 19-24 were the least likely to persist. Luke, Redekop, and Burgin (2015) also found a higher intent to return in older students. In the case of age, several other factors such as planning, goals and commitments, and engagement while enrolled seem to influence retention outcomes (Nakajima, Dembo, & Mossler, 2012).

Planning for higher education. Lack of academic preparation often results from a lack of planning by the student. Students may not understand the requirements for higher education, differences among institution types, or various admissions processes and procedures (Tovar, 2015). The vast array of choices available to students within higher education increases student confusion and chances for taking the wrong courses, extending their time to graduation (Complete College, 2014; Phillips, 2013; Richman, Anderson, Antoons, Brennan, Robinson, Smith, & Torain, 2013). Phillips (2013) stated, "Students find the rich but complex curricular offerings of large public universities difficult to understand, and the process of choosing a major often becomes a haphazard affair based on limited information" (p. 49). The earlier that students find an academic path and program, the greater their chance of completing on time (Phillips, 2013).

Offering students multiple pathways or course options confuses students and impedes progress (Bers & Schuetz, 2014). Students need a concrete plan of study that encompasses their entire program of study at the institution in order to persist and complete a degree (Linderman & Kolenovic, 2013; Richman et al., 2013). Jenkins and Cho (2013) found that those students who selected a program of study early were more likely to complete their degree or transfer to another institution. Similarly, Mertes and

Hoover (2014) concluded students with undecided majors persisted at lower rates. Students who decide on a major later or change majors during their studies increase time-to-degree completion and often find it difficult to persist through to a degree (Jenkins & Cho, 2013).

Student goals. A close connection exists between retention and student goals. Packard, Tuladhar, and Sol Lee (2013) suggested that students who know how their current coursework and education tie to long-term goals are more likely to possess the motivation to continue their education. Smith and Allen (2014) indicated that, "Students' knowledge of requirements they must meet to achieve their educational goals is fundamental to their success, and lack of knowledge about these requirements can lengthen the time for or prevent them from earning their degree" (p. 51). Students who do not possess clear academic or career goals are at higher risk of leaving college without a degree (Mertes & Hoover, 2014; Nakajima, Dembo, & Mossler, 2012).

Connecting student goals to career choice plays an important role in success and completion. Those students who connect their coursework to their desired future employment show greater intention to continue their education (Luke, Redekop, & Burgin, 2015). Stuart, Rios-Aguilar, and Deil-Amen (2014) suggested that students may review their progress in higher education in terms of the career opportunities present after graduation. The influence of job prospects may lead some students to revise their educational goals, choosing to either complete their degree or drop out for an employment opportunity. More than 60% of community college students change goals once during their studies, and 10% change more than three times (Nakajima, Dembo, &

Mossler, 2012). Wilson and Smith (2012) suggested that students revise their focus or direction based on learning experiences.

Goals for students in 4-year programs are often clearer than for those in 2-year community colleges (Bragg & Durham, 2012). Community college students do not always display the same goals as students who attend 4-year institutions (Mertes & Hoover, 2014). Community colleges must also adapt the learning environment to accommodate diverse student populations, including students who do not intend to complete a degree but simply increase skills in a certain area (Luke, Redekop, & Burgin, 2015; Mertes & Hoover, 2014).

Student commitment and involvement. Student attrition increases for those students who do not feel connected to the institution or set specific goals for completion (Nitecki, 2011). Tinto (1993) contended that 75% of students do not remain in higher education due to lack of fit with the institution (Bers & Schuetz, 2014). When students do not feel connected to the institution, leaving becomes easier (Nitecki, 2011). First-year students without a declared major may fail to connect with a program or group at the institution and miss opportunities to bond with fellow classmates or faculty (Ellis, 2014).

Students who integrate with the institution possess increased motivation and are more likely to commit to staying through degree completion (Deil-Amen, 2011; Strayhorn, 2015). Mertes and Hoover (2014) stated that, "The degree to which students can successfully integrate into an institution's social and academic systems, ultimately, will define a student's commitment to the institution and determine whether he/she persists or eventually exits an institution" (p. 652). Students involved in such activities as

athletics, student clubs, or student government identify more closely with the institution (Nitecki, 2011). These connections also provide validation through recognition and respect, influencing the student's decision to remain at the institution (Barnett, 2011).

For community college students, the lack of a residential experience may contribute to higher attrition rates (McArther, 2005). Deil-Amen (2011) suggested that Tinto's concepts of integration and commitment are not well defined for community college students, as most of the normal integration and commitment activities found in 4-year institutions do not apply. In addition, many community college students must choose between school and other external obligations, such as family or work, which complicates their decision to remain invested in higher education (Stuart, Rios-Aguilar, & Deil-Amen, 2014). As these external commitments increase over time, completion becomes even more difficult (Bers & Schuetz, 2014).

Attendance. Student attendance patterns impact success and completion. Students enrolled part-time depart more frequently than their full-time classmates (Mertes & Hoover, 2014). Nakajima, Dembo, and Mossler (2012) found that, of their study population, 70.8% of students who did not persist enrolled part-time, while only 29.2% of students who left attended full-time. Similarly, McKinney and Novak (2013) reported part-time students had a 77% lower chance of persisting than full-time students in their study sample.

Many students enroll in higher education several years after completing high school and then attend part-time based on their schedule and outside commitments (Crosta, 2014). Other students switch between full and part-time attendance. Crosta

(2014) stated that approximately 69% of students start full-time, but then choose to enroll part-time in subsequent terms. These intermittent patterns of enrollment impact success and completion rates for these students (Tovar, 2015). A student's background may influence his/her attendance patterns. Students who initially enroll part-time often do so because they are first-generation, have a family, are influenced by their ethnic background, or possess other factors that also lead to low completion rates (Crosta, 2014). Additionally, students who work more hours outside of the classroom and attend part-time persist at lower rates (McKinney & Novak, 2013). These various attendance patterns impact student ability to complete an education.

Academic advising. Academic advisors influence student success and completion by assisting students in providing positive support, accurate information, and enhancing student achievement (Burt et al., 2013; Gravel, 2012; McArthur, 2005). Guidance and support from an academic advisor often counteracts lack of preparation (Deil-Amen, 2011; Smith & Allen, 2014). Academic advising also provides students with clarity in academic goals, relating them to the overall educational experience (Grites, 2013). Meeting with an academic advisor often prevents students from dropping out (Dykes-Anderson, 2013).

In contrast to the positive effects of academic advising on student persistence and completion, not meeting with academic advisors is often a negative indicator. Students who never meet with an academic advisor are at greater risk of leaving higher education (McKinney & Novak, 2013). In addition, inadequate or unsatisfactory academic advising contributes to student attrition as students may become frustrated or discouraged when

they receive inaccurate information (Bers & Schuetz, 2014; Phillips, 2013; Ryan, 2013). Misinformation may also increase time to completion, putting students at greater risk for attrition (Allen, Smith, & Muehleck, 2013; Bers & Schuetz, 2014; Packard & Jeffers, 2013). McKinney and Novak (2013) recommended that additional research should review both the frequency of academic advising as well as various advising approaches to further clarify the connection between academic advising and student success and completion.

Finances. The risk of attrition increases for students from low-income households. Economic background influences student retention decisions throughout higher education (Nakajima, Dembo, & Mossler, 2012). Low-income high schools provide fewer higher education resources to students than more affluent districts, increasing the disadvantage faced by students in these communities (McKinney & Novak, 2013). Many low-income students attend community colleges due to lower tuition rates, but these students arrive without the basic knowledge of various financial processes or resources available to help them persist (McKinney & Novak, 2013). In particular, independent students struggle to remain in attendance due to their economic standing (McKinney & Novak, 2013).

Low-income students often rely on financial aid to assist them in remaining enrolled and covering their expenses (McKinney & Novak, 2013). However, many of these students do not fill out the Free Application for Federal Student Aid (FAFSA) or understand their eligibility (McKinney & Novak, 2013). McKinney and Novak (2013) stated that, "In 2007-2008, approximately 42% of community college students who were

eligible to receive Pell grant funding did not file the Free Application for Federal Student Aid (FAFSA)" (p. 2). This lack of resources becomes an obstacle to success and completion (McKinney & Novak, 2013). Without financial support from financial aid, low-income students must work additional hours off campus. Increased work hours relate directly to lower student success and completion (Nakajima, Dembo, & Mossler, 2012). In contrast, those students who received financial aid persisted at much higher rates. A study by Nakajima, Dembo, and Mossler (2012) reported a 12% increase in persistence for students who received financial aid, while McKinney and Novak (2013) found a 79% higher chance of retention for students who filed a FAFSA.

Student engagement. Tinto's (1993) institutional departure theory points to the need for strong relationships with others at a higher education institution as the foundation necessary for student success and completion. Without an atmosphere that encourages and facilitates interpersonal interaction between students and others in the institution, students lack personal attachments and belonging (Deil-Amen, 2011; Thorngren et al., 2013). Students may experience difficulty transitioning to college. If they do not form positive interactions with faculty and staff on campus through access to resources and support for educational decisions, this transition becomes more difficult (Tovar, 2015).

Engaging students in the academic process remains a critical link for success and completion. McClenney and Marti (2006) defined engagement as, "the amount of time and energy that students invest in meaningful educational practices" (p. 47-48). Although many theories of student engagement exist, they share a common

understanding of students in higher education experiences with the environment and how these experiences influence student attitudes and development (Christian & Sprinkle, 2013). Students with low engagement show the greatest risk of leaving higher education (Christian & Sprinkle, 2013). The 2010 Community College Survey of Student Engagement (CCCSE) findings indicated that students who show the lowest engagement at their institution are most at risk for attrition (Christian & Sprinkle, 2013). McKlenney and Marti (2006) demonstrated that students with high institutional engagement but low ability rose to performance levels equal to students with the highest ability. Leveraging relationships and increasing engagement for all students provides higher education institutions the ability to increase student success and completion.

Engagement in community college. The various engagement models and studies do not necessarily apply to student engagement at community colleges (Lundberg, 2014). Community college students tend to be more diverse, with many non-traditional age students and students from various academic backgrounds (Baily & Alfonso, 2005; Christian & Sprinkle, 2013). Overall opportunities to engage in the institution decrease with community college students' additional responsibilities, such as family and work (Deil-Amen, 2011; Lundberg, 2014).

At a residential institution, students leave behind family and friends to reside in a new location, increasing the chances for engagement. However, community college students often arrive on campus only to attend class, which makes a complete stop in attendance much simpler (McArther, 2005). For many students, especially at community

colleges, they only spend time on campus while in class and do not stay to participate in other activities or services (McArthur, 2005). Deil-Amen (2011) stated,

> …understanding of persistence should center on the particular characteristics of the two-year college student experience, with all of its limitations and potential strengths, including the lack of availability of out-of-classroom opportunities for assistance due to the combination of students' lives and organizational structure. (p. 66)

While Tinto (1993) and others provided information on how effective engagement increases student success and completion, interactions with faculty outside the classroom occur infrequently for many students (Abu, Adera, Kamsani, & Ametepee, 2012). As community colleges move to more part-time faculty that are unavailable outside of class time, retention and completion rates decrease at these institutions (Nakajima, Dembo, & Mossler, 2012). Community colleges need to identify additional methods to encourage interaction and engagement for their unique student populations.

Summary of the Literature Review

In this literature review, I provided information on Tinto's (1993) institutional departure theory as well as implications for student success and completion based on various factors. Based on this review of recent literature, it became evident that numerous elements influence students' decisions to persist or leave higher education (Nakajima, Dembo, & Mossler, 2012). The literature indicated that the students least prepared for higher education are at a higher risk and often fail to complete their education (Bragg & Durham, 2012). In addition, students who do not formulate clear

goals and commitments, lack involvement in the institution, attend part-time, do not use academic advising services, fail to pursue financial aid options, and do not engage with others at the institution, often fail to complete their degree.

Current literature on higher education attrition contains no clear-cut patterns or reasons for student departure, with many variables influencing each individual student decision (Bers & Schuetz, 2014). Additionally, some students may leave higher education after completing their personal goals, which may not include obtaining a degree (Bers & Schuetz, 2014). Consequently, many institutions struggle to determine the most appropriate and effective structure to impact student learning, engagement, and retention. Investigation into all factors identified would help improve understanding of the overall student academic experience and reasons for student departure (Burt et al., 2013).

As noted in the literature review, a lack of information regarding student engagement specific to the community college setting may influence the outcomes of this study. Although Tinto (1993) suggested his departure theory applies to all institutions, studies determining the applicability of this theory in practice are limited. Bragg and Durham (2012) indicated that, "Community colleges serve more first-generation, part-time, non-traditional-age, low income, minority, and female students than any other type of public higher education institution" (p. 110). Due to the fact that the community college student population varies from those at 4-year institutions in terms of financial resources, part-time and full-time enrollment patterns, and academic preparation, it may be difficult to determine from the current literature which factors influence retention and

completion at 2-year institutions (Bers & Schuetz, 2014; Talbert, 2012). In addition, many community colleges lack the ability to track when and why students leave the institution to determine normal patterns of attrition or key intervention points for retention (Crosta, 2014). Investigating those factors that promote success and completion is especially important for community colleges that serve such a diverse population (Popiolek, Fine, & Eilman, 2013).

For Buckeye Community College, the problem of lack of student completion may be influenced by multiple factors as presented in Tinto's (1993) model, including student preparation, the lack of assigned advisors, or by the limited number of advisors available to students (Buckeye Community College, Campus President, personal communication, October 7, 2015). Additional research into academic advising structures and models and how they influence student success and completion provided more information for Buckeye Community College in relation to the institution's low graduation rates. Determining the effect of student's self-selecting a consistent advisor provided me information to determine the need for change at the institution to improve overall success and completion rates.

Implications

Advising strategies play a key role in retention for students, with higher education institutions using improvements in this area as part of their overall plan to increase student completion and success (Smith & Allen, 2014). Within community colleges, advisors provide key information about course requirements and steps in various processes to completion (Packard & Jeffers, 2013). Many community college students

need expanded academic advising support, as they are unprepared to make decisions about their academic or personal goals upon entry (O'Banion, 2012; Packard, Tuladhar, & Lee, 2013). The importance of quality academic advising in retention and completion increases for students who lack academic preparation or outside support structures (Bahr, 2008). A strong advising system provides students the support needed to define a path to success, especially for non-traditional students (Wiseman & Messitt, 2010).

At the local level, Buckeye Community College had not examined the effects of its current advising model on student success and completion (Buckeye Community College, Dean of Student Affairs, personal communication, April 27, 2015). The purpose of this study was to determine the predictive relationship, if any, that advising model variables, specifically consistently seeing the same advisor, had on first-time, full-time associate degree seeking students' time-to-degree completion. This was done through a review of the current advising structure at Buckeye Community College to see if those students in the 2011 IPEDS cohort, who seek advising services from the same advisor multiple times during their academic career, graduated faster than those who either see a different advisor at each appointment or who did not seek advising services at all. Focusing on students who fall within the IPEDS data standards provided a clear cohort and removed several variables, such as initial part-time enrollment or returning students. In this study, I reviewed the impact of the institution's academic advising structure on student success and completion rates and looked to provide meaningful data on how the advising structure may help increase student completion at Buckeye Community College. By increasing the IPEDS graduation rate, the institution will provide opportunities for

students to increase their employment and earning potential, promoting positive social change for the community.

This study provides insight into best practices for providing advising services as well as suggestions for future research on advising at the institution. The study findings led to a white paper describing needed changes for the institution in regards to academic advising. The current advising policy states that the institution will provide counseling and academic advising services as well as academic instruction, professional counseling, and advising. However, it does not state how these services will be delivered (Buckeye Community College, Campus President, personal communication, October 7, 2015). The current faculty contract states that full-time faculty will pilot group advising sessions, assist students in creating academic plans, and participate in new student orientation (Buckeye Community College, Campus President, personal communication, October 7, 2015). There is also a side letter of agreement to review counselor/advisor responsibilities. However, no time line is given for this work (Buckeye Community College, Campus President, personal communication, October 7, 2015).

As stated, the institution has not reviewed the current academic advising structure to determine possible enhancements or improvements. All formal academic advising structures and services are handled by full and part-time faculty counselors. The current policy and procedure do not include any wording on case management or mandatory academic advising for all students. Although instructional faculty do advise students, this is not a formal procedure at the institution. The results of the data collection from this

study helped me produce white paper policy recommendations on revisions to the current academic advising policy and procedure to increase student success and completion.

Summary

Improving student completion continues to be a primary issue in higher education, especially for community colleges. Academic advising provides one suggested method for improving student completion and increasing graduation rates. The literature review for Section 1, sourced through multiple Boolean search strategies, provided the background on student attrition factors based on Tinto's (1993) theory of institutional departure. These methods assisted in achieving saturation of the literature as related to the current study. Using Tinto's (1993) theory of institutional departure as well as information on student academic advising from the local setting, I considered various factors that contribute to student success and completion. Section 2 for this study provides the quantitative methodology of block stepwise multiple regression to consider the statistical significance of each variable and the influence on student time-to-degree completion. Section 2 also includes information on the setting and sample, instrumentation and materials, data collection methods, data analysis, study assumptions and limitations, as well as ethical considerations. Section 3 addresses the findings from the data analysis and presents solutions based on the findings. The project includes a rationale for project selection, literature review, project description, evaluation plan, and implications. Finally, Section 4 provides my personal reflections and conclusions after the study, recommendations for alternate project ideas, and suggestions for future research.

Section 2: The Methodology

Introduction

In section 2, the key variables of student pre- and post-entry attributes, advisor type, and time-to-completion for this study were collected and analyzed using multiple regression in the quantitative method. The purpose of collecting this data was to determine the predictive relationship between students who selected to see the same advisor for multiple appointments and time-to-degree completion, after controlling for the effects of various pre- and post-entry attributes on student completion. Key outputs include the statistical significance of each variable.

The results obtained from the multiple regression analysis were used to inform the final project for this research study, based on the data analysis. The methodology section presents the key methodological aspects of the study, a description of the assumptions, limitations, and scope of this study as well as ethical considerations and conclusions from the data analysis.

Research Design and Approach

Through quantitative research methods, researchers in higher education attempt to determine relationships between variables through the analysis of numerical data (Lodico, Spaulding, & Voegtle, 2010). Quantitative methods answer research questions with hypotheses best answered by numerical data. Through this type of approach, the researcher identifies a problem based on trends and literature from the field, and the need to explain why something occurs (Creswell, 2012). Quantitative methods provide

valuable information for researchers in higher education to identify factors and variables that influence student learning and behavior.

This study used a non-experimental, correlational, quantitative research method with multiple regression analysis. Lodico et al. (2010) stated "Multivariate correlational statistics provide a way to examine multiple variables at once and to separate the contributions of different variables" (p. 288). Correlational research measures variables to find relationships (Lodico et al., 2010) and therefore fits the research questions of this study. The correlational research method allowed for examination and analysis of data on various pre- and post-entry attributes as well as advisor type to see the relationship between the multiple predictor variables and the criterion variable of student time-to-degree completion.

The problem of low student graduation rates at Buckeye Community College affects students, the community, and the economy as discussed in Section 1. In higher education, academic advisors and the administrators that supervise them need to understand the factors that impact student success, especially for new students (Kurland & Siegal, 2013; Rocconi, 2013). However, as with many other issues in the behavioral sciences, this issue must be analyzed through observation of data as it occurred in the higher education setting (Cohen & Cohen, 1983). Padgett, Salisbury, An, and Pascarella (2010) indicated, "A host of logistical and ethical issues often preclude educational researchers from randomly assigning college students to either participate in a given activity (the "treatment" group) or abstain from that activity (the "comparison" group)" (p. 30).

The purpose of this study was to determine the predictive relationship, if any, that advising model types have on first-time in college, full-time associate degree seeking students' time-to-degree completion. Logistical and ethical issues, such as lack of advisors and the inability to assist student progress and completion, prevent the actual assigning of students to specific experimental groups. Because a true experimental approach cannot be used, the study used retrospective data. Lodico et al. (2010) stated that past variables cannot be manipulated and require statistical analysis to eliminate extraneous variables. Therefore, the choice of a non-experimental design was appropriate and multiple regression provided the necessary capability to analyze the variables.

The continuous dependent variable for this study was student time-to-degree completion, based on the IPEDS criteria of 150% time to completion, measured in semesters enrolled at the institution. For the first research question, several independent variables were considered through block stepwise multiple regression, based on Tinto's (1993) institutional departure theory as discussed in the literature review. These independent variables fell into various categories of Tinto's (1993) model, as either pre-entry attributes or post-entry attributes. For the second research question, the independent variable was the academic advisor type, a variable defined by how the students self-selected for advising appointments.

With the increase in computer program sophistication, researchers may access an array of procedures to help determine relationships between data points (Padgett et al., 2010). In social and behavioral science research, including studies in higher education,

examining a single, continuous dependent variable and multiple independent variables, statistical methods such as multiple regression are common (Lipovetsky & Conklin, 2004; Menard, 2011). Regression analysis is a popular analysis tool in studies with multiple independent variables because it accommodates a large number of variables of different types, with the goal of predicting the value of the dependent variable based on the value of the independent variable (Gilstrap, 2013). Regression analysis provides a powerful tool in behavioral research, modeling several variables and the relationship between them, and showing how the dependent variable alters with variations in the independent variables (Dinov & Christou, 2011; Sunbok Lee, Man-Kit Lei, & Brody, 2015). This type of non-experimental study was appropriate to determine the correlational relationship of the independent variables to the dependent variable and the significance of these relationships (Creswell, 2012; Ilgan, 2013).

Other common methods in higher education research include hierarchical linear modeling (HLM), ordinary least squares regression (OLS), and propensity score matching (Padgett et al., 2010; Rocconi, 2013). However, HLM provides similar results to multiple regression (Cassidy, 2012), OLS regression fails to detect institutional effects (Rocconi, 2013), and propensity score matching is often less effective than multiple regression when dealing with data from a single institution (Padgett et al., 2010). Cohen and Cohen (1983) stated that multiple regression's ability to assess unique variances as well as the closely related measures of partial correlation and regression coefficients make it an important tool for non-experimental studies. Therefore, multiple regression was the best choice of statistical analysis for this study.

Setting and Sample

This study took place at Buckeye Community College. The school was selected due to access to institutional data and knowledge of the research setting and local problem. Discussions with the vice president of Access & Success, one campus president, as well as the dean of Student Affairs from one campus prompted the study, as well as presentations from the college president. The Institutional Research department reported that the school averages 1700 New IPEDS students each fall semester (Buckeye Community College, Research Analyst, personal communication, August 10, 2015). In 2013, the institution reported an IPEDS graduation rate of 5.2% for the 2011 cohort (NCES, 2014).

This study used a convenience sample supplied by the community college's 2011 IPEDS student cohort. Researchers in higher education often use information that is readily available and can be realistically collected (Creswell, 2012). In convenience sampling, researchers select participants that are available to be studied but may not be representative of an entire population. The convenience sample does, however, provide information needed to answer the research question and hypothesis (Creswell, 2012).

Because convenience sampling falls into the category of nonprobability sampling, it may be difficult to generalize the results to the larger population (Creswell, 2012; Pettus-Davis, Grady, Cuddeback, & Scheyett, 2011). However, Pettus-Davis et al. (2011) stated that nonprobability sampling is appropriate when the research study investigates the specific needs of, or a question on, a particular population rather than the larger population. For this study, access to the population at the large community college

to answer the research question based on a problem at the institution made convenience sampling appropriate.

For quantitative studies, *N*=30 is considered an acceptable minimum sample size (Creswell, 2012). However, the largest sample possible should be selected from the population under study, allowing for greater precision in statistical analysis (Creswell, 2012; Kelley & Maxwell, 2003). Soper (2015) provided a calculator to determine multiple regression sample sizes. Based on a probability level of .05, anticipated effect size of .15, and statistical power level of .80, with the 24 identified variables from Tinto's (1993) model and the three advisor types, a sample minimum of 178 was needed for this study.

