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Academic Advising Methods and First-Year Full-Time Community College Student Achievement

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This is to certify that the doctoral dissertation by

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Walden University
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Abstract

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Bernard J. Gantt

MIS, City University of New York, 1990

MA, Columbia University, 1988

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Poor student achievement at some community colleges results in low retention and graduation rates. Addressing the problem of unpreparedness for college with good academic advising may help to improve student achievement. The purpose of this study was to determine whether there is a difference in the academic achievement of 1st year full-time (FYFT) community college students, based on having received 1 semester of any of 4 different academic advising methods (prescriptive, developmental, intrusive, proactive) while controlling for high school grade point average (GPA). Bandura's social learning theory was used as the theoretical framework. A quantitative research method, deploying 1 research question and 5 hypotheses, was used to guide the examination of a sample of 349 archived data records of Fall 2016 FYFT students at a community college in the northeastern United States. The study included a categorical (factor) and a metric (covariate) measures of variables; therefore, a 1-way ANCOVA was used to estimate the effect of the academic advising method on student achievement. The findings showed no significant difference in FYFT student GPA, based on having received academic advising in general or any method of academic advising, during the 1st semester of enrollment. Despite these findings, the literature supports academic advising as critical for improving GPA, implying that further research is needed to adequately determine trends in student achievement related to advising over more than 1 semester at the college studied. By understanding the difference in the academic achievement of FYFT students based on having received academic advising consistently, academic advisors will have information that can potentially enhance student achievement and increase students' chances of graduating, thus promoting positive social change.

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Dedication

This dissertation is dedicated to my parents, the late James Leroy and Quincy Mae Gantt, who instilled the importance of obtaining an education and the desire to be the best that I could be. My father always told me “If you get an education, no one can ever take it away from you.” My mother always told me “You can be whatever you want to be, if you put your mind to it.” Both of these statements still resonate with me today and I have instilled the same sentiment in my children.

This dissertation is also dedicated to my siblings, the late Leola Johnson, Timethe and Leroy Gantt. My parents and 3 of my 13 siblings passed away during this doctoral journey. The memories of them will be in my heart forever and the presence of their spirit is a constant reminder of God’s faithfulness.

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Finally, I want to thank my wife, Mia, and our children, Bernard, Quinton, and Aviana, for supporting me as I pursued my doctoral degree. This degree is for them because they put up with my impatience, mood swings, attitude, unavailability, and commandeering of the dining room table to write and complete my homework assignments. I love and appreciate all of you for the role you played in helping me to accomplish this significant achievement.

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Chapter 1: Introduction to the Study

Introduction

Community colleges are essential to the development of students who later enter the workforce. However, some critics view community colleges as revolving doors that bring a large amount of students in through the enrollment process only to see them leave one to two semesters later (Barefoot, 2004; McGrath & Spear, 1991). Additionally, students who remain in community colleges face difficult circumstances (NYC Center for Economic Opportunity [CEO], 2010). According to the City University of New York (CUNY) website, CUNY Accelerated Study in Associate Programs (ASAP) is a program designed to support students in earning an associate's degree within 3 years (City University of New York Accelerated Study in Associate Programs, n.d.). CUNY ASAP provides students with personalized tutoring, career counseling, and academic advising.

The 6-year graduation rate is only 17% for students attending community colleges (CEO, 2010). The many responsibilities and conflicts that community college students face are the primary cause of this rate. Nevertheless, many students are successful after receiving proper academic advising, guidance, and support from CUNY ASAP. According to the Manpower Demonstration Research Corporation (2