The sample initially consisted of 1851 students in the 2011 IPEDS cohort, representing the entire student cohort population. Recent changes to procedures at the institution affected student completion rates, adding additional variables to the analysis of time-to-degree completion. These new efforts began with the fall 2012 IPEDS cohort. The new variables are not well documented or tracked in the institutional data system and cannot be controlled for in the statistical analysis. Therefore, the 2011 IPEDS cohort was selected for this study.

To meet the IPEDS definition of 150% time to degree completion, students from the 2011 cohort should complete degrees by summer 2014. Therefore, the data on students in the IPEDS cohort were tracked from fall 2011 to summer 2014, then expanded to include all graduating students to determine months of enrollment. The entire cohort was reviewed to find those students who self-selected the same advisor for

each appointment, those who saw varying advisors over the 3-year time period, and those students who did not use advising services. The sample included only those student records that contained all the necessary information needed for the multiple regression model used in the study.

Instrumentation and Materials

In this study, I attempted to determine factors contributing to timely graduation at Buckeye Community College based on the academic advising model as well as Tinto's (1993) institutional departure theory. A convenience sample of retrospective data were gathered from the Buckeye Community College's ERP student records system as well as from the academic advising scheduling system (SARS). Several independent variables were considered through block stepwise multiple regression, based on Tinto's (1993) institutional departure theory and advisor type. The identified independent variables fall into various categories of Tinto's (1993) model, as either pre- or post-entry attributes.

These data were considered to be reliable and valid based on the institutional policy and procedure for data collection, which states, "The accuracy, relevance, timeliness, and completeness of personal information in a system will be monitored and maintained" (Office of the President website, 2015). I reviewed and examined the data for accuracy and removed anomalies before performing coding and analysis.

In any quantitative study, the researcher must consider reliability and validity. For this study, reliability considerations included accuracy of the data gathered from institutional sources and possible data entry errors that may affect student outcomes. The data used in the study came from archival records housed at Buckeye Community

College. The information could not be manipulated and no instruments were used to measure the independent or dependent variables. However, the use of retrospective data removes the researcher's ability to control for quality. In this case, Lodico et al. (2010) indicated that changes to institutional data gathering methods and possible data inaccuracies should to be considered. Because the data gathered were from one institution, I investigated any possible errors within the data by consulting with the department responsible for institutional research to ensure accuracy.

Reliability of the COMPASS test results were also considered as these fit into students' pre-entry attributes as defined by Tinto's (1993) institutional departure theory. As an open access community college, Buckeye Community College enrolls many students who lack a high school diploma or who have not attended high school for many years. The COMPASS placement test allows these students to be placed in the proper levels of English and math upon entrance to the institution. Information on COMPASS test reliability and validity provided by ACT (2012) reviewed results from students at multiple higher education institutions using linear multiple regression analysis. The ACT (2012) study indicated,

> COMPASS tests are developed according to detailed test specifications to ensure that the test content represents current instruction in the relevant courses. All COMPASS tests are reviewed to be certain that they match these specifications, and this process includes a content review by outside experts in the field being assessed. (p. 17)

ACT reported 63-68% of students received a C or higher in the college-level course placed into based on the COMPASS test (Belfield & Crosta, 2012). Based on this information, reliability and validity of the COMPASS test data were assumed for this study.

Validity concerns for this study included internal validity, conclusion validity, and external validity. In determining internal validity, the question arises as to the extent the changes in the dependent variable are caused by the experimental manipulation (Lodico et al., 2010). In this study, the use of a non-experimental methodology introduced several threats to internal validity, including the use of pre-formed, non-random groups, historical events that occurred outside the study, and maturation of the students within the retrospective data set. These threats were addressed and considered in the final conclusions of the study.

When considering conclusion validity, I determined if the proposed relationships between variables were reasonable and credible (Trochim, 2006). I also considered the possibility of Type I and Type II errors in the conclusions, either rejecting a null hypothesis that is true or failing to reject a null hypothesis that is false, respectively (Lodico et al., 2010). The significance level will be set at $\alpha = .05$, providing a 5% chance of a Type I error. The use of SPSS and careful review of results assisted me in controlling conclusion validity in the study.

This study focused on retrospective data at a specific institution. Therefore, considerations of external validity, or the extent to which results are generalizable (Lodico et al., 2010), may not be necessary. The study did not include random

assignment or a large data set from multiple institutions. Instead, my goal was to provide information to correct a gap in practice at a local institution. If the data and information prove similar to other institutions, the results may be applicable to these other institutions. The raw data is available by request from other researchers.

Data Collection and Analysis

This study collected data based on Tinto's (1993) institutional departure theory as well as on student advising appointment history. Permissions were obtained from the Walden IRB (04-26-16-0418775) as well as from the study institution's IRB (Appendix B) before data collection began. Once permissions were obtained, the factual data were gathered from the institutional ERP system and the Scheduling and Reporting System (SARS) appointment system and housed on a secured drive. These data were used to examine the research questions and hypotheses provided in Section I.

Data were gathered from several sources for this study. First, information was pulled to identify students in the defined 2011 IPEDS cohort. Student background demographics such as GPA, gender, age, race, PELL eligibility, course registrations, and time to degree completion were collected from the ERP, Banner. These data helped determine measures of student integration based on Tinto's (1993) institutional departure theory, including pre-entry attributes, initial and ongoing goals, internal and external commitments, institutional experience, and academic and social integration. In addition, data from the institutional SARS were collected to determine the number of student advising appointments and advisor type for each appointment. The dependent variable,

time-to-degree completion, was measured in terms of semesters enrolled at the institution.

Quantitative variables fall into four categories or scales of measurement, including nominal, ordinal, interval, and ratio (Creswell, 2012). The dependent variable of time-to-degree completion is continuous, whereas the independent variables fell into several quantitative scales of measurement. Many of the variables needed to be converted from yes/no to nominal dummy variables, 0 or 1, for statistical analysis. Each categorical variable was coded as a dichotomous variable, representing the absence or presence of each characteristic. Table 1 shows the categories from Tinto's (1993) theory, the variables within each, and whether they are nominal, ordinal, interval, or ratio in scale. As mentioned earlier, the use of one continuous dependent variable and multiple independent variables of various types fits within the statistical analysis method of block stepwise multiple regression (Lipovetsky & Conklin, 2004; Menard, 2011).

Table 1

Independent Variables Based on Tinto's Institutional Departure Theory

Variable	Description	Effect	Classification
Pre Entry Attributes			
Demographics			
Age	18-25	+	Ordinal
	26-35	-	
	36-45	-	
	45+	-	
Race	1=Asian/Pacific Isl/Indian Subcn	+/-	Nominal
	2=Black	+/-	
	3=Caucasian	+	
	4=Hispanic	+/-	
	5=Other	+/-	
Gender	0=Male	+/-	Nominal
	1=Female	+/-	
Variable	**Description**	**Effect**	**Classification**
High School Abilities			
High School Graduate	0=No	+	Nominal
	1=Yes	-	
GED	0=No	+	Nominal
	1=Yes	-	
English Placement Score	Compass Writing 0-100	+/-	Ratio
	Compass Reading 0-100	+/-	
Math Placement Score	Compass Pre-Algebra 0-100	+/-	Ratio
	Compass Algebra 0-65	+/-	
Family Background			
First-Generation College Student	0=No	-	Nominal
	1=Yes	+	
Intentions			
Intend to obtain a degree	0=No	+	Nominal
	1=Yes	-	
Declared major upon entry	0=No	+	Nominal
	1=Yes	-	
Intend to transfer	0=No	+/-	Nominal
	1=Yes	+/-	
Post-Entry Attributes			
Ongoing Intentions			
Change Major During Academic Studies	0=No	-	Nominal
	1=Yes	+	
Difficulty			

(table continues)

Variable	Description	Effect	Classification
GPA	0.0=4.0	+/-	Ratio
Ability to Meet Academic Standards	0=No	+	Nominal
	1=Yes	-	
Use of Support Services	0=No	+	Nominal
	1=Yes	-	
Isolation			
Participation in Social Club or Activity	0=No	+	Nominal
	1=Yes	-	
Early Withdrawal	0=No	-	Nominal
	1=Yes	+	
First Year Experience Course	0=No	+	Nominal
	1=Yes	-	
External Obligations			
Commuter Student	0=No	-	Nominal
	1=Yes	+	
Work on Campus	0=No	+	Nominal
	1=Yes	-	
Married	0=No	+/-	Nominal
	1=Yes	+/-	
Finances			
Received Financial Aid	0=No	+	Nominal
	1=Yes	-	
PELL Eligible	0=No	-	Nominal
	1=Yes	+	
Work Study Student	0=No	+	Nominal
	1=Yes	-	

As with other studies reviewed in the literature review, the factors chosen were based on Tinto's (1993) institutional departure theory (Jones-White, Radcliffe, Huesman, & Kellogg, 2010). However, not all elements of Tinto's (1993) theory as described in the literature review are tracked by the institution used for this study (Buckeye Community College, Research Analyst, personal communication, August 10, 2015). Therefore, data were pulled only for the variables listed in Table 1. These variables were grouped into blocks based on the theoretical model, including demographics, high school abilities, family background, intentions, ongoing intentions, difficulty, isolation, external obligations, and finances.

In order to determine the predictive effect of academic advising on time-to-degree completion, the sample cohort was analyzed by advisor type. Upon data collection from SARS and Banner, the cohort was divided into three groups based on the advisor type; (a) consistent advisor type, (b) inconsistent advisor type, and (c) no advisor type. This categorical variable can be entered directly into the regression analysis. However, as there are three categories or types of advising identified, then they needed to be converted to dichotomous variables as presented in Table 2 before entering the block, stepwise regression model (Stockburger, 2016).

Table 2

Advisor Type Dummy Coding

	Type	Consistent	Varied
Consistent	1	1	0
Varied	2	0	1
None	3	0	0

Quantitative research methods attempt to predict relationships among variables, analyzing and interpreting the data gathered in order to draw conclusions and answer specific research questions (Creswell, 2012). For this study, the following research questions and hypotheses were examined:

RQ1 – How do student pre- and post-entry attributes (excluding advisor type), as defined by Tinto's (1993) institutional departure theory, relate to student time-to-degree

completion as measured by the IPEDS definition at Buckeye Community College?

Null hypothesis ($H_0$1) – There is no predictive relationship between student pre- and post-entry attributes (excluding advisor type), and student time-to-degree completion.

Alternative Hypothesis (H1) – There is a predictive relationship between student pre- and post-entry attributes (excluding advisor type), and student time-to-degree completion.

RQ2 – After controlling for other identified student pre- and post-entry attributes, how does advisor type relate to degree completion for students in the 2011 IPEDS cohort at Buckeye Community College?

Null hypothesis ($H_0$2) – After controlling for other identified student pre- and post-entry attributes, there is no predictive relationship between advisor type and time-to-degree completion for students in the 2011 IPEDS cohort at Buckeye Community College.

Alternative Hypothesis (H2) – After controlling for other identified student pre- and post-entry attributes, there is a predictive relationship between advisor type and time-to-degree completion for students in the 2011 IPEDS cohort at Buckeye Community College.

Long (n.d.) provided a four-step process for quantitative statistical analysis, consisting of reviewing the null, determining a probability level, selecting the correct test of significance, and then calculating the results. For this study, the probability level was

set as $\alpha = .05$. This probability level is standard in behavioral science research (Cohen & Cohen, 1983) and appropriate for this study. The tests of significance included *t* tests, correlational analysis, and regression analysis to determine those independent variables with significant influence on the dependent variable (Kurland & Siegal, 2013).

Multiple regression analysis looks for relationships between 2 or more variables (Trochim, 2005). In order to analyze the data using multiple regression, a linear relationship must be established between the dependent and independent variables. In multiple regression analysis, the researcher strives to select effective independent variables with high correlation to the dependent variable but low correlation among each other (Hinkle, Wiersma, & Jurs, 2003). In addition, the underlying assumptions of normality, homoscedasticity, and independence of errors and multicollinearity must be examined (Cassidy, 2012). To accomplish this, several tests were run in SPSS.

First, the Pearson *r* correlation coefficients was examined. The significance level of each variable was examined to see which independent variables significantly ($p < .05$) influenced the dependent variable. Although some researchers include variables that do not reach statistical significance (Boston University, 2013), variables that did not result in a significant correlation were removed from the analysis for this study. Also, independent variables that appeared redundant or multicollinear were removed or an explanation provided for their inclusion.

After the correlation coefficients were determined, the pre- and post-entry attribute blocks (defined as demographics, high school abilities, family background, intentions, ongoing intentions, difficulty, isolation, external obligations, and finances)

were entered into SPSS using stepwise multiple regression analysis. Each block of variables was inputted into the regression equation in a block stepwise method based on Tinto's (1993) model with forward entry and backward removal of variables if the *p* value exceeded the default limit with the inclusion of another variable (Horbar, 2015). The blocked independent variables were entered one at a time, but were then be deleted if they did not contribute significantly to the regression when combined and considered with the other independent variables (Hinkle, Wiersma, & Jurs, 2003). The direct and indirect predictive effects of the variables were observed as they are entered into the regression equation. The significance was noted for each block entered to help understand its predictive effect on the dependent variable.

The block student input variables variance identified through Tinto's (1993) institutional departure theory were controlled for before advisor type was entered into the regression. Research question two examined the relationship between the main independent variable of academic advisor type selected for each student appointment. Advisor types included the consistent advisor type, where the student consults the same advisor for each appointment, the inconsistent advisor type, where various advisors are consulted, and the no advisor type, where the student did not see an advisor. Because there were three categories or types of advising identified, they needed to be converted to dichotomous variables. Therefore, the categorical advisor types were converted to dummy variables for the regression analysis and were considered as a set independent variables (Boston University, 2013). This analysis produced an ANOVA table that compared the means of time-to-degree completion for each of the three advisor types.

Beta weights were examined to determine the magnitude of prediction for each advisor type after removal of the effects of Tinto's (1993) pre- and post-entry attributes (Lodico et al., 2010). It was assumed that the block stepwise multiple regression analysis model was appropriate for examining the single, continuous dependent variable and multiple independent variables.

Assumptions, Delimitations, Scope, and Limitations

Assumptions outline the basic premise or beliefs chosen for the research study. They are untested, unsupported concepts not proven through the research methods (Long, n.d.). Even though these assumptions may impact the conclusions drawn, they are an accepted element in all research studies. Outlining the research assumptions provides clarification and context for the conclusions presented. For this study, it was assumed that the data collected from Buckeye Community College was accurate and valid, based on the school policy as mentioned above.

Delimitations provide parameters and boundaries limiting the scope of the research (Long, n.d.). For this study, several delimitations were necessary to narrow the scope and manage the data analysis. The scope of this study was limited by its focus on community college students. As noted in the literature review, community colleges enroll more first-generation, low income, and academically underprepared students than 4-year institutions. In addition, community college students commute to campus and maintain outside commitments beyond higher education (Lundberg, 2014). The path to graduation and success for community college students does not mirror the direct route

outlined by the IPEDS graduation rate definition (Jones-White et al., 2010). These varied commitments and enrollment patterns influence the community college completion rate.

The students enrolled in Buckeye Community College primarily live in the local county, giving this study a regional focus (Buckeye Community College, Campus President, personal communication, October 7, 2015). Limiting the study to one school in a particular county of the United States imposed regional variances that do not apply to other areas of the country. The student population at the community college in another region or county may possess different pre- and post-entry attributes to the higher education experience, which may affect the results of any study based on Tinto's (1993) institutional departure theory.

Rocconi (2013) stated that student pre-college characteristics cannot be considered independently of the institution attended, as students select institutions based on these pre-entry experiences. Based on these regional and institutional differences, this study may not be generalizable to other higher education institutions. However, as community colleges throughout the United States look for ways to improve student success and completion, they may find some results and data applicable to their student populations.

Choosing to review only the 2011 IPEDS cohort of first-time, full-time students provided a key delimitation for this study as well. The federal government imposes a narrow definition of student success through the tracking and reporting of IPEDS rates, affecting institutional accountability focus and attempts to increase funding and support (Jones-White et al., 2010). This definition eliminates part-time, returning, and stop-out

students from the cohort data. Although this narrow definition and focus affect the generalizability of this study, it is applicable within the current accountability measures of community colleges.

Limitations outline potential weaknesses with the methodology and theory used in the research study (Long, n.d.). Several limitations and issues must be considered when reviewing this study results. First, the use of retrospective data created a fundamental limitation. Even though the intent was to choose the latest cohort possible to allow for student completion in the 150% timeframe, institutional policies and procedures are constantly changing. The continued study of student success and development of new support structures, as well as external economic factors, affect student completion rates at the local institution (Buckeye Community College, Campus President, personal communication, October 7, 2015).

The general lack of research on academic advising models at community colleges limits the study and the availability of resources applicable to the problem. Although research exists based on 4-year models, these may not be relevant to students attending community college. In addition, the Tinto (1993) institutional departure theory was based on 4-year, residential students. However, a comprehensive theory of community college student departure or completion is not available to support this study.

The choice of correlational research methods prevents this study from determining direct causation. Without the use of random assignment and a controlled experimental method, the findings from this study only suggest correlational relationships between the selected variables. Use of non-experimental methods opened the

conclusions to several threats, including history or events occurring over time that are not controlled, the maturation and changes in participants over time, mortality of participants from the data set, and the tendency of scores to regress toward the mean (Creswell, 2012). These assumptions, delimitations, and limitations were considered and discussed during the final analysis phase of the study in an attempt to avoid any type I or type II errors in the conclusions.

Ethical Considerations

For any quantitative research study, the issues of informed participant consent, protection from harm, and confidentiality must be addressed (Lodico et al., 2010). Because this study used retrospective data for non-experimental quantitative analysis, it did not pose a risk of harm or injury to the participants. The data analysis and reporting did not impact the student outcomes at the institution. Proper authorizations and permission obtained from the study institution's Institutional Review Board (IRB) and Walden University's IRB (04-26-16-0418775) before data collection began. All attempts were made to conceal the location and identity of the institution used for the study. So as to protect the human subjects used in the sample population, no names or identifying information were acquired. All data were kept in a secure location available only to me and the Walden committee overseeing the project.

Data Analysis Results

The following section outlines the data analysis processes and findings for this study. The data analysis procedures followed several steps aligned with the research problem, theoretical framework, original research questions, and hypotheses. The data

analysis consisted of data preparation, sample determination, descriptive statistical analysis of the sample, and various tests within SPSS block multiple regression following the outlined plan for this study.

Data Preparation

The full data set of the 2011 IPEDS cohort from Buckeye Community College consisted of 1851 students (*N*=1851). The institutional research analyst worked collaboratively with the ITS program analyst to pull various data points from the Banner and SARS systems. The data from the SARS system needed to be coded based on advisor type as defined for this study, then merged with the demographic and educational record data from the Banner system.

Since the student and advisor identifying information was not available to me, I worked with the institutional research analyst to manually code the SARS data for each student. Coding for the academic advisor type proved a bit more complicated than anticipated. Students with no appointment history in SARS or whose only appointments fell under the new student orientation coded into the no advisor type. Students with multiple appointments and various advisors placed into the inconsistent advisor type.

For the consistent advisor type, no standard definition existed. I based this type on different mandatory and case management advising models from the literature. In determining the best coding for students in the 2011 IPEDS cohort, I considered various models, as well as discussed the issue with the institution's research analyst. In the case management academic advising model, students are assigned a specific advisor for the duration of their studies at an institution (Reynolds, 2007). However, other models call

for a combined approach, providing students academic advising through faculty, staff, and counselors as a team approach and even, perhaps, in groups (Deil-Amen, 2011; Grites, 2013; O'Banion, 2012; Wiseman & Messitt, 2010). Another model assigns students a discipline-specific faculty advisor only after a major is declared (Vendituoli, 2014). In the CUNY ASAP model, students are assigned an advisor, but also attend group sessions and receive advising from other sources (Kolenovic, Linderman, & Karp, 2013). In addition, a study report by the organization MDRC indicated that advisor attrition did occur in the ASAP model, necessitating replacement advisors. This meant the students did not consistently see the same advisor throughout the study (Scrivener, Weiss, Ratledge, Rudd, Sommo, & Fresques, 2015).

Based on this review of academic advising structures from the literature and conversations with the research analyst from Buckeye Community College's Office of Institutional Research, I determined that the academic advising data required adjustments. Students in the data set saw the same advisor consistently after the initial appointment during new student orientation or others consistently saw the same advisor except for one or two outlying appointments. The research analyst indicated that multiple reasons may exist for these situations, including an advisor leaving the organization, the student finding an advisor they felt comfortable with during a second appointment, or students who changed campus locations. I therefore determined that students who saw the same advisor for 75% of appointments fell into the consistent advisor type. The analysis and coding needed to be done manually as the SARS system only provided raw data for each student, without any trend reporting or comparison of advising sessions. Upon

completion of the coding and merging of information, the researcher analyst removed all identifying student information from the final data set.

Upon receipt of the final data set, I reviewed the list and inputted dummy coding for the dichotomous variables, as outlined in the "Data Collection and Analysis" section of this study. I then sorted the data by graduation date. Since the purpose of this study was to review time-to-degree completion, students from the 2011 IPEDS cohort who did not complete a degree did not fit within the scope of the analysis. This reduced the cohort to N=190. This total exceeded the minimum sample size of 178 required for the multiple analysis as calculated in the "Setting and Sample" section of this study. Buckeye Community College tracks enrollment in terms of semesters, not months. While Buckeye Community College offers additional parts-of-term, the data did not provide any breakdown on this. The research analyst indicated that semesters of enrollment only counted those in which a student actually registered for classes, eliminating stop-outs from the data (Buckeye Community College, Research Analyst, personal communication, May 16, 2016). For consistency, I converted the semesters enrolled for each student to months by assuming a 16-week semester, or 4 months. Each semester converted to 4 months of enrollment for analysis.

After pulling the final sample for the regression analysis and ensuring all dummy coding was accurate and complete, I examined the other variables based on Tinto's (1993) institutional departure theory to ensure enough information to complete the regression analysis. After reviewing the test score data provided, it appeared that the test scores needed to be converted to another form as the students in the 2011 IPEDS cohort

each took different tests. In English, the test scores included COMPASS writing, reading, or the ACT. In math, test scores included COMPASS pre-algebra, algebra, trigonometry, or the ACT. A discussion with the executive director of Institutional Research (personal communication, May 1, 2016) indicated that the placement scores entered into Buckeye Community College's Banner system were code for the various test accommodations and could not be compared accurately using a ratio scale as I originally thought. He also indicated that he based test score data reports on the student's highest score achieved. Since the scales for each test differ, they could not be compared accurately using the scores. Instead, they needed to be coded based on course placement and compared as dummy variables.

Based on this information, I obtained a copy of the course placement represented by each test score from the director of Testing and Assessment (personal communication, May 2, 2016). In reviewing the ranges and placement levels, a specific test score may place a student in a range of courses, depending on major or the advice of their academic advisor. The purpose of obtaining the test score data for the regression analysis was to determine the students' college preparation as a pre-entry attribute. The main question is whether the student came to the institution college-ready in English and math. Tinto's (1993) model suggested that students leave higher education involuntarily if they do not have the requisite skills to succeed academically. Students that enter higher education college-ready possess the skills and abilities to both succeed in their coursework and understand the college environment, enabling them to succeed and complete a degree

(Strayhorn, 2014). I therefore reviewed the test scores for each student and coded them 1 if they placed in a college-level course and 0 if they required remedial coursework.

For the student services information, data from the SARS system indicated appointments for financial aid, state and county benefits assistance, and tutoring. I worked with the research analyst to code students who used these services as yes or 1 for this variable. While other student support services are offered by the institution, they are not tracked through any data system and therefore cannot be included in the analysis.

Several variables reviewed in this sample did not apply to the graduates from the 2011 IPEDS cohort, providing only null responses. All students in the sample ($N = 190$) chose a major, no major changes were indicated in the data, no First Year Experience courses applied, no early withdrawals appeared, and all students commuted to the institution. I removed these variables from the dataset before running the analysis. Also, the institution only tracks work study students employed on campus, so the work study variable remained and the work on campus variable was removed as they provided the same information.

Sample Characteristics and Descriptive Statistics

After review of the sample size and variables included in the data, I used SPSS and reviewed descriptive statistical information to obtain an overall profile of the student sample population. I first reviewed the range or spread, including the minimum and maximum, mean, and standard deviation from the mean for each variable. Following this, I reviewed the frequencies and percentage for each variable to determine counts and percentages to determine the relationship to the overall sample. For dichotomous

variables, only the frequency and percentage applied. Table 3 displays a summary of the descriptive statistics for the sample data set.

Table 3

Descriptive Statistics for 2011 IPEDS Cohort Convenience Sample

	Range	**Minimum**	**Maximum**	**Mean**	**SD**
Months Enrolled (dependent variable)	40	12	52	32.23	8.080
Inputs = student demographics and attributes (independent variables)					
	Frequency	**%**	**Range**	**Mean**	**SD**
Pre-Entry Attributes					
Age at Entry			39	21.13	7.713
17-25	166	87.3			
26-35	10	5.2			
36-45	7	3.6			
45+	7	3.6			
Race					
Asian/Pacific Isl/Indian Subcn	6	3.2			
Black	24	12.6			
Caucasian	136	71.6			
Hispanic	12	6.3			
Other	11	5.8			
Alaskan Native	1	.5			
Gender					
Male	77	40.5			
Female	113	59.5			
High School Abilities					
High School Graduate					
Yes	185	97.4			
No	5	2.6			
GED					
Yes	2	1.1			
No	188	98.9			
English College Ready					
Yes	109	57.4			
No	81	42.6			
Math College Ready					
Yes	39	20.5			
No	151	79.5			
Family Background					
First-Generation College Student					
Yes	19	10.0			
No	171	90.0			
Intentions					
Intend to Transfer					
Yes	50	26.3			

(*table cont*)

	Frequency	%	Range	Mean	SD
No	140	73.7			
Post-Entry Attributes					
Difficulty					
GPA	Min 2.07	Max 4.00	1.92	3.18	.450
Ability to Meet Academic Standards					
Yes	177	93.2			
No	13	6.8			
Use of Support Services					
Yes	164	86.3			
No	26	13.7			
Isolation					
Participation in Club/Activity					
Yes	48	25.3			
No	142	74.7			
External Obligations					
Married					
Yes	14	7.4			
No	176	92.6			
Finances					
Received Financial Aid					
Yes	151	79.5			
No	39	20.5			
PELL Eligible					
Yes	124	65.3			
No	66	34.7			
Work Study Student					
Yes	35	18.4			
No	155	81.6			
Advisor Type					
Consistent	21	11.1			
Varied	132	69.5			
None	37	19.5			

Descriptive Analysis Interpretation

Review of the descriptive statistics for the 2011 IPEDS sample revealed several interesting demographic data points. The majority of students who graduated from the 2011 IPEDS cohort took less than three years to graduate, with a mean of 32.23 months of enrollment (n=190). However, the range of months enrolled contains a large range of 40. The low end of 12 months applied to one student who, it is assumed, graduated with

a short-term certificate. Certificate completion counted towards the 150% completion rate measured by IPEDS.

The majority of students fitting the IPEDS definition of first-time, full-time enrollment attended the institution at a young age, with 87.3% of students falling between the ages of 17 and 25 (n = 166). The other groupings of 25-35, 36-45, and 45+ contained very few students. In addition, the majority of the cohort fell into the category of Caucasian (n = 136), accounting for 71.6% of the students in the sample. Black appeared as the second largest race category (n = 24), with 12.6% of students. The other race categories included very few students, showing a lack of diversity in the graduates from the 2011 IPEDS cohort.

The descriptive statistics revealed that female students (n = 113) dominated the cohort, accounting for 59.5% of students. Combining high school graduates (n=185) with those receiving a GED (n = 2) showed that 187 of the graduating students completed a high school level education. English placement levels for the sample indicated 57.4% of students entered the institution prepared for college-level English, with 81 students, or 42.6%, in need of remedial English coursework. Math placements came in much lower. Of the total sample, only 20.5% (n = 39) came prepared for college-level math courses while 79.5% (n = 151) required remedial math courses. Finally, the data for the last pre-entry attribute of first-generation college students indicated that 90% (n = 171) of students in the sample had parents or family members that attended higher education previously. Only 10% of students fell into the category of first-generation.

In reviewing the descriptive statistics, several key data points are revealed that connect to Tinto's (1993) institutional departure theory. As previously discussed, Tinto's model indicates that students' pre- and post-entry attributes may have a positive or negative affect on their persistence and success in higher education. Tinto (1993) indicated that students may leave the institution voluntarily due to various post-entry experiences, or involuntarily due to lack of preparation. Variable selection for this study followed the categories in Tinto's (1993) model, using the eight categories of intentions, commitment, adjustment, difficulty, congruence, isolation, obligations, and finances.

The only measurable variable for intentions from the dataset, transfer intentions, revealed that only 26.3% of students transferred upon graduation from the institution. The categories of commitment, adjustment, and congruence did not contain any relevant variables tracked by the institution, so these categories from Tinto's (1993) model could not be included. For difficulty, the three variables of GPA, ability to meet academic standards, and use of support services, the data on the students in the cohort indicated a relatively high average GPA (M = 3.18, SD = .450), and 93.2% of students (*n* = 177*)* met academic progress standards for financial aid eligibility. In addition, 86.3% (*n* = 164*)* of students in the data set used support services during their time at the institution.

For the variables under the category of isolation, only one variable showed any variance in the data, participation in a social club or activity. The other identified variables from Tinto's (1993) model of early withdrawal and First Year Experience course revealed all null (0) values for the sample from the cohort (*N* = 190). However, for the variable of participation in a social club or activity, 48 students, or 25.3% of the

data set, participated in official activities at the institution. Again, of the variables under the category of external obligation, only one contained usable data for this analysis. Of the 2011 IPEDS cohort, 92.6% (n = 176) were not married during their enrollment in the institution.

The variable category of finances indicated that 79.5% (n = 151) of students in the sample received financial aid, with 65.3% (n = 124) of the students eligible for PELL grants and 18.4% (n = 35) eligible for work study assistance. As discussed earlier, all work study positions at the institution are campus-based employment opportunities. The institution does not track other types of student employment in the data system.

The final variable category for this study of advisor type includes consistent, variable, and none to describe the academic advising received by each student. From the sample, 11.1% (n = 21) of students saw the same academic advisor for each appointment. The majority, or 69.5% (n = 132) followed the standard institutional practice and saw various academic advisors for each appointment. In addition, 19.5% (n = 37) of students in the sample did not see an academic advisor at all during their time at the institution.

Questions and Hypotheses

In this study, I attempted to determine factors contributing to time-to-degree completion at Buckeye Community College based on the academic advising model as well as Tinto's (1993) institutional departure theory. I addressed the main problem through two research questions in order to effectively control for the known independent variables as defined by Tinto's (1993) model before isolating the unknown effects of the main study variable defined by the three advisor types. The first research question

focused on the impact of student pre- and post-entry attributes, as defined by Tinto's (1993) student departure theory. The second research question focused on the relationship between advisor type and student time-to-degree completion. Both research questions looked to identify correlation between the variables and student time-to-degree completion. Each research question was tested against a null and alternative hypothesis.

Research Question 1

RQ1 – How do student pre- and post-entry attributes (excluding advisor type), as defined by Tinto's (1993) institutional departure theory, relate to student time-to-degree completion as measured by the IPEDS definition at Buckeye Community College?

Null hypothesis ($H_0$1) – There is no predictive relationship between student pre- and post-entry attributes (excluding advisor type), and student time-to-degree completion.

Alternative Hypothesis (H1) – There is a predictive relationship between student pre- and post-entry attributes (excluding advisor type), and student time-to-degree completion.

Research Question 2

RQ2 – After controlling for other identified student pre- and post-entry attributes, how does advisor type relate to degree completion for students in the 2011 IPEDS cohort at Buckeye Community College?

Null hypothesis ($H_0$2) – After controlling for other identified student pre- and post-entry attributes, there is no predictive relationship between advisor type and

time-to-degree completion for students in the 2011 IPEDS cohort at Buckeye Community College.

Alternative Hypothesis (H2) – After controlling for other identified student pre- and post-entry attributes, there is a predictive relationship between advisor type and time-to-degree completion for students in the 2011 IPEDS cohort at Buckeye Community College.

Assumptions

Before proceeding with the multiple regression analysis, the data needed to be tested to determine multicollinearity of variables and the presence of linear relationships between the independent and dependent variables (Cohen & Cohen, 1983). Where needed, data adjustments ensured validity of results. The statistical assumptions are described below with the procedures used to determine adjustments to the data.

For accurate multiple regression analysis, a linear relationship must exist between the continuous independent and dependent variables. To determine this linear relationship, I reviewed the Pearson correlation coefficients, to ascertain the correlation between the independent variables and dependent variable of time-to-degree completion. When a significant correlation did not exist, the independent variable was removed from the equation.

In reviewing the continuous variable of age for the sample, the data presented many outliers to the basic linear relationship. Most of the students in the sample (N = 190) fell within the 17-25 age range, with the remaining age groups containing minimal numbers of students. Therefore, as suggested by Nau (2016), I recoded the age data to

dichotomous dummy variables to contrast the control age group of 17-25 against the other groups. This coding for age included the 17-25 age group represented by 1 and all others represented by 0.

In reviewing the linear relationship between GPA and months enrolled, it appeared that the linear relationship was violated. However, GPA was retained in the analysis as its correlation to months enrolled was significant with a p value of .024 ($p < .05$). The remaining dichotomous variables in the dataset were retained as well because the linear relationship was not violated with nominal independent variables (Nau, 2016).

In addition to reviewing the linear relationship between variables, multiple regression also requires a review of multicollinearity to eliminate redundant variables (Nimon & Oswald, 2013). Nau (2016) suggested that any variable with a variance inflation factor greater than 10 ($VIF < 10$) or a tolerance less than .10 ($T < .10$) be removed from the final equation, based on standard definitions for these statistics. I therefore followed this suggestion in my review of the data. Also, I reviewed the Pearson bivariate correlation analysis for any variables with a correlation greater than .70 (Grande, 2015). None of the variables violated these assumptions.

Multiple Regression Analysis

For the regression analysis, I used SPSS to run a regression model based on entry of all variables into the regression and then backward removal. Stepwise regression uses an additive process, entering each independent variable one at a time and continuing to add variables until none of independent variables add significantly to the change in prediction for the dependent variable (Astin, 1993). Nau (2016) indicated, “If you have a

modest-sized set of potential variables from which you wish to eliminate a few – i.e., if you're fine tuning some prior selection of variables – you should generally go backward." In the backward model, backward removal of variables determines which independent variables remain significant at the $p < .05$ level and removes those that do not fit this criterion.

The blocks for this analysis entered the regression based on Tinto's (1993) institutional departure theory. This allowed examination of the change in significance of the independent variables from each block entered in predicting a change in the value of the dependent variable of months enrolled. For each block entered, an analysis and review of the significance of each independent variable and the overall explained variance in the independent variable showed how each group affected the dependent variable. Those variables that entered the regression with a significant value and remained at that level throughout the regression showed a direct impact on the dependent variable.

Block Stepwise Multiple Regression

For the block stepwise regression, the following blocks were entered into the regression equation: (a) demographics, (b) high school ability, (c) family background, (d) intentions, (e) difficulty, (f) isolation, (g) external obligations, and (h) finances. The final block of advisor type was entered after analysis of the first eight blocks and determination of the best regression model for the student pre- and post-entry attributes. The stepping method criteria set indicated that variables entered the equation if the probability value upon entry was $p < .05$ and remained as long as the value remained $p <$

.10. I used standardized *DfBetas* and standardized residual values to determine if the data contained any outliers or significant cases with a large value (< -2 or > 2). Descriptive statistics results showed no standardized *Dfbeta* values < -2 or > 2, indicating an outlier or influential case.

As mentioned previously, the data for student age entered the equation in two different forms, once with multiple levels and once as dichotomous. In both instances, age did not maintain a significant value of $p < .05$. In addition, the race variable did not maintain a significant value of $p < .05$, nor did gender. A total of 22 variables were entered in the first eight blocks for the analysis, resulting in 15 different models.

In model 15, only seven variables remained in the regression. The overall explained variance for this model (R^2) was .224, or 22%. However, the adjusted R^2 was .194, which explains 19% of the variability in time-to-degree completion by the seven independent variables, measured in months enrolled at the institution. The overall significance for the final model equated to .000, surpassing the criteria of $p < .05$. Table 4 presents the overall final model summary results.

Table 4

Model 15 Summary Results for Block Stepwise Multiple Regression

R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	ANOVA Sig
.473	.224	.194	7.907	-.002	.387	1	181	.535	.000

Table 5 presents the information on each of the remaining dependent variables in the model, the step it entered the regression, the unstandardized beta weight (*B*), standardized

beta weight (β), the significance (*p* value), confidence interval, and partial correlation (part) for each independent variable.

Table 5

Model 15 Statistics and Variable Results

	Block	B	β	Sig	95% Confidence Interval for B		Part
English Placement	2	-2.34	-0.13	.056	-4.73	0.06	-0.13
First-Generation	3	4.48	0.15	.024	0.61	8.34	0.15
Transfer	4	-5.81	-0.29	.000	-8.48	-3.14	-0.28
GPA	5	-2.62	-0.13	.060	-5.34	0.11	-0.12
Used Services	5	4.29	0.17	.015	0.83	7.75	0.16
Club Participation	6	3.77	0.19	.010	0.90	6.64	0.17
Financial Aid Elig	8	-3.62	-0.17	.013	-6.47	-0.77	-0.16

The beta weights (B) show the amount of change in the dependent variable associated with each independent variable. The standardized beta weights (β) show the standard deviation (*SD*) change for the dependent variable based on each independent variable. Based on this data, four variables displayed as negative predictors to months enrolled at the institution and three variables emerged as positive predictors. The negative predictors indicate these variables decreased student time-to-degree completion measured in months enrolled at the institution, while the positive predictors increased the months enrolled. The variables of first-generation, use of services, and club participation all displayed a positive influence on the dependent variable of time-to-degree completion, measured in months enrolled at the institution. In other words, when these three variables are included or increase in a student's pre- or post-entry attributes, time-to-degree completion in terms of months enrolled at the institution also increases. As seen in Table 5, for the dichotomous variable of first-generation college student, the *B* equaled a

positive 4.48. When this variable is present, the student's months of enrollment increased by over 4 months. The remaining variables of English ready, intent to transfer, GPA, and financial aid eligible displayed a negative influence. When these variables are present in a student's pre or post entry attributes, time-to-degree completion decreased.

All seven of the included variables displayed significance at the $p < .05$. However, only five revealed a confidence interval exclusive of zero. These variables included first-generation, intent to transfer, used services, club participation, and financial aid eligible. While the other two variables of English placement and GPA added to the overall variability in time-to-degree completion, measured in months of enrollment at the institution, only the five variables may be considered to be predictive of time-to-degree completion.

After reviewing and analyzing the 15 models produced by the first eight pre- and post-entry attribute blocks, I reran the block stepwise multiple regression with backward removal, adding the final variables of consistent advisor type and variable advisor type as block 9 and rerunning the backward regression. The coding for these variables used the no advisor type as the base. The addition of the ninth block created 16 models in the regression model summary. The final model 16 included the variables of English Placement, first-generation, intent to transfer, GPA, club participation, financial aid eligible, and the two advisor types of consistent and varied. While use of services appeared in model 15 for the previous regression, it did not maintain significance in the regression with the advisor type variables added. This 16th model indicated a significant

relationship between advisor type and time-to-degree completion at Buckeye Community College. Table 6 provides the model summary statistics for this 16th model.

Table 6

Model 16 Summary Results for Block Stepwise Multiple Regression

R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	ANOVA Sig
.490	.240	.207	7.844	-.002	.485	1	180	.487	.000

In this model, the adjusted R^2 indicated 21% of the variability in the dependent variable of time-to-degree completion measured in months enrolled at the institution can be explained by the combination of the nine independent variables included in the regression. This is an increase of 2% from the previous regression model 15.

Table 7

Model 16 Statistics and Variable Results for Advisor Types

	Block	B	β	Sig	95% Confidence Interval for B		Part
Variable Advisor Type	9	4.24	0.21	.007	1.67	10.30	.082
Consistent Advisor Type	9	5.98	0.22	.005	1.28	9.20	.137

As shown in Table 7, both advisor types displayed a positive influence on time-to-degree completion. In relation to the base of no advisory type, students who saw a different advisor for each advising appointment had an increased time to graduation of 4 months ($B = 4.24$) and those that saw the same advisor for each appointment increased time to graduation by almost 6 months ($B = 5.98$). The squared semi-partial correlation coefficient provides information on the relationship between the dependent variable and

the independent variable, controlling for all other independent variables (Hardy, 1993). In this case, the variable advisor type squared semi-partial showed that 3.1% of the variation in months to graduation was explained by this independent variable. Likewise, 3.3% of the variation in months to graduation can be attributed to the consistent advisor type.

The *F* ratio measures the difference in mean values relative to the overall variability of the sample. The overall *F* ratio changes from model 15 to model 16. The value for model 15 ($F = 7.503$) was slightly higher than when the advisor type variables entered the equation and the value for model 16 ($F = 7.163$) showed a decreased overall value. However, both models showed significant impact on the dependent variable ($p < .05$).

Research Question 1 Answered

Based on the results of model 15 of the block stepwise multiple regression with backward removal of variables, five student pre- and post-entry attributes displayed a predictive relationship to student time-to-degree completion, measured in months enrolled at the institution. The overall model showed a significant relationship between seven dependent variables from Tinto's (1993) student departure theory and student time-to-degree completion for the sample of 2011 IPEDS cohort students from Buckeye Community College, explaining 19% of the variance. Therefore, I accepted the alternate hypothesis (H1) for RQ1: There is a predictive relationship between student pre- and post-attributes (excluding advisor type) and student time-to-degree completion.

Research Question 2 Answered

Based on the results of model 16 of the block stepwise multiple regression with backward removal of variables, four student pre- and post-entry attributes displayed a predictive relationship to student time-to-degree completion, measured in months enrolled at the institution, and both advisor type variables indicated a predictive relationship. The overall model showed a significant relationship between the independent variables of advisor type and student time-to-degree completion for the sample of 2011 IPEDS cohort students from Buckeye Community College. The overall model explained 21% of the variance in the independent variable, with a significance level below the predicted (p = .05). Therefore, I accepted the alternate hypothesis (H2) for RQ2: After controlling for other identified student pre- and post-entry attributes, there is a predictive relationship between advisor type and time-to-degree completion for students in the 2011 IPEDS cohort.

Multiple Regression Analysis Interpretation

In the first regression analysis based on RQ1, three positive predictor variables showed increased time to graduation based on months of enrollment at Buckeye Community College. The variable of first-generation college student predicted an increase in months enrolled by 4.5 months, the variable used services predicted an increase in months enrolled by over 4 months, and the variable participation in a club or activity predicted an increase in enrollment by almost 4 months. These represent increased enrollment of most of one semester at Buckeye Community College, a significant amount of time for students pursuing a 2-year associated degree or 1-year

short-term certificate. Further investigation into each individual student and other factors might explain these increases at a deeper level.

Based on the literature review, first-generation college students take longer to graduate due to lack of knowledge and family support (Sparkman, Maulding, & Roberts, 2012). The data analysis in this study matched this assumption. However, the literature review indicated that students who connect to a program or group at the institution should be more engaged and better able to persist and succeed (Ellis, 2014). The services used from the data to determine this variable included tutoring services, financial aid appointments, and county benefits assistance, all of which may indicate a student's need for additional support from the institution. Participation in a club or activity also should indicate student commitment and engagement, but the data analysis showed a positive relationship between this independent variable and time to graduation, increasing the months of enrollment. Depending on the club or activity, students may stay at the institution longer as part of a team sport or other non-academic group. Since the data from Buckeye Community College did not indicate which club or activity students' participated in, further analysis is needed to determine the cause of this increase in time to graduation.

The negative predictor variables found through the block stepwise regression with backward removal of variables matched the findings from the literature review. The literature indicated that academic preparation directly impacts student success and completion in higher education (Crosta, 2014). Students who entered the institution prepared for college-level English and maintained a higher GPA had a decreased time to

graduation. However, for both these variables, the decrease was less than a semester of enrollment. Intent to transfer and financial aid eligibility proved to be more significant in the reduction of time-to-degree completion. Intent to transfer predicted reductions in months enrolled by almost 6 months and financial aid eligibility predicted a decrease in enrollment by over 4 months. The literature indicated that both students' goals and access to financial resources increased likelihood of success and completion (McKinney & Novak, 2013; Smith & Allen, 2014). Decreasing enrollment by over one semester or more can make a significant difference for students enrolled at a 2-year institution.

While these findings apply to a specific convenience sample at Buckeye Community College, it is important to note that several variables from Tinto's (1993) institutional departure theory remained significant in terms of time-to-degree completion. While Tinto based his theory on students at 4-year institutions, the pre- and post-entry attributes defined by his theory influenced the community college sample population used in this study. Expanding the analysis to a larger sample from multiple 2-year institutions would provide additional information to determine if this finding could be applied to additional community college students.

For the block stepwise multiple regression with backward removal including advisor type variables, both the consistent and varied advisor type variable proved significant predictors of time to graduation based on months enrolled at the institution, compared to the base of no advisor type. However, the consistent and varied advisor types unexpectedly increased time to graduation by over one semester. The consistent advisor type increased time to graduation by almost 6 months and the varied advisor type

increased time to graduation by a little over 4 months. Combined together, these two variables accounted for 6% of the variability in time to graduation, after controlling for the other variables in the regression.

In order to examine the effects of the advisor type variables more closely, I reviewed the frequencies for the variables from Tinto's (1993) institutional departure theory with the advisor type variables. Table 8 displays the frequency results and percentages.

Table 8

Independent Variable Frequencies

	English Ready		Financial Aid		First-Generation		Transfer		Used Services		Club Part	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Consistent	12	9	5	16	20	1	14	7	0	21	15	6
Varied	59	79	25	108	116	17	97	26	0	133	99	34
None	10	26	9	27	35	1	29	7	26	10	28	8

This review of frequencies indicated that the students who did not see an academic advisor were better academically prepared, most received financial aid assistance, all but one did not come to higher education as a first-generation student, the group did not use services as much as students in the other two groups, and most did not participate in clubs. While the frequencies do not provide a full picture of why the students who did not see an academic advisor graduated in less time than those who saw an academic advisor, it does provide additional information on the sample characteristics and provide some insight into why the data provided these unexpected results. The sample data

appears skewed for both the characteristics of first-generation and used services, which may impact the multiple regression analysis. However, the data findings provided preliminary insight into the characteristics and completion metrics for students at Buckeye Community College.

In reviewing this data, it may be that those students who entered the institution with clear goals and commitments, as expressed by Tinto's (1993) student departure theory, did not need the assistance of an academic advisor to obtain a degree within a shorter timeframe. Buckeye Community College does not track data on students who change their major during enrollment at the institution. Tinto's (1993) institutional departure theory indicates that students without a clear goal are less likely to complete a degree. As stated in the literature review, Tinto (1993) found that the stronger a student's personal goals were linked to college completion and the student possessed the willingness to work toward this goal, the more likely a student will remain enrolled and graduate. Congruence also factors into completion. Students who connect their skills, abilities and interests with the institution and services provided persist and complete at a higher rate (Tinto, 1993). In addition, the literature indicated that students with a defined plan of study were more likely to complete a degree (Jenkins & Cho, 2013). However, The Banner system at Buckeye Community College only indicates their current major selection or if a major selection is missing, not if this information changed over the course of time. Therefore, data on plan of study could not be entered into the regression analysis as an independent variable to determine its impact of time to graduation.

The review of the literature suggested that academic advising prevents attrition (Dykes-Anderson, 2013). However, misinformation from an academic advisor my increase time to graduation and increase attrition (Allen, Smith, & Muehleck, 2013; Bers & Schuetz, 2014; Packard & Jeffers, 2013). Research into advising approaches and timing is needed to clarify the overall impact of academic advising on student completion (McKinney & Novak, 2013). In addition, a student's expectations for academic advising need to be met in order for the proper engagement and positive influence to occur. Some students may only want or need prescriptive advising, with the advisor providing students with information on course offerings, degree sequences, student services, and graduation requirements (Gravel, 2012; O'Banion, 2012). Other students may prefer developmental academic advising, with shared decision making and a deeper relationship between advisor and student aimed at enhancing the student's skills-development and self-awareness (Gravel, 2012; O'Banion, 2012; Swecker, et al., 2013; Teasley & Buchanan, 2013). Both forms are important, depending on the needs of the student being advised. If students in the consistent or varied advisor type groups at Buckeye Community College received incorrect information or advising that did not meet with their expectations or needs, then this may account for the increased time to graduation.

Results Support a White Paper for Policy Recommendations

A block stepwise multiple regression analysis based on Tinto's (1993) institutional departure theory provided information to assess the current academic advising structure at Buckeye Community College. The data analysis from the regressions provided answers based on the research questions posed by this study.

However, the results of the data analysis confirmed that additional research and clarification is needed to determine the full impact of academic advising on student completion. Additional types of data analysis may provide more in-depth analyses and conclusions. Despite the limitations of the findings in this study, recommendations for improvements to Buckeye Community College's policies and procedures for academic advising and data collection can still be made through a white paper format.

Practitioners in higher education often assert that students require additional academic advising in order to complete and succeed (McKinney & Novak, 2013; Swecker, Fifolt, & Searby, 2013). However, this assumption may not apply to all students at all types of institutions. It is apparent that, for this small sample of students who graduated from Buckeye Community College, those who did not see an academic advisor completed a degree despite the assumed disadvantage, and did so in less time than those students who saw an academic advisor. The differences between these groups of students may be used to tailor advising services to meet individual student needs, improving the overall structure of academic advising at the institution.

Conclusion

Section 1 of this study outlined the problem of below-average IPEDS graduation rates at Buckeye Community College. With only 5.2% of IPEDS students completing a degree (NCES, 2014), the institution needed to review current procedures and determine methods to improve student success and completion. Academic advising methods provide one way for institutions to improve student completion. Although the administration of the community college reviews these success and completion rates and

constantly looks to improve practices to assist students, the institution had not completed a review of current academic advising methods (Buckeye Community College, Dean of Student Affairs, personal communication, April 27, 2015). Therefore, this study was based on the thorough literature review of academic advising as well as the review of Tinto's (1993) institutional departure theory as a basis to research the institution's current academic advising model and make suggestions for improvements.

As discussed in Section 2 of this study, I used a quantitative method with block stepwise linear regression to consider the problem of low student completion rates. Specifically, I considered the statistical significance of the various independent variables outlined as they relate to student time to graduation measured in months of enrollment in the institution. Data were collected through a convenience sampling of Buckeye Community College students from the 2011 IPEDS cohort.

The block stepwise multiple regression considered the hypotheses in terms of statistical significance, based on a $p < .05$ as related to time-to-degree completion at the community college. This methodology was appropriate for a review of quantitative data from the institution. The data provided by the institution included information on student pre- and post-entry attributes, based on Tinto's (1993) institutional departure theory, as well as information on advising appointments for students in the 2011 IPEDS cohort. The regression analysis indicated that both elements from Tinto's institutional departure theory and advisor type had significant impact on student time-to-degree completion, based on months enrolled at the institution. I presented data analysis results and

considerations on the final regression models to address the hypotheses and research questions posed by the study.

Delimitations for this study include the focus on community college students, regional influences and sample, and the choice to use only the 2011 IPEDS cohort. Limitations outlined include the use of retrospective data, lack of research on community college academic advising, lack of random assignment for the sample, as well as history, maturation, mortality, and regression in the sample. Other limitations encountered included the need for manual coding of student advising data, the possibility of advisor turnover at the institution, and possible student movement between campuses. These delimitations and limitations may affect the generalizability of the study. Additionally, the choice of quantitative methods eliminated the possibility of obtaining the student perspective or voice on issues of academic advising and completion at the community college. Each campus of Buckeye Community College employs its own academic advisors, and it is not possible to tell from this study what information was discussed during individual advising appointments, which may impact student satisfaction and completion. Ethical considerations were studied and methods employed to maintain participant confidentiality, obtaining proper institutional approvals before collecting data, and protecting the participants from harm. Section 3 of this study describes the project developed based on the data analysis findings and additional research into academic advising. Section 4 provides reflections on the recommendations found in the final project as well as implications for future research.

Section 3: The Project

Introduction

In this study, I addressed the problem of low graduation rates at Buckeye Community College. Buckeye Community College had not reviewed the institution's academic advising structure to determine best practices to increase student success and completion. I worked to address this gap in practice by examining the relationship between different advisor types and student completion at the institution. In Section 3, I detail information on the choice of a policy white paper as the final project for this study as well as the goals and objectives I hoped to attain. The literature review first describes uses of white papers and why it is an appropriate project to present my research findings. I then review the various literature pertaining to the final recommendations as based on my research findings and the results of the data analysis from Section 2. Finally, I discuss the proposed evaluation and dissemination plans for the project and the project implications at the national, state, and local levels and potential to effect social change in higher education.

Project Overview

Based on Tinto's (1993) institutional departure theory, the final project recommended methods to increase student engagement through a revised academic advising structure at Buckeye Community College. Tinto's (1993) theoretical framework provided the structure for the literature review on the problem of student attrition, the data collection, and analysis variables used to determine the predictive relationship between student pre- and post-entry attributes and completion. For the project, Tinto's

(1993) theory provided the basis for the literature review on effective academic advising practices in higher education and subsequent project recommendations for Buckeye Community College.

Project Description

In order to provide recommendations for academic advising policy and procedure changes at Buckeye Community College, I created a white paper to share with the institutional leaders. In providing this information and analysis from the study, I provided the leaders with the data and supporting documentation needed to formulate informed decisions for academic advising. The white paper structure includes background information on the problem, the results of my study, and solutions based on both the study data analysis and a review of current literature and best practices for academic advising. The white paper presentation uses an easy-to-read format, including graphics, sidebars, and language that allows readers to easily understand the problem, research findings, and proposed solutions. The final project consists of an introduction, background on the problem at the institution, a section on the study, the use of Tinto's (1993) institutional departure theory, data collection and multiple regression results, recommendations for change at the institution and future research opportunities, conclusions, and references for the project.

The white paper presents a combination of the quantitative findings from my study as well as supporting information from the literature to inform institutional decisions regarding the structure of academic advising at Buckeye Community College. The white paper is designed to present readers with the data findings and best practices

from the literature with the purpose of forming the basis for evaluation of the current academic advising structure as well as to create buy-in for adopting changes to improve student success and completion at the institution.

Project Goals

The goals of the white paper project are to (a) provide background information on the current success and completion problem at Buckeye Community College, (b) discuss findings from my research on the impact of academic advising on student completion, (c) present change recommendations based on the data and best practices from the literature, and (d) present policy changes to increase student success and completion rates at Buckeye Community College. Discussions with leaders at the institution based on the information presented in the white paper will hopefully prompt policy changes to increase student success and completion rates at Buckeye Community College.

Rationale

The study of Buckeye Community College's low success and completion rates and review of the impact of academic advising on time to graduation addressed the identified gap in practice at the institution. The white paper provides an appropriate format to communicate the research findings and recommendations to the institution's leadership team. This format allows readers to make decisions based on evidence and understanding of facts and data (Sakamuro, Stolley, & Hyde, 2016). It also presents valuable background information on the problem and proposed solutions for implementation (Sakamuro, Stolley, & Hyde, 2016).

Connecting Recommendations and Research

White papers effectively communicate information on a problem and its possible solutions to readers interested in the topic (McKeon, 2005). They are often used to argue for a particular position or to propose new solutions to a problem (Sakamuro, Stolley, & Hyde, 2016). This format aims to educate and persuade the reader in regards to a specific solution (Mattern, 2013). Because Buckeye Community College had not examined the impact of current academic advising structures on student success and completion, the white paper structure allows for a comprehensive, understandable, yet succinct presentation of the study information to leaders at the institution, prompting discussion about implementing changes based on my research findings.

Connecting Recommendations and Research Results

The project of a policy recommendation presented in the form of a white paper was derived from the study research results and conclusions. White papers often use charts, graphs, and sidebars to grab attention and communicate specific information in a quick, easy format (Mattern, 2013). A well-crafted white paper is an effective tool for this study as it provides a high-level description of the problem, the findings from the current research study, and applications for Buckeye Community College. The study results showed a predictive relationship between certain student pre- and post-entry attributes as well as academic advisor type on student time-to-degree completion. A white paper format provides stakeholders background information on the problem, key points from the data analysis in a visual format such as charts and graphs, and recommended solutions based on the research.

Addressing the Current Gap in Practice

The identified gap in practice for this study was Buckeye Community College's low student success and completion and a lack of information on the impact of its current academic advising structure on graduation rates. The white paper format provides an overview of the problem identified, the gap in practice at the institution, the findings from the research, and subsequent recommendations for changes and assessment. Use of Tinto's (1993) institutional departure theory offered the basis for the study and change recommendations, providing a strong theoretical foundation for the findings. I addressed Buckeye Community College's problem of low student success and completion through examination of retrospective data on student pre- and post-entry attributes and academic advising appointment history. The regression analysis provides the institution with quantitative data to help evaluate current practice. These data can help the institution determine the effectiveness of current academic advising processes. The information presented in the white paper aims to encourage change at the institution based on the research findings and best practices from the literature.

Review of the Literature

This study examined the predictive influence of advising model variables on first-time, full-time associate degree seeking students' time-to-degree completion. This literature review begins with information on the use of the white paper, including its background, structure, and benefits in higher education. Following this information on the project structure, the review provides an overview of the recommended solutions based on the data analysis and support from the literature. The literature review provides

the context from current scholarly research findings on factors that influence degree completion as it relates to academic advising. Specifically, the review focuses on the history, purpose, and structure of academic advising, as well as assessment of outcomes.

Literature for this study was obtained through a comprehensive search of scholarly articles, using the Walden library, Google Scholar, and the Buckeye Community College Library. Boolean searches were conducted using the Education Search Complete, Academic Search Complete, ERIC, and EBSCOhost databases. Searches were narrowed to the last 5 years whenever possible. However, some older, relevant research articles were included to provide a more comprehensive understanding of the problem. Searches focused on *white paper*, *grey literature*, *executive summary*, *policy recommendations*, *community college completion*, *graduation rates*, *academic advising methods and structures*, *counseling*, *student cohort groups*, *advising preferences*, and *student retention*. Very little scholarly research exists on the use and structure of white papers. Therefore, I included web blogs, pages, and other internet-based information to enhance the information provided. The searches yielded over 250 articles and reference materials, achieving saturation.

Background and Definition of the White Paper

The term white paper originated from national governmental policy white books (How to write a white paper, 2016). The white paper falls into a research category known as *grey literature*, or reports not published and disseminated through standard academic channels (Banks, 2004; Bellefontaine & Lee, 2014; Sibbald, MacGregor, Surmacz, & Wathen, 2015). White papers provide valuable information, often in the

form of a report or proposal on a problem and many contain original research (Juricek, 2009). White papers are used for business marketing, technology product descriptions, or product descriptions, as well as government reports, briefings, or academic documents (Lawrence, Thomas, Houghton, & Weldon, 2015; Stelzner, 2010).

Nongovernmental organizations of all types used reports and white paper-type documents to disseminate information or present solutions (Juricek, 2009). However, businesses began using white papers as a marketing tool, using data and research as a means to persuade readers on the benefits of a current product (Juricek, 2009). Current usage includes persuading readers on solutions for a specific problem through an educational approach, combined with persuasive marketing language (Stelzner, 2010). Marketing companies frequently use white papers for web-based marketing intended to sell customers on a particular solution (Sakamuro, Stolley, & Hyde, 2016). Information technology companies use white papers to market new products and communicate with potential customers (Juricek, 2009). As a form of grey literature, white papers are made available online for free and often provide the most up-to-date information (Lawrence et al., 2015). The expansion of this type of literature increased exponentially with the proliferation of the internet, with grey literature and white papers frequently found on company and government websites (Lawrence et al. 2015).

Basic White Paper Structure

No standard format exists for white papers. However, most white papers contain an introduction, background on the problem under discussion, proposed solution, and conclusion (Sakamuro, Stolley, & Hyde, 2010). They come in varying lengths,

somewhere between four and 20 pages (Tallent, 2008). By using a white paper, the writer aims to educate and persuade a specific audience (Mattern, 2013). The main objective is to keep the paper short enough to maintain the reader's attention and get them to read through to the end (Tallent, 2008). White papers often combine elements of articles and brochures, taking the more educated approach of a research article but incorporating elements of a sales brochure (Stelzner, 2010). A page on Scribendi.com (How to write a white paper, 2016) stated, "A well-written white paper serves an important educational function and uses plain language to explain complex issues in a straightforward manner" (para. 3). The solution presented relates to a product or audience, attempting to persuade the reader through data and examples (How to write a white paper, 2016).

Gordon and Graham (2003) contended that white papers must appeal to the correct audience, involve and inform the reader, and finally convince the reader of the proposed solution. This requires that the content be tailored to specific stakeholders and be written in their language (Gordon & Graham, 2003). White paper writers present the facts and logical reasoning in an attempt to show a solution to a wide-spread problem (Graham, 2014; Stelzner, 2010). The document must contain enough information to show the writer possesses a thorough understanding of the problem the stakeholders face as well as concrete ideas on how to solve the issue (McKeon, 2005; Sakamuro, Stolley, & Hyde, 2016). For educational white papers, emphasis must be placed on providing data to support the recommendation, presented in a scholarly fashion with as little bias as possible (Federal priorities template, 2003).

Benefits and Uses of White Papers in Higher Education

White papers provide content flexibility as well as easy and fast dissemination opportunities online, allowing the writer greater opportunity to disseminate the work and reach the desired audience than with academic or scholarly journals (Lawrence et al., 2015). White papers and other forms of grey literature provide valuable information on theoretical findings and gaps in practice in need of additional research (Sibbald et al., 2015). However, since most white papers are not available in library catalogs or research databases, the reliability and quality of the information may be difficult to determine (Juricek, 2009; Von Hendy, 2014). Without a formal peer review structure, readers must use their own critical judgment and assessment to determine the value of any grey literature document (Sibbald et al., 2015).

Despite the drawback in reliability, white papers prove useful in higher education for quick dissemination of information to inform policy or procedure. Through the problem and solution white paper format, information on how to solve a specific problem can be made readily available to those making decisions within an institution (Graham, 2014). The information presented helps the readers to comprehend the issue at hand and make a decision on whether or not the proposed solution fits their needs (Graham, 2014). These uses all fit within the desired scope and dissemination of the research findings from this study to various higher education stakeholders.

Academic Advising Context and Research to Support the Project

The multiple regression analysis in this study suggested that students who never saw an academic advisor graduated faster than those who saw a different advisor or the

same advisor while enrolled at Buckeye Community College. The data analysis indicated that students who see an advisor may enter the institution with higher needs or less academic preparation than those who graduated without seeking academic advisement. Support for these data findings and the recommendations for policy changes at Buckeye Community College require an understanding of the history and best practices for academic advising, based on the pre-existing literature. Therefore, the next sections will review the history, structure, and purposes for academic advising in higher education. This background information lends support to the recommendations found in the project white paper.

The retrospective data used for the analysis and development of recommendations presented some limitations. The sample size (N =190) was relatively small, several of the factors, including the number of first-generation students and those that intended to transfer, were skewed, and several data points from Tinto's (1993) student departure theory were not available due to lack of collection by the institution. In addition, the data collection followed student self-selection patterns rather than grouping students into advisor types in a controlled experimental design. Despite these limitations, the preliminary data analysis results and current literature provide support for the policy change recommendations.

History of Academic Advising

Cook (2009) provided a detailed explanation and history of academic advising in higher education. The development of advising parallels the history of higher education in the United States (Cook, 2009). A few highlights from the historical perspective

provide a general understanding of the various developments in the field that led to the current advising structures in community colleges.

Academic advising in higher education grew and diversified as institutions expanded to meet the needs of students. Higher education institutions adopted academic advising to meet immediate and practical needs, including the diversification of the student body, the curriculum offered, and the institution (Cook, 2009; Schulenberg & Lindhorst, 2008). As these trends continued, specialization of services increased to include more than just advising students on what courses to take. Developmental psychology and higher education pedagogy spread, and a distinct body of advising practice progressed (Cook, 2009; Schulenberg & Lindhorst, 2008). This specialization of advising took three forms, either personal, career, or academic, depending on student needs (Cook, 2009).

After World War II, the need for advising increased with the influx of veteran students (Cook, 2009). This led to debate on whether advisors should be faculty or professionals, guiding the development of both general education advising and major or program advising (Cook, 2009). In 1979, the founding of National Academic Advising Association (NACADA) brought academic advising into the professional realm, providing an oversight and research outlet for advising services (Cook, 2009).

Throughout recent decades, the focus of advising shifted to a concentration on outcomes and student learning rather than simply course registrations or psychological services (Cook, 2009). In 1981, Habley (as cited in Cook, 2009) introduced an advising model that highlighted the relationship between advising and student retention,

emphasizing that advising needs to be developmental and student focused. "As the recognition of the importance of academic advising flourished, new demands, expectations, and approaches emerged" (Grites, 2013, p. 12). Subsequent reviews of advising and its impact reinforced the need for advising to be based on outcomes to support student completion.

Purpose of Academic Advising

Even though academic advising existed in higher education in some form since the beginning, the growth and expansion of institutions led to debate on the mission of academic advising. Within the literature, the focus on student outcomes and retention produced numerous studies on the purpose of academic advising and its role in higher education. Advising strategies play a key role in retention for students, with higher education institutions using improvements in this area as part of their overall plan to increase student completion and success (Smith & Allen, 2014).

Within the literature, several definitions exist for academic advising and its purpose in higher education. The two most prominent definitions come from NACADA and Dr. Terry O'Banion, a well-known scholar in higher education. NACADA provided the following definition:

> Academic advising, based in the teaching and learning mission of higher education, is a series of intentional interactions with a curriculum, a pedagogy, and a set of student learning outcomes. Academic advising synthesizes and contextualizes students' educational experiences within the frameworks of their

> aspirations, abilities, and lives to extend learning beyond the campus boundaries and timeframes (as cited in Drake, 2011, p. 10).

O'Banion (2012) defined the purpose of academic advising as helping students select the program of study that meets their life and educational goals. Within this structure, he stated that advising includes examination of life goals, occupational goals, program choice, course selection, and course scheduling options (O'Banion, 2012). At the most basic level, academic advising involves a student and an advisor and discussions on college courses as well as life goals (Packard & Jeffers, 2013; Swecker, Fifolt, Searby, 2013). Ideally, academic advising provides students the opportunity to connect their goals for education, career, and life through purposeful activities and planning (Smith & Allen, 2014).

Despite the numerous definitions of purpose, determining what actually occurs in any given academic advising session proves difficult as many factors come into play (Robbins, 2012). Not every academic advising department follows a mission statement and set expectations for student outcomes (Hunter & White, 2004). In an ideal setting, the advisor works with an assigned group of students, becoming a caring and concerned mentor, facilitating student progress and communication with the institution, and explaining the benefits of completing higher education (McArthur, 2005; Packard & Jeffers, 2013; Phillips, 2013). However, many advising systems are viewed by faculty, staff, and administrators as peripheral to the overall education experience (Hunter & White, 2004). Students become frustrated with an inefficient and inaccurate advising system (Bers & Schuetz, 2014; Phillips, 2013). To create strong academic advising

programs, higher education institutions must look for best practices and process improvements to help students (Hunter & White, 2004).

Within community colleges, advisors provide key information about course requirements and steps in various processes to completion (Packard & Jeffers, 2013). A strong advising system offers students the support needed to define a path to success, especially for non-traditional students (Wiseman & Messitt, 2010). Advisors provide students multiple strands of information, from time management, degree planning, career support, and transfer options to 4-year institutions (Packard & Jeffers, 2013; Phillips, 2013). Advising programs based on a strong mission statement, which outlines the goals and purpose for the specific institution, outline information on expectations for the advising process and student/advisor interactions (Robbins, 2012). Grites (2013) stated that academic advising should be built upon a planning stage when students begin at the institution, a process stage that tracks their progress and relates activities to the institutional mission, and a post-completion review to gauge student satisfaction and learning. Any effective advising program presents needed information, goal planning, and support for student learning to increase completion and success (Grites, 2013).

Academic advisors as providers of information. Students require assistance navigating college policies and procedures. Obtaining accurate information tops students' list of priorities, especially for disadvantaged students trying to navigate an unfamiliar system (Allen, Smith, Muehleck, 2013; O'Banion, 2012). Filson and Whittington (2013) indicated that students within the United States display dissatisfaction with academic advising and, therefore, academic advisors require additional training on

effective, engaging advising services. The negative impact and consequences of misinformation and lack of academic advisor availability turns students away from advising in general, impeding student progress and increasing frustration and delays to degree completion (Allen, Smith, & Muehleck, 2013; Bers & Schuetz, 2014; Packard & Jeffers, 2013). Quality academic advising includes accurate information, provided in a structure that allows enough time for effective communication (Anderson, Motto, & Bourdeaux, 2014; Bers & Schuetz, 2014).

At the basic level, academic advisors provide a valuable resource for students confused by a complex educational system. Allen, Smith, and Muehleck (2013) stated, "Information functions are paramount; advisors must give all students accurate information about degree requirements and help them understand how things work at their institution with regard to timelines, policies, and procedures to successfully navigate the educational landscape" (p. 340). Effective advising provides students accurate, well-informed advice in a caring environment (Kohle Paul, Courtney Smith, & Dochney, 2012).

Academic advisors' awareness of institutional policies and procedures and the subsequent impact on students allows them to provide students with the necessary information to navigate the system (Kohle Paul, Courtney Smith, & Dochney, 2012; Schulenberg & Lindhorst, 2008). Advisors also provide referrals to other departments and sources of information to assist in the academic journey, preventing delays in completion by allowing students to understand where to go for certain information and

how to find the support they need (Packard & Jeffers, 2013; Packard, Tuladhar, & Lee, 2013).

Academic advisors and student goals. Strong academic advising delivers more than simple information and resources, however. Academic advisors assist students in connecting academic, career, and life goals together through a determined program of study (Allen, Smith, & Muehleck, 2013). Advisors cannot simply focus on program choice, but must include information on the student's life and career goals as well as interests and strengths (Filson & Whittington, 2013; O'Banion, 2012; Phillips, 2013). Advisors guide students through exploration of personal interests and strengths and the connections between these and various program options, assisting students in making complex decisions in both areas (Filson & Whittington, 2013; O'Banion, 2012). The academic advisor then recommends courses, programs, and extracurricular activities that fit within the student's goals, abilities, and interests (Filson & Whittington, 2013; Hunter & White, 2004).

In order to assist students in this way, academic advisors must establish relationships with students that allow facilitation of goal setting, decision making, and problem solving both within the academic framework but also for personal and professional areas (O'Banion, 2012; Swecker, Fifolt, Searby, 2013). This relationship provides a foundation to assist the student in creating an academic plan based on his or her goals and integrating academic learning with the student's personal and professional lives (Gravel, 2012; Kohle Paul, Courtney Smith, & Dochney, 2012). Several tools exist

to assist in this process, but the academic advisor plays the connecting role no matter what method or software the institution chooses (Vendituoli, 2014).

Academic advisors and student learning. Higher education administrators often overlook academic advisor's role in student learning and development (Kohle Paul, Courtney Smith, & Dochney, 2012). In fact, academic advising lacks acknowledgment within education as a field of study or profession equivalent to other disciplines (Habley, 2009). However, higher education provides students a safe place to explore new ideas and make new connections, and guidance from an academic advisor facilitates this process by providing direction and support (O'Banion, 2012). Academic advisors work with students in learning how to set goals, how to develop long-term plans, and how to become self-sufficient in these areas (Erlich & Russ-Eft, 2011).

Schulenberg and Lindhorst (2008) stated, "Academic advisors work at that vital junction between student self-understanding and their navigation of their educational experience" (p. 49). Academic advisors facilitate student learning, understanding, and assessment of how current academic decisions are tied to past experiences as well as future goals (White & Schulenberg, 2012). Creating this link between current context and lifelong learning allows students to become more self-aware and capable of making connections for themselves in the future, a key component in student learning outcomes (Thorngren et al., 2013; White & Schulenberg, 2012). Academic advising plays a key role in fostering student learning and growth within the context of higher education (Powers, Carlstrom, & Hughey, 2014). Burt et al. (2013) called for additional research to enhance our understanding of the relationship between advising and student learning and

achievement. Through this study, attempted to provide additional information to broaden understanding of the impact of academic advising on student completion in a community college setting.

Structure of Academic Advising

The multiple regression analysis implied that students who never saw an academic advisor graduated in a shorter timeframe than those who either saw the same advisor multiple times or saw a different advisor for every appointment. While these results may seem counter to much of the literature on advising best practices, they reveal important considerations for the structure and purpose of academic advising in a community college setting. The focus of this study and multiple regression analysis was limited to students who graduated from the 2011 IPEDS cohort rather than student retention or attrition. The students in the sample successfully remained enrolled and completed a degree at Buckeye Community College. Understanding the reasons and factors behind their success provides valuable information for the institution as it works to increase student completion rates.

Based on the results of this study, Buckeye Community College should redefine its academic advising structure to better meet student expectations and needs in order to increase graduation rates. Therefore, the first of three policy recommendation identifies a change in structure for academic advising at the institution.

1. Use the study data and findings as a basis for creating a tiered academic advising approach based on student preparation, expectations, goals, and preferences.

The literature provides information on numerous academic advising structures within higher education. Each contain variations in resources, advisor to student ratios, full-time or part-time advisors, faculty or staff advisors, the types of services provided, format and delivery, centralized or decentralized services, timing of advising appointments, and the use of either developmental or prescriptive advising (Bahr, 2008). Buckeye Community College should consider these options to help restructure their academic advising policy.

Within the structure of the academic advising provided at the institution, different types of advising occur, from prescriptive to developmental. In 2009, Crookston described prescriptive advising as authority-based, with the advisor providing students with information on course offerings, degree sequences, student services, and graduation requirements (Gravel, 2012; O'Banion, 2012). Developmental advising, on the other hand, involves shared decision making and requires a deeper relationship between advisor and student and aims to enhance the student's skills-development and self-awareness (Gravel, 2012; O'Banion, 2012; Swecker, et al., 2013; Teasley & Buchanan, 2013). Grites (2013) stated, "With a relatively long history, a few challenges, and a recent flurry of different approaches described and advocated, developmental academic advising remains the fundamental approach for practitioners of all types" (p. 12). A comprehensive advising structure incorporates both methods throughout the student's academic career, depending on the needs of the student and where he/she is in his/her studies (Teasley & Buchanan, 2013). Both forms are important, depending on the needs of the student being advised.

A link exists between student engagement and satisfaction with academic advising services and student expectations of academic advising (Anderson, Motto, & Bourdeaux, 2014). Students with a clear academic goal in mind and defined major may consider academic advising unimportant or not worth the time. However, other students may require an academic advisor to put them on the track to graduation in a timely fashion (Christian & Sprinkle, 2013). Christian and Sprinkle (2013) found that many older students often required more collaborative advising and participated more fully in the advising process, but younger students often preferred more prescriptive advice on courses to take or major selection. Without an understanding of student needs and expectations, advisors may unknowingly increase student dissatisfaction with advising services (Anderson, Motto, & Bourdeaux, 2014).

Students desire academic advising that provides them with the services they need, not a flood of general information (Bers & Schuetz, 2014). Academic advisors that develop a personal relationship with their students are better prepared to direct these students to the correct resources based on personal goals (Smith & Allen, 2014). Whether academic advising takes place with an advisor, counselor, or faculty member, students require the advising to meet their needs and expectations, either prescriptive or developmental (Bers & Schuetz, 2014).

The structure of higher education institutions and lack of support for successful advising programs impact the effectiveness of academic advising. Different departments provide varying levels of academic advising support for students, with specialized programs offering more individualized attention than programs with larger student

populations (Nitecki, 2011; Wiseman & Messitt, 2010). Institutions rarely offer varying levels of advising services, either exploratory for undecided students or in-depth for advanced students (Hunter & White, 2004).

Ideally, the needs and circumstances of the student advisee determine how academic advising delivery occurs, but often institutional standards dictate methods (Robbins, 2012). However, lack of resources often limit higher education institutions' ability to provide adequate advising support for large student populations (Bragg & Durham, 2012). A targeted academic advising approach permits advisors to focus attention on students with the most need, allowing for an increased caseload without eliminating personalized service (Linderman & Kolenovic, 2013). Reducing the caseload for each advisor provides time for relationship building and understanding of the student's needs and experiences (Kohle Paul, Courtney Smith, & Dochney, 2013).

Much of the literature points to the need to supply an academic advising structure based on student needs, either developmental or prescriptive, advising students on a wide variety of information from basic registration to personal growth and development (Allen, Smith, & Muehleck, 2013; Anderson, Motto, & Bourdeaux, 2014; Schroeder & Terras, 2015). Many writers call for a combination of the advising structures, providing students access to academic advising through faculty, staff, and counselors as a team approach rather than limiting the institution to one system (Grites, 2013; O'Banion, 2012; Wiseman & Messitt, 2010). By increasing the number of people available to students for advising purposes, the institution increases the student support systems and satisfaction with the academic experience (Burt, et al., 2013; Swecker, Fifolt, & Searby, 2013).

Based on the multiple regression analysis results and literature review, Buckeye Community College should review its current approach to academic advising and revise it based on the needs of different student groups. This aligns with the research of Schroeder and Terras (2015), which determined that students present a diversity of needs and require different advising approaches. The different groups could be developed during new student orientation as academic advisors and student affairs staff work with the students and determine their preferred course of study and need for advisement. First, students should be divided into those with a specific major and goal and those who are undecided. Student academic preparation and skills should also be noted. Then, students should be surveyed to determine their advising preference as well as their educational and career goals. This would include: (a) students who are academically unprepared and lack clear goals, putting them in an at-risk group in need of structured advising, (b) students who know their program of study and would like to work with a faculty member from their field, and (c) those students who do not wish to participate in academic advising as they feel they know what they want to do and the steps to accomplish it.

Once these groups are determined, the at-risk students should be part of an intrusive, mandatory advising model to ensure they receive the support needed to complete a degree. At community colleges, at-risk students need this expanded academic advising support even more, as many are unprepared to make decisions about their academic or personal goals upon entry (O'Banion, 2012; Packard, Tuladhar, & Lee, 2013). Providing advising services to assist students in selecting a program of study and develop specific goals early in their education assists in increasing student completion

(Jenkins & Cho, 2013). The limited academic advising staff at the institution could focus on those students most in need rather than trying to reach out to all students. Intrusive advising, also called proactive advising, involves a combination of required advising appointments and goal setting for each appointment, with the intent of increasing student motivation and reducing attrition (Schwebel et al., 2008). In this high-touch structure, academic advisors contact students on a regular basis via various communication methods, and often students must fulfill certain appointment obligations or face academic consequences (Linderman & Kolenovic, 2013; Schwebel, et al., 2012). Although the impetus for contact falls with the academic advisor, students must respond to these requests and actively participate in the academic advising process (Swecker, Fifolt, Searby, 2013). Use of intrusive advising in higher education most often focused on at-risk students, such as first-generation students or those with low GPAs, benefits the institutional advising structure (Schwebel et al., 2008). In addition, making advising mandatory means students are required to attend advising appointments. In this model, advisors often prevent students from continuing with registration, receiving grades, or other academic processes until after the student fulfills their advising obligation (Schwebel et al., 2008).

Students who desire a faculty advisor based on their program would be able to work directly with an assigned faculty member rather than seeking general academic advisor support. The faculty member working with students in their particular program should personalize the advisement, mentoring students based on program goals and curriculum (Anderson, Motto, & Bourdeaux, 2014; McArthur, 2005). The faculty

member also teaches students to connect elements within and outside the classroom, creating a cohesive college experience (Burt, et al., 2013). In addition, faculty must maintain strong partnerships with other departments and services in order to serve students effectively (Packard & Jeffers, 2013). They must maintain awareness of changes within the institution and the impact on students (Kohle Paul, Courtney Smith, & Dochney, 2012). Through faculty advisement, students who know their desired program of study but may possess other at-risk factors, such as low academic preparation or those that are first-generation college students, would still receive adequate advising support, but aligned with their specific program needs. The data analysis results indicated that intent to transfer reduced student time-to-degree completion. Including transfer information into the advising on a more regular basis would increase student understanding of this process and its importance (Budd & Stowers, 2015). Students could also be encouraged to follow a transfer pathway during advising sessions with faculty members.

Finally, students with clear goals and commitments should not be required to seek academic advising services unless they encounter specific questions or difficulties. Students who understand the correlation between their academic studies and their long-term goals remain motivated to complete their degree and often require less services during their studies (Packard, Tuladhar, & Lee, 2013). However, the institution must be sure to determine which students have clear goals and expectations compared to those who simply select a major to fulfill a financial aid requirement. Students who do not wish to engage in academic advising services would still have academic advisors available to

them through walk-in or online advising appointments. Although these students may feel they are prepared to complete a program of study, they may change their major or have difficulty with a course during their time at the institution. Ensuring resources are available to these students when a situation arises remains a crucial element in providing a supportive environment that promotes student completion.

Summary

Expanding advising services to include faculty as well as student affairs staff enables more collaboration as well as additional opportunities to promote student development (Grites, 2013). Academic advising may also be expanded to include group advising sessions, which allow the advising team to reach an even wider audience of students and provide answers to significant questions about the institution (Deil-Amen, 2011). Dividing students into groups based on needs and preferences allows advising assignments to be spread throughout the institution, using faculty, staff, and academic advisors. It also provides each student with tailored support and information rather than assuming all students require the same level of academic advisement, supporting individual needs for completion.

Academic Advising Outcomes and Assessment

The data analysis from this study suggested that student goals and commitments, as found in Tinto's (1993) student departure theory, impact student success and completion. The multiple regression data results and literature (Erlich & Russ-Eft, 2011) imply that members of this group are more likely to have defined goals and may have less of a need for academic advising services than members of the other advising type groups.

However, Buckeye Community College collects very little assessment data regarding its current academic advising structure and outcomes. Messaging to students simply includes recommendations to see an academic advisor before registering for courses, but does not review the overall purpose or intended outcomes of these advising sessions. Therefore, the second recommendation of this study includes redefining the purpose and outcomes of academic advising at the institution.

2. Continue to address the need to review and improve academic advising by developing specific outcomes and instruments to measure effectiveness.

The multiple regression results support this recommendation by providing data contrary to the current recommendation that all students see an academic advisor.

The literature also supports the need for higher education institutions to review advising outcomes (Shockley-Zalabak, 2012; White & Schulenberg, 2012). Habley (2009) pointed to decades of criticism in the area of advising due to the lack of documented processes and outcomes for students. Studies within higher education reviewed academic advising as it relates to student satisfaction, connecting satisfaction with increased engagement and retention. Goomas (2012) indicated that students rated academic advising lowest in satisfaction ratings, stating they did not receive the type of advising needed for their studies. Another study found no significant relationship between student satisfaction with advising services and retention (Chiteng Kot, 2014). While student satisfaction provides important information on why or when students may seek advising services, it does not connect this information to student graduation rates or other academic advising policies. Student satisfaction assessments also do not measure

student learning or progress toward completion (Powers, Carlstrom, & Hughey, 2014; White & Schulenberg, 2012). Surveys to determine learning and achievement are more effective, but not often used in higher education (Powers, Carlstrom, & Hughey, 2014).

The increased demand for higher education institutions to provide assessment and outcomes of student learning applies to academic advising as well, as institutions attempt to document what students are learning through advising experiences and the impact this has on their educational pathway (Grites, 2013; Hunter & White, 2004). With this comes the challenges in measuring student learning (Hunter & White, 2004) and proving a "change in the advisee" (Kelley, 2008, p. 21). However, the norm in higher education includes measuring student satisfaction and other psychological benchmarks rather than learning outcomes (White & Schulenberg, 2012). Smith and Allen (2014) stated that, "Postsecondary institutional leaders hope to inspire specific learning outcomes through academic advising" (p. 50). Academic advisors face increased pressure to demonstrate the impact of their work on student retention and graduation (Darling, 2015). The literature provides suggestions for defining and measuring academic advising outcomes to support the recommended policy change for Buckeye Community College.

Assessment of Outcomes

Higher education faces increased pressure for accountability and metrics on student learning. However, this call for accountability also includes the expectation for improvements (White & Schulenberg, 2010). For academic advising, higher education institutions need to assess the outcomes of academic advising in order to identify areas of improvement to increase student completion and success. Evaluating the academic

advising program provides institutions a means of gathering information specific to their students who require change (Robbins, 2012). Higher education institutions need to define their expected academic advising learning outcomes and then establish clear means of evaluating individual student results (Anderson, Motto, & Bourdeaux, 2014; Kelley, 2008).

This assessment of student academic advising outcomes takes various forms, depending on the institutional structure for advising and the desired outcomes set for the program. Assessment may include some sort of writing assignments given to students based on their abilities, goals, and interests, or some other means of obtaining feedback based on the tasks set before the student during the advising session (Kelley, 2008; White & Schulenberg, 2012). Institutions may instead look to evaluate the advisor, reviewing the number of students on track to graduation based on their academic plan, the number of students given academic overrides, or the number of students completing a required course sequence (Phillips, 2013). Whether the assessment includes advisor process data or student learning information, the institution needs to use the information gathered to improve the overall academic advising process to increase student satisfaction as well as improve completion and success metrics (Anderson, Motto, & Bourdeaux, 2014).

Students value any opportunity to create an individual educational identity through a challenging learning environment and the support and commitment from faculty, staff, and academic advisors (Oliver, Ricard, Witt, Alvarado, & Hill, 2010). Increasing the opportunities for students to learn and develop by embedding learning outcomes into academic advising provides higher education institutions additional means

to positively influence student outcomes and engagement (Bahr, 2008; Gravel, 2012). Assessment offers advisors information on student expectations and which can then be used by the advisor to tailor services to meet student needs (Anderson, Motto, & Bourdeaux, 2014; Teasley & Buchanan, 2013). Defining and assessing these outcomes effectively allows for continuous improvement within the academic advising system at Buckeye Community College.

Educational Goals

As part of a student's educational experience, academic advising requires defined educational outcomes beyond counseling and course selection (Schulenberg & Lindhorst, 2008; White & Schulenberg, 2012). These educational outcomes include areas such as problem-solving, communication skills, decision-making, critical thinking, and an understanding of the value of education and the larger context for obtaining a degree (Allen, Smith, & Muehleck, 2013; Rust, 2011; Schockley-Zalabak, 2012; White & Schulenberg, 2012). Outcomes should be defined for all students at Buckeye Community College.

When students and academic advisors understand the expectations and learning objectives for advising, they understand their roles and what needs to be accomplished in each advising session (Robbins, 2012). Advisors who set high expectations for student learning and achievement provide a positive learning environment for students and encourage self-development (Nitecki, 2011). Defined student learning outcomes also provide a means of understanding what skills each student should be able to demonstrate after meeting with an advisor (Erlich & Russ-Eft, 2011). Through these educational

outcomes, students learn to self-regulate their learning experience, seeking assistance when needed, but also developing their own goals and expectations for advising interactions (Burt, et al., 2013; Erlich & Russ-Eft, 2011; Oliver, et al., 2010).

Teaching and Learning

The literature describes an increased desire to incorporate learning and educational goals into academic advising, making it a teaching and learning process that includes curriculum, pedagogy, and student learning outcomes (Burt, et al., 2013; Erlich & Russ-Eft, 2011; Kelley, 2008). Powers, Carlstrom, and Hughey (n.d.) stated, "Many in higher education view academic advising as a form of teaching that leads to student learning" (p. 64). Academic advisors facilitate student learning as they teach students to connect their educational experiences in coursework, campus life, and outside professional endeavors (Burt, et al., 2013; Hughey, 2011). Developing these skills enables students to become more autonomous and self-directed as they move through higher education and into the workforce (Burt, et al., 2013; Thorngren, et al., 2013).

Gravel (2012) described Crookston's suggestions for academic advising, which incorporate teaching and learning as well as shared responsibility for outcomes. Academic advisors teach students to move through the various stages of learning, from comprehension, application, analysis, synthesis, and evaluation to produce significant learning and change (Kelley, 2008; Powers, Carlstrom, & Hughey, n.d.). This type of learning cannot occur in every advising session, as some students simply want prescriptive information on what courses to take or where to find a specific service. For those students open to developmental advising, advisors must prepare and think about

how to provide this to these students (Kelley, 2008). Allowing academic advisors to view themselves as teachers and a valuable component of the student learning experience enables them to design opportunities for each advisee that increase learning and success (Kelley, 2008).

Academic Plan

Providing students with a comprehensive, personally tailored academic plan should be a key outcome for any academic advising system (Complete College, 2014; Erlich & Russ-Eft, 2011). Students need a concrete plan of study that encompasses their entire program of study at the institution in order to stay on track and complete a degree (Linderman & Kolenovic, 2013; Richman, et al., 2013). Advisors need to ensure students are progressing through various milestones, such as selecting a major, choosing a transfer pathway, or determining a career path (Jenkins & Cho, 2013). Jenkins and Cho (2013) found that those students who selected a program of study early were more likely to complete their degree or transfer to another institution. Academic advisors at Buckeye Community College need to include tailored academic plans for all students in the stated advising outcomes and objectives.

Academic advisors need to provide students with a complete academic pathway, allowing room for exploration but removing the chances of academic wandering (Complete College, 2014). As students work through the plan, they should not only chart progress, but learn ways to take responsibility for their learning and understand the consequences of deviating from the prescribed path (Complete College, 2014; Erlich & Russ-Eft, 2011). This development of self-efficacy and self-regulated learning assists

students in defining and achieving other goals once they graduate (Erlich & Russ-Eft, 2011).

Summary

Based on key findings from this study and the literature review, the recommendation to develop specific academic advising outcomes and instruments to measure whether they are being met provides an opportunity to increase student success and completion. Buckeye Community College had not undertaken previous data collection or review of advising services beyond student satisfaction surveys and tracking use of advising services. The results of this study indicated that a more comprehensive approach is needed to fully understand what is occurring during academic advising appointment and the impact advising has on student completion. Creation of specific outcome and assessment measures for the institution would aid this process.

Tinto's Institutional Departure Theory at Community College

Tinto's (1993) institutional departure theory provided the theoretical framework for this study. However, the basic concepts of Tinto's (1993) theory come from studies and student data at 4-year higher education institutions. The various engagement models and studies do not necessarily apply to student engagement at community colleges (Lundberg, 2014). Community college students tend to be more diverse, with many non-traditional age students and students from various academic backgrounds (Baily & Alfonso, 2005; Christian & Sprinkle, 2013). Overall opportunities to engage in the institution decrease with community college students' additional responsibilities, such as family and work (Deil-Amen, 2011; Lundberg, 2014). At a residential institution,

students leave behind family and friends to reside in a new location, increasing the changes for engagement. However, community college students often come to campus only for class, which makes a complete stop in attendance much simpler (McArther, 2005). Deil-Amen (2011) stated, "…understanding of persistence should center on the particular characteristics of the two-year college student experience, with all of its limitations and potential strengths, including the lack of availability of out-of-classroom opportunities for assistance due to the combination of students' lives and organizational structure" (p. 66). However, Tinto's (1993) model provides a basis for examining students' experiences in various academic settings, not just 4-year institutions (Deil-Amen, 2011).

This study provided the first quantitative analysis using academic advising data for Buckeye Community College. The multiple regression data analysis revealed many assumptions and best practices from the literature regarding student completion may not apply in a community college setting. However, the multiple regression analysis did point to several key factors in Tinto's (1993) model that predicted time-to-degree completion at the institution. The overall data gathering proved limited and difficult due to lack of institutional collection for key data points, absence of communication between two data systems, and the need to merge data from two different departments before analysis could begin. The institution does not maintain data on student high school GPA or when students change their major of study, both critical elements of the institutional departure theory. Many students at the institution select a major in order to qualify for financial aid, but may not truly intend to stick with this course of study (Buckeye

Community College, Enrollment Center Director, personal communication, May 20, 2016). These issues prevent any full-scale review and analysis of the influence of Tinto's (1993) pre- and post-entry attributes for the institution. Therefore, the third recommendation of this study relates to data collection practices at the institution.

3. Revise or replace the current academic advising system to more fully integrate with the Banner system, expanding data collection points to include more information based on Tinto's (1993) institutional departure theory.

This recommendation would allow Buckeye Community College to more accurately review the impact of pre- and post-entry variables on student completion as well as the influence and outcomes of academic advising. Student attrition from higher education does not necessarily follow a consistent pattern, with the same variables impacting student decisions to stay as well as leave an institution (Strayhorn, 2015). Few research sources discuss the reasons students select a major or course of study and stay with that goal through to graduation (Montag, Campo, Weissman, Walmsely, & Snell, 2012). Finally, as discussed, many institutions collect student satisfaction data, but most do not have standardized measures to evaluate advising services (Ocean, Hawkins, & Chopra, 2014). Combining all data point collection into one system that includes defined academic advising outcomes would provide the institution opportunities to review and analyze multiple data points easily, allowing data driven recommendations for improving policy in the future.

Summary of the Literature Review

This literature review considered various factors in academic advising, including the history, structure, student needs and expectations, and assessment of outcomes. In addition, information regarding the relationship of academic advising to Tinto's (1993) institutional departure theory as well as implications for student engagement within the institution suggested the need for additional data collection and integration to promote future data analysis for continuous improvement. The literature indicated that targeting academic advising to students with the most need would allow for individualized advising and improved student outcomes (Complete College, 2014; Kolenovic, Linderman, & Karp, 2013).

For Buckeye Community College, the problem of student completion may be influenced by the lack of assigned advisors or by the limited number of advisors available to at-risk students (Buckeye Community College, Campus President, personal communication, October 7 2015). The various studies reviewed from the literature suggest implementing a tiered academic advising approach would allow the institution to make the best use of limited resources while still meeting student needs. Improved outcomes and assessment as well as expanded data collection would increase the ability to review the revised structure of academic advising, adapting to student expectations and requests as the institution moves forward.

Implementation

Implementation of the project outlined in the white paper requires dissemination to several key groups at Buckeye Community College. These include the academic

leadership team, student affairs leadership, faculty senate, and program managers. Additionally, information from the white paper recommendations may be helpful for others in higher education and could be shared at conferences or through various publications. Several structural and personnel obstacles exist that may create barriers to full implementation of the proposed recommendations. However, support from key leadership at the institution as well as others within the higher education community assists in mitigating these barriers. Olsen and Stensaker (2014) identified peer support as a key method to implementing change successfully. Obtaining buy-in from key players upfront provides the best means to implement the changes suggested by the research.

Potential Resources and Existing Supports

This study, findings, and white paper recommendations stemmed from conversations and support from the college president, campus president, dean of student affairs, and vice president of Enrollment Management, based on the findings of the study. These individuals provide strong leadership support for the implementation of the recommended solutions. Bisoux (2015) stated that, "The bottom line is that any strategy will fail if those responsible for its success aren't connected to each other-and to the change they're trying to make-on a personal and emotional level" (p. 22). The conversations held before beginning the research into academic advising showed a strong personal commitment from each leader to improve student services in support of student success and completion. The organization as a whole, led by the college president, is focused on improving outcomes in these areas as part of the overall institutional strategic plan. Departmental and divisional goals based on improving student completion exist as

well, adding further support to any change designed to enhance these outcomes for the institution. Finally, the faculty exhibit a strong desire to assist in achieving these goals.

Implementation of the project will require time away from my normal job duties as well as access to key groups within the institution. Meetings with all involved to communicate the findings and reasons behind the recommendations will need to be scheduled and supported by leadership within each division. Additionally, I will need to contact leaders from various governance committees and work groups at the institution in order to present the information at one of their scheduled meeting times. These would include faculty senate, enrollment management, student government, and the academic cabinet.

For other venues such as conferences or other local higher education institutions, I will need to craft a presentation proposal that I can email along with the white paper to find out interest in hearing about the study results. I will need to research other institutions with similar issues and structures in order to find contact information for leaders. This will again require time and support from my current supervisor and other leaders at my institution.

Potential Barriers

Several barriers may impede progress on sharing the white paper results and implementing the recommended solutions at Buckeye Community College. These include faculty and staff resistance, cultural barriers, institutional structures, and potential unintended consequences from the changes. Like many higher education institutions, Buckeye Community College is often slow to adopt change and each recommendation

must be fully vetted and approved by all involved in order to realize a successful implementation. Several strategies must be enacted to counteract these potential barriers during the implementation process.

As a large institution, Buckeye Community College employs numerous faculty and staff. The potential exists for many of these employees to be resistant to the proposed changes for various reasons, including cynicism, uncertainty and fear of change, and social relationship structures. Employees who experienced failed changes in the past may view college leadership as ineffective and view the new recommendations with cynicism (Barton & Ambrosini, 2013). Astin (1993) indicated that leaders should expect faculty resistance and the use of academic games such as rationalization to resist any change initiative. In order to contend with these reactions, I must ensure the leadership fully support the change implementation and show their full and genuine sponsorship. I will also need to seek out assistance from those leaders who have successfully implemented changes in the past and use their examples as a means of gaining employee buy-in.

Fear of change and uncertainty for future success pose significant barriers for any change initiative. Often, employees fear loss of jobs or do not believe they can learn the new skills required (Bisoux, 2015; Schultz, 2014). Change requires building relationships with those affected and providing adequate training and information to counteract the resistance and fear (Bess & Dee, 2008; Clardy, 2013). Those leading the change need to ensure a positive atmosphere remains and employee morale stays high, avoiding creating a negative environment that leads to increased fear and uncertainty

(Chih, Yang, & Chang, 2012). By working with leaders at my institution, I hope to build upon current relationships within the institution to promote trust and understanding that allows employees to accept the change and ask questions as they arise (Astin & Astin, 2010). In addition to building on current relationships, open and honest communication between all involved will help mitigate fear and confusion, allowing for more acceptance of the proposed changes (Morrill, 2007).

The current culture of any institution may also become a barrier to a change initiative. The institutional culture builds upon individual relationships and networks, as well as past experiences and values (Finch, Burrell, Walker, Rahim, & Dawson, 2010). To counteract a negative culture, leaders must create a shared vision, find champions within the organization to lead the change process, and promote teamwork (Kezar, 2005). For the proposed changes described in the white paper, I will need to work with current leadership to identify faculty advisors willing to champion the change efforts as well as other collaborative partners from within the institution to work on implementation and communication.

As a large organization, Buckeye Community College consists of a decentralized structure, with leadership and direction coming from many individual departments and campus leaders. Bess and Dee (2008) stated that a decentralized structure may reduce communication and sharing, creating barriers to learning and change. In addition, this decentralized structure may lead to unintended consequences from changes made if the entire organization is not viewed as a system and all potential effects discussed before implementation. To counteract this barrier, I will need to collaborate with leaders across

the institution to view the whole system, recognizing the big picture and the changes needed to the entire work environment (Fullan, 2006). This type of systems thinking requires the relationships and shared vision already discussed to provide support and information from all areas of the institution.

Despite these barriers and their potential impact on the proposed changes, I believe the leadership at the institution can overcome the challenges and work collaboratively to enact change. Finch et al. (2010) said

> Sharing knowledge occurs when people are genuinely interested in helping one another develop new capacities for action; it is about creating learning processes. Building a learning organization involves the willingness to change mental models, employee's paradigms away for focus on what can't be done to unrelenting quest for new innovations in process, strategic organizational structure, and operations to creatively discover what can be accomplished. (pp. 41-42)

If the focus remains on improving student outcomes and completion, the shared vision will promote collaboration and enthusiasm on many levels to support the proposed solutions. Leaders must stay focused on the data results and implications for social change in order to combat faculty and staff resistance.

Proposal for Implementation and Timetable

Dissemination of the white paper proposal will be done through email as well as presentations at leadership meetings and other key stakeholder meetings within the institution. I will send the white paper as a PDF to key stakeholders at the institution,

indicating that the white paper presents the results of my doctoral studies and my desire to discuss the findings and recommendations with them in person. The intended audience for the white paper includes campus presidents, deans of student affairs, directors of counseling, and faculty. This messaging creates readiness for change at the institution and is a key strategy in any implementation plan (Lutz Allen, Smith, & Da Silva, 2013; Schultz, 2014). Presentations and discussions with these groups will aid in communicating the results and opening channels to exchange ideas.

The conversations with key stakeholders will include discussions on the vision and goals for each change recommendation and the desired future state for student success and completion at the institution (Bisoux, 2015; Packard, 2013). These conversations need to take sufficient time to obtain buy-in and support from throughout the institution before moving forward with any actual change. The leaders who helped formulate this study will hopefully become project champions and work with me throughout the communications process to disseminate the vision and rationale behind the study. At a large institution, these interactions can take a good deal of time. For such significant changes, I would anticipate needing at least one semester to meet with various stakeholders and work through questions and concerns regarding the recommendations.

After the communication steps are complete, I suggest a pilot test of the recommended changes for one semester. Kezar (2005) indicated that pilot tests help by providing successes before scaling the project up to cover the entire institution. These small wins enable others at the institution to learn from the initial pilot and make adjustments (Bess & Dee, 2008).

After the pilot test, I anticipate full-scale implementation happening relatively quickly across the institution, perhaps taking the few weeks before the beginning of fall semester to put all the necessary pieces in place. Overall, full implementation of the white paper recommendations will take one year. Allowing this length of time will provide leadership sufficient opportunity to communicate the vision and goals, explain the need for change, and gain key stakeholder engagement through the pilot test.

In addition to implementation at one institution, communication and dissemination of the white paper through conference presentations and email communications to leaders at other higher education locations will be ongoing throughout the year. Again, key stakeholders will be contacted initially through email, attaching the white paper with an explanation of my study and why I am sharing the information with them. As I speak with others in higher education about my findings and recommendations, I will bring ideas and information back to the implementation team at my home institution to improve the overall success of the changes.

Roles and Responsibilities of Student and Others

As the researcher and author of the white paper, it is my primary responsibility to disseminate and implement the proposed recommendations. As stated, I will contact key stakeholders and present my findings, working with leadership at the institution. However, students play a vital role in the implementation of any changes to academic advising at the institution. Student participation in the new advising model is key to successful implementation as well as subsequent evaluation of the changes to determine real impact on student success and completion.

Institutional leaders play a vital role in championing the changes and communicating the vision, but work teams and groups will be needed to successfully implement the recommended changes at the campus level. These groups will need time to meet regularly and discuss implementation plans and procedures as part of the larger change effort (Schultz, 2014). I will need to work with these implementation teams on the campuses as the changes are made across the institution.

Project Evaluation

Before beginning the work of disseminating my research findings and the white paper project, a detailed evaluation plan is needed to assist with maintaining focus and ensure all stakeholders receive needed communication. To evaluate the dissemination of the proposed changes to academic advising policies as outlined in the white paper, I chose a goal-based evaluation plan as described by Lodico et al. (2010). Through the evaluation, I can measure my progress and success in meeting my goals and objectives for the white paper project. This will keep the project distribution on track and allow for ongoing reflection and learning, as well as changes to the dissemination plan if needed.

The stated goals for the white paper project include providing (a) background information on the current success and completion problem at Buckeye Community College (b) findings from my research on the impact of academic advising on student completion (c) change recommendations based on the data and best practices from the literature, (d) policy changes to increase student success and completion rates at Buckeye Community College. To evaluate these goals, I will need to track the number of meetings held with key stakeholders, the responses and feedback received from these

meetings, and changes implemented at the institution based on the recommendations. As I work to disseminate my findings, I will need to continually monitor feedback and make adjustments to ensure the goals are reached. Key stakeholders for the project include academic leadership at Buckeye Community College, academic advising staff, faculty, and students. Each of these stakeholders must be informed of the proposed changes and information gathered based on their thoughts and opinions. Therefore, the same type of feedback and data should be collected for the external dissemination plan as the internal plan, including the number of presentations, stakeholders reached, feedback received, and institutional interest in making policy changes.

After disseminating the white paper and working with leadership at the institution, a detailed evaluation plan would help determine the effectiveness of both the implementation plan and the proposed changes. Using several different evaluation methods allows for assessment throughout the process, as well as reflection at the end to determine next steps. The combined use of data results, assessment, and evaluation helps institutions to continue to improve student success and completion results and increase effectiveness of academic advising in the future (Manning, 2011). Set definitions of success as well as benchmarks for the academic advising program provide the basis for evaluation and improvements (Manning, 2011). Data should be gathered and assessment measure reviewed and compared to the overall goals for academic advising at the institution throughout the process.

Implications Including Social Change

The white paper project resulting from the analysis of the data, addressed a gap in practice at a specific community college. The study design provided me an opportunity to gather information and data and then conduct data analysis to address the relationship between academic advising and student time to degree completion. In the white paper I made change recommendations to assist the institution in improving current practices in order to increase critical variable, student success and completion. The white paper project also encourages further research and assessment to continue the process of enhancing the current systems.

Local Community

The project informs policy and practice at the local institution by providing data on current academic advising practices and making recommendations for improvements. It also provides leaders at the institution current data as well as background information from the literature regarding best practices in academic advising to improve student success and completion. Astin (1993) indicated that for advising and other forms of student interaction, people learn by doing them, not from a manual. Feedback and evaluation are necessary to learn the process and determine the outcomes (Astin, 1993). The project provided a starting point for the institution to assess current practices and informs changes to improve overall effectiveness. The results also offered the local institution baseline data that could be used for more long-term assessment and evaluation of academic advising.

The study results and white paper recommendations provided the local community college information relevant to academic advising, filling a gap in research and information on the effectiveness of current practice. This includes issues of low graduation rates, student preparation, and student engagement. The resulting project supplied the institution a model for evaluating academic advising based on theory and practice. The subsequent policy change recommendations provide stakeholders at the institution supporting data to inform decisions on how to improve current practice to increase student success. Basing the study on Tinto's (1993) institutional departure theory frames the conversation based on proven theory, but also expands the use of this theory to a community college setting.

The multiple regression results suggested the need for differentiation of services grounded on student expectations and needs. Based on the study results and recommendations, stakeholders at the institution may increase student completion and improve local student educational attainment by revising the academic advising structure and beginning a more comprehensive outcomes and assessment plan supported by increased data collection. By increasing student completion, the institution can improve local wage earnings and quality of life for graduating students and the local community.

State and National Implications

The project addressed the issue of low student graduation rates at the local community college and provided possible methods for improvement. The issue of low student graduation rates is not unique to the institution used in this study. Many community colleges face low student completion rates and leadership at these institutions

may find similarities between this study and their institution. Young-Jones, Burt, Dixon, and Hawthorn (2013) concluded that additional research plays an essential role in expanding educators' understanding of academic advising and its impact on students. The study begins the process described by Astin (1993) of informing educational leaders of effective practices in the conditions present at a community college. The study project and data provide other community colleges with information from the literature and ideas for assessment that may be implemented to improve student completion rates. Tinto's (1993) institutional departure theory provides a theoretical foundation that can be expanded to other institutions looking to assess their academic advising policies and practices.

The data results may also be applicable to community colleges throughout the United States. These institutions may wish to consider implementing a revised academic advising structure based on the findings presented, or to examine their current practices using the same methodology to determine areas in need of improvement. The study may also provide a model for other community colleges looking to evaluate their academic advising structure to determine effectiveness.

Social Change Implications

Academic advising policies and procedures impact students at all community colleges and have the potential to impact society in regards to increasing student degree attainment. In light of the many changes facing higher education, leaders must work to improve the student experience in order to increase degree attainment as well as skills needed for students to thrive in society (Ferren, Dolinsky, & McCambly, 2014). Students

in higher education institutions are provided the opportunity to develop socially and intellectually, transitioning to becoming lifelong learners (Blumenkrantz & Goldstein, 2014). Improving academic advising policies and procedures within the local community college may increase student completion rates, improving student engagement, learning, and economic potential, thus improving the quality of life for students, their families, and the community.

In addition to increased engagement, a varied academic advising structure also provides the opportunity for the advisor to teach at-risk students skills and strategies to improve their overall learning (Lemberger, Brigman, Webb, & Moore, 2012). Through defined objectives and outcomes, the academic advising sessions assist students in improving academic outcomes and student success (Lemberger et al., 2012). By increasing learning and improving outcomes, academic advisors can assist in creating social change for their students. Finally, providing student-centered academic advising supports an increase in student success and completion, allowing academic advisors to assist students in becoming lifelong learners prepared for the workforce. By improving students' social status, social change is achieved (Gray, 2014). The increase in student success facilitates social change by increasing student economic opportunities as well as student participation in their community and society.

Conclusion

The white paper policy recommendations presented in this study resulted from the local problem identification, data analysis findings, and review of best practices in student advising. The retrospective data and multiple regression analysis provided

insight into the impact of student pre- and post-entry attributes and selected advisor type on student time-to-degree completion, supported by Tinto's (1993) institutional departure theory. Buckeye Community College's lack of data and analysis of advisor type variables on student completion presented a gap in practice for the institution, which I sought to address through this study. Through implementation and future evaluation of the policy recommendation, I will ensure dissemination to relevant stakeholders as well as data to impact future decisions. The implementation plan developed includes methods to gain support from key stakeholders at the institution, prompting data-driven discussions and change decisions.

The study results and policy recommendations have social change implications at the local, state, and national level. At the local level, stakeholders at the institution can work to increase student completion, increasing educational attainment and quality of life within the local community. The study may also provide information on academic advising structures, outcomes, and assessment to assist community colleges at the state and national levels to improve student completion, addressing the wider issue of low degree attainment in Ohio and the United States. Section 4 provides reflections on the project strengths and limitations, overall importance of the data analysis, recommendations for current practice improvements, and suggestions for future research.

Section 4: Reflections and Conclusions

Introduction

Higher education institutions are often conservative and slow to change, despite their missions to facilitate learning and growth for their students (Louvel, 2013). They are complicated structural institutions, often lacking in rational structures (Kezar, 2005). However, society continues to demand more productivity from higher education institutions, which requires changes in resource allocation, procedures, focus on outcomes, and increased graduation rates (Shugart, 2012). Employees in higher education must possess higher levels of commitment to their organizations and increased leadership skills in order to navigate the changes expected (Chih, Yang, & Chang, 2012). As a leader in higher education, I must demonstrate my leadership by presenting my findings to others and working to improve student success and completion.

Through this reflective chapter, I review the strengths and limitations of the project developed and recommend ways to remediate these limitations. I also reflect on the process in terms of scholarship, project development and evaluation, leadership and change, and analyze my skills as a scholar, practitioner, and project developer. Finally, this chapter discusses the implications for social change as well as directions for future research based on the study findings and project development.

Project Strengths

The white paper project provided a method to communicate the findings and recommended changes in a format common to higher education. It addressed the intended audience in a familiar, easy-to-read format, allowing for ease of communication

and discussion. The project also provided an ideal structure to present the data and literature that support the changes in a scholarly manner. The white paper presented the problem of low student success and completion at the institution, the findings from the data and literature, and the recommended policy changes to correct the issue. The white paper format provided the documentation necessary for the recommendations to be accepted by those in higher education.

The quantitative analysis of historical data from Buckeye Community College formed the basis for the white paper recommendations, drawing attention to a data driven assessment and review of the problem. The white paper format allows for the presentation of the data through charts and graphs, providing visual justification for the recommendations. My findings provide a basis for initial discussions as well as ongoing assessment and refinement of the policies at Buckeye Community College. The current academic advising structure dates back many years at the institution with little to no review of its impact. Through ongoing assessment and review, Buckeye Community College will be able to continue to strengthen its academic advising systems and make improvements based on data analysis, theory, and current literature.

The white paper also provides a standard format to present the findings for possible conference presentations, articles in scholarly journals, or other higher education venues to share the results and recommend further research. Other institutions may find the data analysis helpful as a starting point for reviewing their own academic advising structure and the white paper provides an easy format to follow in this process. The information and summaries provided in the white paper allow higher education leaders to

understand the basic findings and recommendations to determine if the methods and data are of interest for further application and development at their institution.

Project Limitations

The white paper format allowed for a concise presentation of the results and recommendations based on the data analysis, grounding theory, and literature. However, although shorter than the full study, the white paper format may still be too long for top higher education leaders to review. Those in executive leadership positions in higher education rarely have time to review such research at length, instead relying on executive summaries and recommendations from staff. If those reading the report do not have sufficient time to read the entire document, the discussion and interest intended may not occur.

The white paper format may appear too lengthy for those outside of higher education. While not the intended audience of the white paper project, dissemination of the materials may lead to those outside higher education reading the report. These stakeholders with little knowledge of academic advising, quantitative analysis, or policy recommendations may not fully grasp the white paper findings and recommendations.

The intended dissemination through email may be problematic as well as often leaders in higher education do not read all emails or have time to review attachments. Additionally, the PDF format is limited in its interactive capabilities and does not allow for adjustments or changes by outside stakeholders. This format may not prove to be the preferred method of information gathering and review for all stakeholders. Furthermore,

certain stakeholders may resist the proposed changes as they impact their jobs directly and may either increase or decrease responsibilities.

Finally, many stakeholders within higher education possess significant knowledge of research methods and analysis. For these individuals, the white paper format may prove to be too limited. These individuals may question the limited scope of the study, including the use of data from only one institution, choosing to study only community college students, and gathering data from only one cohort through retrospective data. They may also question the choice of correlational research rather than a full experimental study.

Recommendations for Remediation of Limitations

I hope to address several of the limitations outlined through the white paper itself. For executives too busy to read the full report, the development of the executive summary included consideration of piquing the interest of these individuals in the hopes that they return to read the full document as time allows. The inclusion of numerous charts and graphs also provides busy leaders the opportunity to scan the data results without taking the time to read the entire document. For those outside higher education, I will consider creating a less scholarly, more approachable document to share with the general public or those with an interest in the topic but not engaged in higher education on a daily basis. I will also consider other dissemination options available beyond the PDF to engage different audiences and allow for more interaction with the document. If the email distribution methods do not prove effective, I will need to consider other ways to communicate the results with key stakeholders. Finally, for those with more detailed

knowledge of research and practice, I may provide a link to the full study and opportunities to discuss the reasons for the limited scope and nature of the research.

Alternate Approaches to the Study Problem

For this study, I addressed the problem of low student completion rates at a specific community college through a multiple regression analysis of retrospective data, based on Tinto's (1993) institutional departure theory. The study goals included providing Buckeye Community College with data and information to review its current academic advising structures and recommend possible solutions based on the data analysis and literature. I chose to review the 2011 IPEDS cohort since it provided a group of students that should have graduated based on IPEDS government standards. Use of this cohort also limited the students to full-time, allowing the students to fit within Tinto's model. Although Tinto's (1993) model refers to students at 4-year institutions, applying it to a community college setting provided data on the effectiveness of this theory to a different population of students.

When considering the problem of low completion rates, I investigated other research methods to address the issue. Alternative methods could include gathering data from multiple cohorts of students at the institution, expanding the regression analysis to include more student data. Another alternative would be to set up a true experimental study, assigning one group of students in an IPEDS cohort to a specific advisor and leaving the other group to use the current academic advising structure. However, this may prove difficult as it limits options for a group of students and may prevent their chances of completing a degree. Another option would be to track students based on

whether they met with a full-time academic advisor more frequently than part-time academic advisors. The completion timeframe could be expanded beyond the IPEDS definition to capture those students enrolled part-time and taking longer to complete a degree. The regression analysis could be expanded to include cohorts from multiple institutions with similar academic advising structures. Finally, a qualitative component could be added, using interviews with students to determine the factors that influenced their choice of advisor type and what assisted them in graduating from the institution. These alternatives should all be considered as opportunities for future research into the impact of academic advising on student completion rates in community colleges.

Scholarship

The ongoing process of scholarship and research provides leaders in higher education with valuable tools to solve problems at their institution as well as throughout the field. Through scholarly research, leaders find data and ideas that may be implemented to help improve student outcomes. This includes making time to collect, analyze, and learn from data in order to support organizational decisions (Kezar, 2005). As my required scholarly activities for this project come to a close, I must continue to use the methods learned during my studies to improve my institution and better serve its students.

While organizational learning may be difficult to track or implement, individual learning allows scholars to approach various practices and procedures critically and bring learning back to others in the organization (Bess & Dee, 2008). Learning goes beyond just problem solving, but also inward development and personal growth (Argyris, 2002).

Argyris (2002) implored scholars to, "reflect critically on their own behavior, identify the ways they often inadvertently contribute to the organization's problems, and then change how they act" (p. 4). Part of scholarly inquiry includes reviewing personal behaviors and actions that may lead to additional organizational problems.

Scholarship also requires patience, humility, and collaboration. Scholars must be open to other ideas, scrutiny of their work, and unexpected results. At the beginning of any inquiry, it is easy to believe you already know the answer or what changes are needed to fix the identified problem. However, true scholarship requires openness to all possibilities without bias in order to provide accurate interpretation of the final results. Questioning the possibilities provides valuable opportunities for those in higher education to learn and develop (Argyris, 2002). I needed to learn to be patient and let the process unfold without allowing my pre-conceived notions or ideas to influence my work. I also needed to learn to work collaboratively with my committee, seek help throughout the research and writing process, and develop the humility to accept constructive criticism. As a scholar, I must concentrate on trying to produce the best possible project and information to assist others in higher education now and into the future.

Project Development and Evaluation

Developing a well-rounded research project takes time, commitment, and a willingness to accept change. The hardest part of this process for me was identifying which problem to study and what data to collect to gain a better understanding of the issue at Buckeye Community College. Packard (2013) suggested that change initiatives should be in line with the organization's strategic plan. As I examined Buckeye

Community College's strategic plan and goals, student success and completion remained the key focus for the organization. Each strategic initiative and goal related to increasing student retention and graduation rates at the institution in order to increase funding as well as enhance student outcomes.

The white paper project developed directly out of my research findings, providing data-driven solutions. Developing a project that reviewed the academic advising structure made sense since this has not been done at the institution. Data-driven decision making is also a key focus area for Buckeye Community College and a point that is mentioned frequently within the organization's strategic plan and goals. Providing baseline data to assist the institution in changing the current academic advising structure to a tiered approach that meets the needs and expectations of students gave me the opportunity to broaden my thinking on the subject and question assumptions. It also provided me the opportunity to create data-driven recommendations and decisions through my own research and application rather than rely on information from others. Evaluating the project development will continue this work in the future as I gather data to determine if the recommendations increase student success and completion for the institution.

Leadership and Change

Scholars play a pivotal role in leading change within higher education organizations. Priest, Kaufman, Brunton, and Seibel (2013) said, "Change is often a central focus in the study of leaders and leadership; indeed, dealing with change is a core task of a leader" (p. 19). Transformational leaders focus on change, implementing new

direction and fostering a climate that accepts and embraces these changes (Lutz Allen, Smith, & Da Silva, 2013). However, many leaders are unprepared to implement change, even at a minor level, resorting to avoidance or denial rather than working through the change process (Bisoux, 2015). Morrison (2014) indicated that change is a top challenge for leaders in higher education as many institutions are slow to change or fail to implement change initiatives successfully. Helping employees within an organization see the benefits of change proves difficult as most would like to maintain the status quo (Morrison, 2014). Scholars must be prepared to take on a leadership role, opening the conversation needed to implement effective change at their institution (Shugart, 2012). As leaders, scholars learn about theories and practices in order to generate new ideas for the organization (Priest et al., 2013).

Throughout the capstone process, I tried to remain focused on creating a change that would benefit the organization and the students it serves. In reading Lutz Alln, Smith, and Da Silva (2013), I learned that anyone can envision and implement a creative idea that becomes useful to the organization as a whole. Changes to processes and procedures at an institution may be led by an individual or a group based on new ideas, technological changes, or new capabilities (Marshall, 2011). As a leader, I learned to recognize that those around me may not understand the need for change or see the new direction and goals clearly (Prendergast & Lambert, 2014). To help everyone through the proposed change process, I need to inspire a common vision, helping those involved to move past their own personal interests and focus instead on the good of the organization and a common purpose (Lutz Allen, Smith, & Da Silva, 2013). Through the white paper

project, I described the need for institutional change as well as options for implementation. Increasing student success and completion is a known goal for many in higher education. I am hopeful that those reading the white paper will have a clear understanding of the need for change and the recommendations for the institution moving forward.

Analysis of Self as Scholar

I have always looked to research and writing as a means of answering questions and providing solutions I encounter in my work. I began my studies as a music historian, reviewing history as a means to analyze and understand the music written by various composers and the impact music had on society. I continued to use research and writing methods to investigate issues in the workplace and develop policies and procedures based on data. While I developed research and writing skills early on, I did not need to use them in a formalized educational sense for many years. Working on this project allowed me to revisit my love of research and writing and apply these skills to a practical problem at my current institution.

While my past experiences include working in budget, research, and data analysis, this project represents my first foray into statistical analysis. I am drawn to the ability to investigate problems numerically, looking to data to provide answers to problems in higher education. I hope to use these skills more as I continue to work in this field. While I enjoy speaking with students and learning about their experiences, I realized early in my studies at Walden University that qualitative research did not hold much of

my interest or build upon my current skill set. In the future, I would like to delve into more qualitative methods in order to expand my research capabilities and knowledge.

The topic of academic advising did not present itself to me immediately. However, after a good deal of time spent reading articles and books, I realized the need to improve services in this area for community colleges. The more leaders I spoke with at my institution, the more I realized the depth of this issue and wanted to learn more about best practices and practical solutions. After meeting Vincent Tinto several years ago at a conference, I was excited to review his institutional departure theory and apply it to a real-world situation. As I continued to research this topic, I realized how varied the opinions were on how to provide quality academic advising services. Since I do not work with this area on a daily basis, it was very interesting for me to learn and read more about student expectations, faculty participation, and other models for delivering academic advising to increase student completion rates. The project required a high level of scholarship in order to accurately depict the relationship between the dependent and independent variables identified and produce high-quality solutions to present to institutional leadership in the white paper.

Working to develop the white paper project as well as evaluation and dissemination plans for the recommendations helped me increase my communication skills and knowledge of evaluation and assessment. Schultz (2014) indicated that learning should not end with the development of a change or solution, but should continue as both individual and organization learn to accept change. Bess and Dee (2008) stated that, “the absorption and construction of new ideas constitutes the very

substance of higher education" (p. 664). Developing my proposed solution provided me an opportunity to expand my acceptance of change as well experience a deeper learning process by connecting my research to practical solutions.

Analysis of Self as Practitioner

As a practitioner in higher education, I must continually remind myself to put students first. Student learning and development must remain the focus of any scholarship, research, or practice for those who work in higher education. Student choices, influences, and outcomes often surprise us. Students do not always behave or react to situations and educational demands in expected ways. Each student brings different backgrounds, expectations, or goals to the educational experience. As a practitioner, I must recognize and acknowledge these student differences in order to serve the students I encounter and to develop services to help them succeed.

I have worked in various aspects of higher education for over 10 years, learning new areas and developing new projects. Throughout the process of my capstone, I used a combination of personal experience, information and learning from my coursework, as well as advice and guidance from others to guide my research and discover solutions to create meaningful change. The data gathered and subsequent analysis provided a framework for recommended changes to policy and procedure. Using this type of practical data application for this study gave me a solid foundation for data analysis and inquiry as I continue to work in higher education.

Using the information learned during the research phase helped me expand my understanding of various problems at my current institution and helped me develop my personal thought process and find meaningful solutions. Bess and Dee (2008) stated that,

> As a result of questioning the organization's foundational beliefs and assumptions, organizational leaders may identify inadequacies in existing goals, policies, and behavioral routines. Leaders come to realize that organizational performance problems lie not in the performances per se, but in performing the wrong tasks or pursuing the wrong goals. (p. 676)

Examining a local problem helped me develop a deeper understanding of the culture and structure of the institution and think about how, as a practitioner, I could help enact change. As Finch et al. (2010) suggested, I learned how to take risks, learn from my mistakes, and challenge existing policies and procedures to improve services to students.

Following the research practices and procedures provided by coursework at Walden University and the capstone committee process, I learned about ethical procedures, data reliability and validity, and used tools such as SPSS to analyze a large data set. Grounding the study in a tested theory allowed me to connect my research to that of other practitioners in higher education. Change management strategies combined with these research methods helped me develop practical methods to present my findings and inform others of recommended solutions.

Analysis of Self as Project Developer

Developing successful projects in higher education usually requires networking, collaboration, open communication, innovation, and personal commitment from a team

of individuals (Finch et al., 2010; Schultz, 2014). However, for this project, I needed to work on my own, without the support or collaboration of my peers. Instead of debating and compromising with others, I developed the project alone and needed to justify its worth to others. This required strategic thinking, dedication, and personal mastery of the data and content (Finch et al., 2010). Clardy (2013) suggested the need to demonstrate the project costs, benefits, management strategies, and outcomes. I also needed to use personal experiences to develop a larger perspective, focused on outcomes and results from the proposed changes, as suggested by Schultz (2014).

Developing this project required focusing on the data and research results rather than personal opinion. Basing the project on the research results helped justify the suggestions and lead my thought process. Relying on the data and background literature to find solutions allowed for a different approach than what I am used to in my current position. Often, I am presented with an implementation plan with very little knowledge of the research or reasons for the project. Working on a problem from the start allowed me to experience the full scope of project development and will be useful as I work to implement other changes within my institution. I learned what type of information to review and questions to ask, as well as the scope of background literature and information needed to fully develop a project within higher education.

Because my research results did not match my preconceived notions of the best academic advising structure, it took me some time to step back and create a project and recommendations. Returning to the literature as well as having discussions with colleagues helped me reframe my thinking and develop a project that would impact

students at the institution in a positive fashion. This process expanded my thinking as a project developer and scholar.

Reflections on the Importance of the Work

Through the planning, research, and development of this study and the project development, my abilities as a scholar and researcher increased as did my commitment to data-driven decisions. I am dedicated to continuing this research and analyzing methods to improve student success and completion both at my institution and at other community colleges. Working with colleagues at my institution, I hope to provide reliable data and analysis to assess the effectiveness of our programs and services to students, suggesting areas for improvement and working to implement social change for our students, the institution, and the community. I hope the results of this study encourage those at my institution and throughout higher education to review and evaluate current academic advising practices. The study results and policy recommendations provide quantitative data results to begin this process with baseline data that can be expanded upon in subsequent studies. The resulting project provides leaders at the institution a method to evaluate current academic advising practices and open discussions for change and improvement. The research findings may also have broader implications for community colleges, providing a methodology to evaluate current practice at other institutions and recommendations that may assist in increasing their students' success and completion rates. The research provides a starting point for broader reviews of academic advising in a community college setting with the application of Tinto's (1993) institutional departure theory.

Implications, Applications, and Directions for Future Research

Through scholarly research and analysis, leaders in higher education can influence social change and impact their communities in many ways. The work of research and investigation into results of current higher education practices provides groundwork for the discussions and development of best practices to help improve student success and completion. Through this work and its results, leaders bring about positive social change for individual students, within higher education institutions, and for the surrounding communities.

Social Change for the Individual

My research study, findings, and recommendations impact social change on an individual level, both for me and for students enrolled at my institution. As a scholar, the work and research developed during this study changed my views on how to investigate issues and propose changes to impact student success and completion. The work provided the impetus to continue scholarly investigations, continuing my personal development as a researcher and looking for projects to help students. Hanson (2014) indicated that, "Organizations also seek employees with an interest in continued new learning." They hire people who "give back to the communities" they are from" (p. 11). Social change must be seen as a learning process for individuals (Reeler, 2015). I learned about social change and project development throughout this process, and I need to continue this learning and development in order to increase my ability to assist my institution in increasing student success. Social change happens through individual conversations (Reeler, 2015). In discussing my research and scholarly pursuits with

colleagues in higher education, I can impact social transformation and social change at the basic level.

For individual students, increasing their ability to complete a degree in a shorter amount of time through increased engagement and improved academic advising improves their quality of life in many ways. Higher education provides experiences and opportunities for students to grow through education, expanding their outlook and developing a more thoughtful, meaningful view of themselves (Hanson, 2014). While obtaining a higher education degree increases students' employment and earnings potential, it also helps shape their view of society and social change (Rashedi, Plante, & Callister, 2015). Through education, students develop critical thinking skills to examine the world around them, including inequalities, public issues, and personal impact (Better, 2013). The research and proposed recommended changes to academic advising included providing opportunities for students to engage with an academic advisor, receive information when needed, and develop a personal relationship based on their expectations. This person-centered focus allows opportunities to increase students' educational attainment and can impact social change on an individual level for each student.

Social Change for Higher Education Institutions

Institutional social change occurs through collaborative projects, increased communication, and shared responsibility and vision for increasing student success (Ferren, Dolinsky, & McCambly, 2014). This project offers the institution data-driven policy and procedure recommendations to improve student success and completion. By

implementing these changes through an inclusive, collaborative manner, social change at the institution can be impacted. Social change at the organizational level involves people letting go of past practices and allowing new information to inform decisions (Reeler, 2015). As with individuals, it is important for organizations to learn and improve, expanding the institution's ability to respond to student needs (Reeler, 2015). Working together to change the overall institutional structure provides opportunities for everyone at the institution to experience social change through progress and collaboration (Better, 2013). Implementing the change recommendations of this study, based on data analysis and review of the literature, will allow those working on the changes to improve student success and completion and expand social change at the institutional level.

The findings from the data analysis also provide a basis for continued assessment and improvements to academic advising in the future. Regular, data-driven assessment and continuous review of academic advising practices will increase opportunities for additional conversations, collaborations, and information to ensure the best possible services and outcomes for students. The research and data analysis can inform future developments and assessments for both academic advising and other student services. This critical evaluation and assessment will impact student success as well as create social change opportunities for the institution.

Social Change for the Community

This study provides beginning initial findings on the impact of academic advising on community college student success and completion at one college. Little research exists based on students in a community college setting. The needs of community

college students often get overlooked as practitioners work to increase student success. However, Singh (2014) indicated that all higher education institutions must be socially accountable and deliver social benefits to their students throughout their core functions of teaching and student support. "Individuals benefit by means of acquiring credentials, increased employment and income possibilities, and social mobility. However, society also benefits from a more educated workforce and citizenry, a larger tax base, and less dependency on government welfare support" (Singh, 2014, p. 104). This study presents data and information that may be applicable to other community colleges throughout the United States, increasing student completion and impacting social change.

The application of Tinto's (1993) institutional departure theory to student data from a community college expands the use of this theory to a new population and may offer insight into how higher education practitioners can apply this theory to different educational settings. Student pre- and post-entry attributes affect student success and completion at all types of institutions, not just baccalaureate universities. The study suggested the need for student support in a community college setting, especially for those students without clear educational goals.

This research study also provides information that may impact the national equity agenda, as outlined by the Lumina Foundation. Social change at the national level must go hand in hand with social and economic betterment for students marginalized by society (Gray, 2014). Increasing student success and completion through revised academic advising policies and procedures impacts students' ability to learn the skills needed to improve their social standing and prepare for work and civic life in society

(Calderon & Pollack, 2015). The Lumina Foundation charged community colleges with increasing equitable outcomes for all types of students, working to address inequality in our society (Lumina Foundation, 2014). The Lumina Foundation (2014) report stated, "The system must be redesigned in a way that values the diverse pathways by which students obtain the knowledge, skills and abilities they need to succeed in the workplace and in life" (p. 2). While race variables did not impact the overall regression model in a significant way, opportunities to increase equity still exist. Finding ways to reach students based on personal expectations, needs, and goals would enhance services at all levels and provide opportunities to increase equitable outcomes for all students.

Methodological and Theoretical Implications

This research study and resulting project used Tinto's (1993) institutional departure theory as a basis for identifying those student pre- and post-entry variables impacting student completion and success at Buckeye Community College. Tinto (1993) formulated this theory using the experiences of students at 4-year, residential institutions. However, the multiple regression analysis indicated that some of the variables identified by Tinto's (1993) theory impacted student completion in a community college setting as well. Additional research is needed to determine the full impact of these pre- and post-entry attributes on students at commuter community colleges. This study provides some justification for continuing to review these variables at the community college level.

Recommendations for Practice

This study and multiple regression analysis prompted several recommendations for practice at Buckeye Community College. These recommendations stemmed from the

results of the data analysis as well as review of current literature on academic advising in higher education. The study sought to determine factors impacting student success and completion in community college. By implementing the recommendations, Buckeye Community College has an opportunity to increase student completion.

1. Use the study data and findings as a basis for creating a tiered academic advising approach based on student preparation, expectations, goals, and preferences.
2. Continue to address the need to review and improve academic advising by developing specific outcomes and instruments to measure effectiveness.
3. Revise or replace the current academic advising system to more fully integrate with the Banner system, expanding data collection points to include more information based on Tinto's (1993) institutional departure theory.

Buckeye Community College should continue to collect and review data on academic advising and student completion to determine the effectiveness of the recommended structure and to guide future change decisions.

Potential Future Research

This study provides preliminary data and insight into the impact of student pre- and post-entry variables and selected advisor type on time to graduation and completion. However, additional research and exploration of the factors impacting student success and completion is needed. Chiteng Kot (2014) concluded, "The inconsistent and contradictory findings about the impact of academic advising point to the need for further empirical research on this topic" (p. 531). The results of this study indicate that

additional research is indeed needed to fully understand the impact of pre- and post-entry attributes, focusing on academic advising and its impact on student completion. Suggestions for future research studies include:

1. Conduct an expanded quantitative analysis gathering data from multiple IPEDS cohorts, reviewing students who did not complete a degree to determine the advising type used and the predictive influence on months enrolled at the institution.
2. Gather data from multiple IPEDS cohorts to review the impact of pre- and post-entry attributes and advisor type on time-to-degree completion.
3. Select a sample of graduating students from the 2011 IPEDS cohort to include in qualitative interviews to gather the student perspective on the influence of academic advising on their time to graduation.
4. Use a quantitative logistic regression approach to review students that graduated compared to students who did not graduate in the 2011 IPEDS cohort based on the advisor type selected and the identified pre- and post-entry attributes.
5. Gather comparable information from other Ohio community college 2011 IPEDS cohorts to include in the sample for regression analysis.
6. Use a quantitative regression analysis to review the impact of the number and time during the semester of advising appointments to determine the predictive influence on time to graduation.

Continuing to investigate the impact of academic advising as well as student pre- and post-entry attributes on student completion will help stakeholders at Buckeye Community College gain a broader understanding of those factors that assist students in completing a degree. Additional and on-going data and research will also provide opportunities for continuous improvement of the academic advising structure at the institution.

Conclusion

In this study, I used quantitative methods to investigate the problem of low student graduation rates at Buckeye Community College. The analysis reviewed the predictive relationship between students' pre- and post-entry attributes, based on Tinto's (1993) institutional departure theory, and selected advisor type on time to graduation, based on months of enrollment. The resulting white paper project summarized the research findings. The white paper project also provided recommendations for change in the institutional academic advising and data collection procedures, based on the data analysis and findings from the research study. Finally, the study included recommendations for additional research in the future to expand the data analysis and gain a deeper understanding of the variables that influence student completion in community colleges.

A quantitative multiple regression analysis approach produced two regression models in support of the alternate hypotheses posed at the beginning of the study. The data results, combined with review of current literature, provided support for the white paper project and policy recommendations. The multiple regression analysis resulted in multivariate data to answer the initial research questions and hypotheses, suggesting that

student pre- and post-entry variables and advisor type both had a predictive relationship with student time-to-degree completion, measured in months enrolled at the institution. The data analysis results also supported the resulting recommendations to improve student success and completion at Buckeye Community College, suggesting that academic advising should be structured based on students' needs, expectations, preferences, and goals. Validation of this structure through specific outcomes and assessment, supported by increased data point collection, would provide the institution additional methods to evaluate and implement practices that ensure student degree completion.

Tinto's (1993) institutional departure theory provided the model for gathering student pre- and post-entry attributes to determine the predictive relationship on student completion. The model supported the variables used in the multiple regression analysis, providing eight categories of variables already known to predict student retention and completion at 4-year higher education institutions. The multiple regression results indicated a predictive relationship between several pre- and post-entry variables and student time to graduation at Buckeye Community College. These results point to the need for additional data collection and analysis to determine the full applicability of Tinto's (1993) theory for community college students.

This research study and findings potentially impact social change at the institution as well as at the local, state, and national level. Higher education institutions must continue to research and implement practices to help more students complete a degree. An institution that can tailor services to students in order to provide the most support to

at-risk students, using existing resources effectively, has the ability to increase student completion. Enabling more students to complete a degree impacts the community by providing a more educated workforce and citizens prepared to become involved in their community, promoting positive social change. The study also offers preliminary data and information to support similar changes at other community colleges, helping to increase completion and success throughout the state and at the national level, increasing higher education attainment.

Higher education institutions often resist change initiatives. However, strong leadership, communication, and collaboration will help to alleviate resistance and implement the study recommendations. I will continue to research the issue of student completion at Buckeye Community College, expanding my knowledge and abilities as a scholar-practitioner in order to serve students more effectively. Completion of this study and project provide me the opportunity to affect positive change at my institution and work collaboratively with colleagues and students to implement change. I am hopeful that this scholarly journey can continue as I strive to serve my local institution and its students.

Change implementation requires strong leadership skills throughout an institution, both from executive leaders as well as those on the front lines. My studies and development as a scholar-practitioner can benefit my institution as I increase my capacity to lead change and garner support for new initiatives through data-driven research. The results of this study and data analysis, as well as the project development and

implementation, have increased my leadership capacity and ability to create a vision for change in the future.

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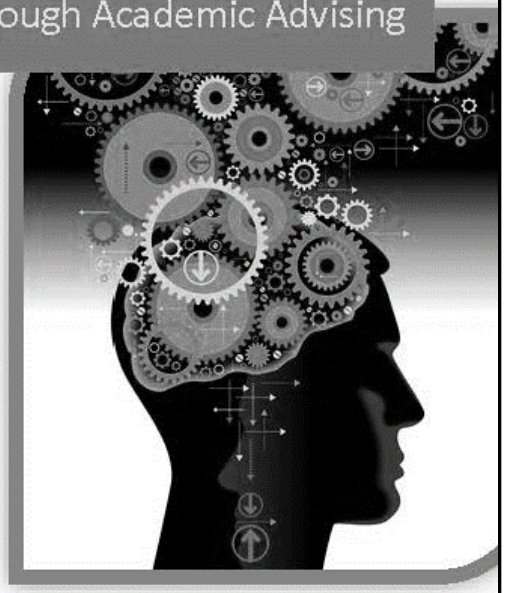
Appendix A: The Project

Increasing Student Completion through Academic Advising



White Paper Recommendations

Brenda Pongracz
Walden University
October 2016

Executive Summary

This study addressed the problem of low graduation rates at Buckeye Community College. The low graduation rate at the community college impacts students, their families, and the community as students who do not complete a degree are unprepared for the workforce. It also impacts funding for the institution based on the state of Ohio's performance-based funding model.

Buckeye Community College has not reviewed the institutions academic advising structure to determine best practices to increase student success and completion. Based on Tinto's (1993) institutional departure theory, I worked to address this gap in practice by examining the relationship between different advisor types and student completion at the institution. This white paper provides policy recommendations, based on the data analysis, to assist the institution in increasing student completion.

The study's methodology included block stepwise multiple regression analysis based on Tinto's (1993) institutional departure theory. The data analysis results indicated that several student pre- and post-entry attributes from Tinto's (1993) model impacted student completion. Student selected advisor types also presented a predictive relationship to student time to degree completion.

This white paper summarizes the study research findings and provides policy recommendations for changes to the Buckeye Community College's academic advising and data collection procedures. The data analysis results support recommendations to improve student success and completion at the institution by structuring academic advising on students' needs, expectations, preferences, and goals. Developing specific outcome and assessment measures for academic advising and increased data collection provides support for this new tiered structure and methods to evaluate and implement practices that encourage student degree completion.

Contents

Full research study available through ProQuest Dissertations and Walden University

Introduction

Like many higher education institutions, Buckeye Community College struggles with low graduation rates. The institutions Integrated Postsecondary Education Data System (IPEDS) graduation rate, defined as 150% of the time needed to complete a degree or 3 years, is lower than the national average. In 2014, only 5.2% of first-time, full-time students graduated within 3 years (NCES, 2014). The national average for community colleges during the same timeframe was 31% (NCES, 2014). The low graduation rate at Buckeye Community College has a negative impact on students, their families, and the community.

Current institutional goals include increasing the IPEDS graduation rate to 10% by 2020. However, Buckeye Community College has not reviewed its current academic advising structure in relation to recent literature and methods for academic advising to determine new methods of increasing student success and completion. There is a need to address this assessment gap in order to find new ways to assist more students at the institution complete a degree.

In order to improve student completion, higher education institutions must review their student data and analyze patterns in a variety of ways. Community colleges need to move past focusing purely on access to education and focus on student success and completion, improving student outcomes. According to the National Student Clearinghouse, 60% of first-time community college students successfully complete 30 or more credits after 6 years (Bers & Schuetz, 2014). Community colleges must provide adequate resources to assist students in completing a degree, despite the many challenges such as student's lack of academic preparation, outside commitments, or financial difficulties.

The purpose of this quantitative research study was to determine the predictive relationship that advising model variables, specifically consistently seeing the same advisor, had on first-time, full-time associate degree seeking students' time-to-degree completion, after controlling for pre- and post-entry attributes as defined by Tinto's (1993) institutional departure theory. The study provided data analysis results that leadership can use to review the current academic advising structure of the institution and implement changes. The study supports the institutions strategic plan and dedication to continuous improvement through data-driven decisions to support student success.

Context of the Problem

The issues of college retention and completion continue to be of major concern for all higher education institutions at the national, state, and local levels in the United States. More and more, higher education leaders must meet expectations for student completion metrics in order to maintain state funding, accreditation, and public support for the institutions they represent (Manning, 2011). Completion of a postsecondary degree is shown to increase wage earnings, quality of life, and economic competitiveness for the United States (Boggs, 2011). By the year 2020, Carnevale, Smith, and Strohl (2013) estimate 65% of jobs in the United States will require some advanced training.

Community colleges face significant challenges in terms of student success and completion. With open access admissions and a variety of program offerings, community colleges offer a protected environment for students to investigate future educational and occupational opportunities (Allen, Smith, & Muehleck, 2013). However, open access admissions brings challenges as well. Students arrive on campus unprepared, requiring remedial coursework and additional support (Scrivener, Weiss, & Sommo, 2012). In the United States, only half of all undergraduates complete a degree in 6 years (NCES, 2014). At community colleges, the completion rates are even lower, especially for those students who require remedial coursework (Scrivener, Weiss, & Sommo, 2012). In addition, Christian and Sprinkle (2013) predicted graduation rates for students at institutions in urban environments fall 3.5% below the national rate.

> "The current on time completion rate for students at two-year colleges in Ohio is only 3%."
>
> Complete College America, 2014

The Integrated Postsecondary Education Data System (IPEDS) calculates completion rates at 150% of the time needed to complete a degree, or 3 years for 2-year colleges (NCES, 2014). However, the Complete College America (2014) report stated that the current 2-year college on-time graduation rate (within 2 years) is only 5%. In the state of Ohio, the rate is currently 3% (Complete College America, 2014). Community colleges in the United States face increased enrollment attrition, with many students leaving after only three semesters (Wiseman & Messitt, 2010). Furthermore, many students attend only part-time, have additional work and family obligations, and face financial hardships that reduce the likelihood they will complete degrees (Kolenovic, Linderman, & Karp, 2013).

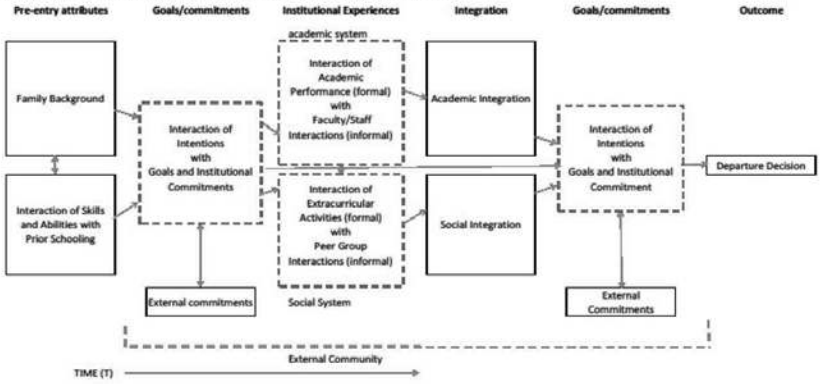
Academic advising provides one method to increase student success by offering a venue for institutions to educate and support students outside of the classroom (Burt, Young-Jones, Yadon, Carr, 2013). As community colleges seek to retain and graduate more students, academic advising offers a key opportunity for student engagement and student academic, career, and personal success (Shaffer, Zalewski, & Leveille, 2010). The support and

encouragement provided through a quality academic advising program contributes to student success (Wiseman & Messitt, 2010).

Buckeye Community College's president gave a directive to implement more intentional advising structures, including faculty advising, intrusive advising, and mandatory advising to make sure students remain on track (Buckeye Community College, College President, personal communication, May 8, 2015). In speaking about enhancing advising services in this manner, the College President stated, "There is an opportunity there" (Buckeye Community College, College President, personal communication, May 8, 2015). The institution's current advising model does not provide the resources necessary to provide active support for student success and completion (Buckeye Community College, Dean of Student Affairs, personal communication, April 27, 2015).

Theoretical and Conceptual Framework

Tinto's (1993) theory of institutional departure determined the various student characteristics and higher education institution environments that factor into student academic and social integration, leading to retention and completion. According to Tinto's (1993) theory, students leave higher education either voluntarily due to their various experiences after entry, or involuntarily due to lack of academic preparation. Tinto identified eight pre- and post-entry attributes leading to student departure. These include intentions, commitment, adjustment, difficulty, congruence, isolation, external obligations, and finances. These internal and external factors influence whether or not a student integrates with their chosen higher education institution and therefore stays to complete a degree. The theory indicates that inadequate integration may lead to student departure, while strong integration experiences help strengthen students' goals and commitments, fostering retention.



A Longitudinal model of institutional departure. Adapted from *Leaving college: Rethinking the causes and cures of student attrition*, by V. Tinto, 1993, Chicago, IL: The University of Chicago Press. Reprinted with permission.

Tinto (1993) offered suggestions for institutional actions to offset the effects of these eight pre- and post-entry attributes. Tinto suggested that academic advising plays a role in student retention and integration. Academic advising may help students integrate through stronger commitments and support for goals, adjustment, and when students face difficulty, absent of academic advising type (Tinto, 1993). Tinto recommended that all academic advising should be intrusive and an integral part of the student's experience at the institution, and that academic advisors should work together with faculty to provide student support creating integration.

Research Questions

Buckeye Community College needs to gain a better understanding of the impact of its current advising structure on student time to degree completion. Review of Tinto's (1993) institutional departure theory as well as other literature on academic advising provided information on the importance of academic advising in higher education. Two research questions formed the basis of this study.

RQ1

- How do student pre- and post-entry attributes (excluding advisor type), as defined by Tinto's (1993) institutional departure theory relate to student time-to-degree completion as measured by the IPEDS definition at Buckeye Community College?

RQ2

- After controlling for other identified student pre- and post-entry attributes, how does advisor type relation to degree completion for students in the 2011 IPEDS cohort at Buckeye Community College?

The first research question addressed the impact of Tinto's (1993) pre- and post-entry variables on time to completion, measured in months enrolled at the institution, absent of academic advising. The second research question addressed the influence of advisor type on student time to completion.

Data Collection

Data for this study was collected from records at Buckeye Community College. The sample used was a convenience sample taken from the institution's 2011 IPEDS student cohort. Data was merged from the institution's Banner student system as well as the Scheduling and Reporting System (SARS) to provide data on student demographics, experiences, and academic advising history. The full 2011 IPEDS cohort consisted of 1851 students. However, only 190 of the students in the cohort graduated from the institution.

Tinto's (1993) pre- and post-entry attributes formed the basis for variable selection in this study. However, due to limitations in data collection at Buckeye Community College, not all variables were available for inclusion. The Banner data included student age, race, gender, high school graduation or GED, English and math placement scores, first generation attributes, major, transfer data, GPA, Standards of Academic Progress (SAP) standing, use of support services (tutoring, Project GO!, and Financial Aid), participation in a club or activity, marital status, financial aid eligibility, PELL eligibility, and work study status.

From SARS, the data collection looked to identify students falling into three academic advising types; (a) consistent advisor type, defined as seeing the same advisor for 75% of all appointments exclusive of the initial orientation, (b) variable advisor type in which the student saw a different academic advisor for each appointment and, (c) no advisor type, for which the student did not see an academic advisor after the initial orientation appointment. However, the data analysis did not include frequency or timing of advising appointments.

Data Analysis

For this study, a block stepwise multiple regression analysis with backward removal of variables helped answer the two research questions. Variables were entered and then removed if they proved to not contribute significantly to time to degree completion. The blocks for this analysis entered the regression based on Tinto's (1993) institutional departure theory. The final block included the advisor type variables. The regression analysis looked for predictive relationships between the identified independent variables and student time-to-degree completion at the institution.

The multiple regression analysis produced two regression lines, one for the first research question and one for the second. In both regression lines, the variables from Tinto's (1993) model that proved significant included first-generation, use of services, club participation, English readiness, transfer, GPA, and financial aid eligibility, with the first three predicting increases in time to completion and the last four predicting decreases in time to completion. In the final regression line, the advisor types of consistent and variable increased time to completion by one semester or more compared to the no advisor type.

Predictive Variables	Block Entered	Beta Weight (B)
English Placement	2	-2.34
First-Generation	3	4.48*
Transfer	4	-5.81*
GPA	5	-2.62
Used Services	5	4.29*
Club Participation	6	3.77*
Financial Aid Eligibility	8	-3.62*
Consistent Advisor Type	9	4.24*
Variable Advisor Type	9	5.98*
		(* p < .05)

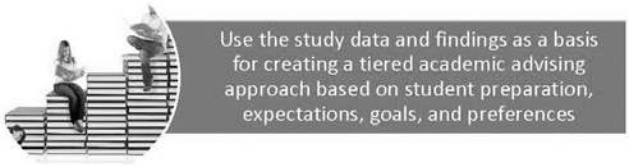
Based on these results, this study concluded a predictive relationship exists between students' pre- and post-entry attributes and time-to-degree completion. The results also indicated a predictive relationship between student advisor type and time to completion.

Recommendations Based on Research Evidence

This study addressed Buckeye Community College's low student completion rates by examining retrospective data on student pre- and post-entry attributes and academic advising appointment history. The regression analysis provided quantitative data to help evaluate the current academic advising practices at the institution and determine the effectiveness of the current academic advising structure. Review of current literature on best practices in higher education supplemented the data analysis results and supports recommended policy changes to help Buckeye Community College increase student success and completion.

Structure of Academic Advising

Based on the results of this study, Buckeye Community College should redefine its academic advising structure to better meet student expectations and needs in order to increase graduation rates.



The data results from this study indicated that students who never saw an academic advisor graduated faster than those who did. In fact, the variable advisor type explained 3.1% of the variation in months to graduation, increasing the length of time by 4 months, and the consistent advisor type explained 3.3% of the variation in months to graduation, increasing the length of time enrolled by almost 6 months.

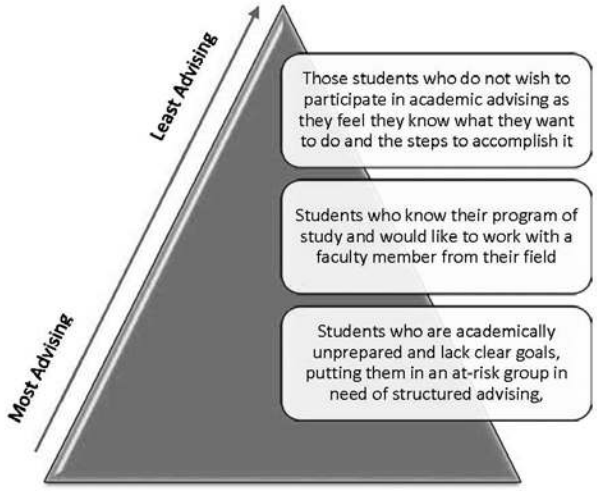
	Block	B	β	Sig	95% Confidence Interval for B		Part
Variable Advisor Type	9	4.24	0.21	.007	1.67	10.30	.082
Consistent Advisor Type	9	5.98	0.22	.005	1.28	9.20	.137

These results suggest that students who never saw an academic advisor may not need the same type of academic advising as those requiring the use of academic advisors. For example, students with a clear academic goal in mind and a defined major may consider academic advising as unimportant or not worth the time. However, other students may require an academic advisor to put them on track to graduation in a timely fashion (Christian & Sprinkle,

2013). Without an understanding of student needs and expectations, advisors may unknowingly increase student dissatisfaction with advising services (Anderson, Motto, & Bourdeaux, 2014).

Much of the literature points to the need to provide an academic advising structure based on student needs, either developmental or prescriptive, as well as advising students on a wide variety of information from basic registration to personal growth and development (Allen, Smith, & Muehleck, 2013; Anderson, Motto, & Bourdeaux, 2014; Schroeder & Terras, 2015). Based on the data results from this study and a review of the literature, Buckeye Community College should review its current approach to academic advising and revise it based on the needs of different student groups. This aligns with the research of Schroeder and Terras (2015), which determined that students present a diversity of needs and require different advising approaches. These different groups could be developed during new student orientation as academic advisors and student affairs staff work with the students and determine their preferred course of study and need for advisement.

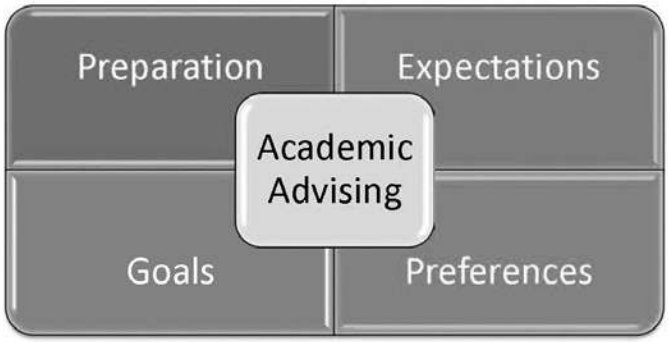
First, students should be divided into those with a specific major and goal and those who are undecided. Student academic preparation and skills should also be noted. Then, students should be surveyed to determine their advising preference as well as their educational and career goals. This would include three groups:



Once these groups are determined, the at-risk students should be part of an intrusive, mandatory advising model to ensure they receive the support needed to complete a degree. Students who desire a faculty advisor based on their program would be able to work directly with an assigned faculty member rather than seeking general academic advisor support. Finally, students with clear goals and commitments would not be required to seek academic advising services unless they encounter specific questions or difficulties.

Expanding advising services to include faculty as well as student affairs staff enables more collaboration as well as additional opportunities to promote student development (Grites,

2013). Academic advising may also be expanded to include group advising sessions, which allow the advising team to reach an even wider audience of students and provide answers to significant questions about the institution (Deil-Amen, 2011). Dividing students into groups based on needs and preferences allows advising assignments to be spread throughout the institution, using faculty, staff, and counselors. It also provides each student with tailored support and information rather than assuming all students require the same level of academic advisement, which better addresses individual needs for completion.



Academic Advising Outcomes and Assessment

The data analysis from this study suggested that student goals and commitments, as found in Tinto's (1993) student departure theory, impact student success and completion. The multiple regression data results implied that perhaps students with defined goals were more likely to complete on time and not need academic advising services. The data analysis and literature suggested (Erlich & Russ-Eft, 2011) that members of this group are more likely to have defined goals and may have less of a need for academic advising services than members of the other advising type groups.

However, Buckeye Community College collects very little assessment data regarding its current academic advising structure and outcomes. Messaging to students simply includes recommendations to see an academic advisor before registering for classes, but does not review the overall purpose or intended outcomes of these advising sessions. Therefore, the second recommendation of this study includes redefining the purpose and outcomes of academic advising at the institution.

The increased demand for higher education institutions to provide assessment and outcomes of student learning applies to academic advising as well, as institutions attempt to

document what students are learning through advising experiences and the impact this has on their educational pathway (Grites, 2013; Hunter & White, 2004). With this comes the challenges in measuring student learning (Hunter & White, 2004) and proving a "change in the advisee" or change in student learning and behavior (Kelley, 2008, p. 21). However, the norm in higher

education includes measuring student satisfaction and other psychological benchmarks rather than learning outcomes (White & Schulenberg, 2012). Smith & Allen (2014) stated that, "Postsecondary institutional leaders hope to inspire specific learning outcomes through academic advising" (p. 50). Academic advisors face increased pressure to demonstrate the impact of their work on student retention and graduation (Darling, 2015). The literature provides suggestions for defining and measuring academic advising outcomes to support the recommended policy change for Buckeye Community College.

Based on key findings from this study and the literature review, the recommendation to develop specific academic advising outcomes and instruments to measure whether they are being met provides the College with a more effective measure to increase student success and completion. Buckeye Community College has not undertaken previous data collection or review of advising services beyond student satisfaction surveys and tracking use of advising services. The results of this study indicate that a more comprehensive approach is needed to fully understand what is occurring during academic advising appointment and the impact advising has on student completion. Creation of specific outcome and assessment measures for the institution would aid this process.

> "Postsecondary institutional leaders hope to inspire specific learning outcomes through academic advising."
> (Smith & Allen, 2014, p. 50)

Tinto's Institutional Departure Theory at Community College

This study provided the first quantitative analysis using academic advising data for Buckeye Community College. The third recommendation of this study relates to data collection practices.

Revise or replace the current academic advising system to more fully integrate with the Banner system, expanding data collection points to include more information based on Tinto's (1993) institutional departure thoery.

The multiple regression data analysis suggested many assumptions and best practices from the literature regarding student completion may not apply in a community college setting. However, the multiple regression analysis did point to several key factors in Tinto's (1993) model that predicted time to completion at the institution.

	Block	B	β	Sig	95% Confidence Interval for B		Part
English Placement	2	-2.34	-0.13	.056	-4.73	0.06	-0.13
First Generation	3	4.48	0.15	.024	0.61	8.34	0.15
Transfer	4	-5.81	-0.29	.000	-8.48	-3.14	-0.28
GPA	5	-2.62	-0.13	.060	-5.34	0.11	-0.12
Used Services	5	4.29	0.17	.015	0.83	7.75	0.16
Club Participation	6	3.77	0.19	.010	0.90	6.64	0.17
Financial Aid Elig	8	-3.62	-0.17	.013	-6.47	-0.77	-0.16

Despite these results, the overall data gathering proved limited and difficult due to lack of institutional collection for key data points, absence of communication between two data systems, and the need to merge data from two different departments before analysis could begin. The institution does not maintain data on student high school GPA or when students change their major of study, both critical elements of the institutional departure theory. Many students at the institution select a major in order to qualify for financial aid, as a defined major is necessary to qualify for aid. However, many students do not select the major they truly intend to stick with throughout their studies. These issues prevent any full-scale review and analysis of the influence of Tinto's (1993) pre- and post-entry attributes for the institution.

This recommendation would allow Buckeye Community College to more accurately review the impact of pre- and post-entry variables on student completion as well as the influence and outcomes of academic advising. Student attrition from higher education does not necessarily follow a consistent pattern, with the same variables impacting student decisions to stay as well as leave an institution (Strayhorn, 2015). Few research sources discuss the reasons students select a major or course of study and stay with that goal through to graduation (Montag,

Campo, Weissman, Walmsely, & Snell, 2012). Finally, as discussed, many institutions collect student satisfaction data, but most do not have standardized measures to evaluate advising services (Ocean, Hawkins, & Chopra, 2014). Combining all data point collection into one system that includes defined academic advising outcomes would provide the institution opportunities to review and analyze multiple data points easily, allowing data driven recommendations for improving policy in the future.

Recommendations

Recommendations for Practice	Recommendations for Future Research
This study and multiple regression analysis prompted several policy recommendations for Buckeye Community College. These recommendations stemmed from the results of the data analysis as well as review of current literature on academic advising in higher education. The study sought to determine factors impacting student success and completion in community college. By implementing the recommendations, Buckeye Community College has an opportunity to increase student success and completion. 1. Use the study data and findings as a basis for creating a tiered academic advising approach based on student preparation, expectations, goals, and preferences. 2. Continue to address the need to review and improve academic advising by developing specific outcomes and instruments to measure effectiveness. 3. Revise or replace the current academic advising system to more fully integrate with the BANNER system, expanding data collection points to include more information based on Tinto's (1993) institutional departure theory	1. Conduct an expanded quantitative analysis gathering data from multiple IPEDS cohorts, reviewing students who did not complete a degree to determine the advising type used and the predictive influence on months enrolled at the institution. 2. Gather data from multiple IPEDS cohorts to review the impact of pre- and post-entry attributes and advisor type on time to completion. 3. Select a sample of graduating students from the 2011 IPEDS cohort to include in qualitative interviews to gather the student perspective on the influence of academic advising on their time to completion. 4. Use a quantitative logistic regression approach to review students that graduated compared to students who did not graduate in the 2011 IPEDS cohort based on the advisor type selected and identified pre- and post-entry attributes. 5. Gather comparable information from other Ohio community college 2011 IPEDS cohorts to include in the sample for regression analysis. 6. Use a quantitative regression analysis to review the impact of the number and time during the semester of advising appointments to determine the predictive influence on time to graduation.

Conclusion

The quantitative research study and white paper outlined the problem of low student completion rates at Buckeye Community College. The lack of information regarding the institutions current academic advising structure and practices limited the ability to assess effectiveness and determine the best methods to increase student completion at the institution. The study examined the relationship between student pre- and post-entry attributes, based on Tinto's (1993) institutional departure theory, as well as advisor type on student time to completion. The white paper summarized the study findings and made recommendations for improvements for Buckeye Community College based on the research results as well as recommendations for future research to foster continuous improvement.

The multiple regression analysis produced two regression lines, providing information on the student pre- and post-entry attributes as well as advisor type and the predictive relationship with time to completion, measured in months enrolled at the institution, answering the initial research questions. The findings from the regression analysis provided data to support the policy recommendation white paper project. The regression analysis indicated that several pre- and post-entry attributes attributed to student time to degree completion, including English placement, first-generation status, transfer intentions, GPA, use of services, club participation, and financial aid eligibility. The analysis also indicated that students who used advising services took longer to graduate than those who did not seek advising services. Since the data analysis is based on student self-selection of services, this may indicate that students with strong educational goals and commitments do not prefer to use academic advising services during their enrollment at the institution. This data supports the change recommendation to create a tiered academic advising approach based on student preparation, expectations, goals, and preferences.

The findings and data analysis also provide a basis for continued assessment and improvements to academic advising in the future. Regular, data-driven assessment and review of academic advising opens up opportunities for additional conversations, collaborations, and information to ensure the best possible service and outcomes for students. The research and data analysis can inform future developments and assessments for both academic advising and other student services. This critical evaluation and assessment will impact student success as well as create social change opportunities for the institution.

The study results provide data and information that Buckeye Community College can use as a baseline and starting point for improving the current academic advising structure. The application of Tinto's (1993) institutional departure theory to student data from a community college expands the use of this theory to a new population and may offer insight into how higher education practitioners can apply this theory to different educational settings. Student pre- and post-entry attributes affect student success and completion at all types of institutions, not just baccalaureate universities. The study shows the need for student support in a community college setting, especially for those students without clear educational goals. Tinto's (1993) institutional departure theory framed this study, providing background information for the data collection. However, the limited availability of key data points on student pre- and post-entry attributes hindered the overall data analysis and led to the recommendation to expand data collection at Buckeye Community College. Additional and on-going data collection and analysis would provide the institution with a broader picture of those factors leading to student success and completion.

This research study also provides data and information that may impact the national equity agenda, as outlined by the Lumina Foundation. Social change at the national level must go hand in hand with social and economic betterment for students marginalized by society (Gray, 2014). Increasing student success and completion through revised academic advising policies and procedures impacts students' ability to learn the skills needed to improve their social standing and prepare for work and civic life in society (Calderon & Pollack, 2015). The Lumina Foundation

charged community colleges with increasing equitable outcomes for all types of students, working to address inequality in our society (Lumina Foundation, 2014). The Lumina Foundation (2014) report stated, "The system must be redesigned in a way that values the diverse pathways by which students obtain the knowledge, skills and abilities they need to succeed in the workplace and in life" (p. 2) While variables in race did not impact the overall regression model in a significant way, finding ways to reach students based on personal expectations, needs, and goals would enhance services to students at all levels and provide opportunities to increase equitable outcomes for all students.

By working to implement the changes suggested by this research study, Buckeye Community College has the opportunity to increase student success and completion, working to meet key strategic goals for the institution.

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Appendix B: Institutional IRB Approval

TO: **Brenda Pongracz**

SUBJECT: **Notice of** ☒ Review and approval
☐ Exemption

The Human Subjects Review Committee of Cuyahoga Community College has reviewed and approved your proposal entitled:

Determining the Relationship between Frequent, Consistent Academic Advising and Student Completion in a Community College

You are advised that with respect to:

1. the rights and welfare of the individual(s) involved;
2. the appropriateness of the methods used to secure informed consent; and
3. the risks and potential benefits of the investigation.

The Human Subjects Review Committee has reviewed your proposal and does consider your project to be:

- ☐ Exempt
- ☒ Fully acceptable (without reservations).
- ☐ Acceptable with the reservations noted below
- ☐ Not acceptable for the reasons noted below

We understand that Walden University will serve as the IRB of record on this project.

Approval date: April 21, 2016

Appendix C: Approval to use Tinto's (1993) Student Departure Theory Figure

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Permission Grant

Brenda Pongracz

Date: March 21, 2016
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Request Date: 03-20-2016
Reference Number: 00495310013

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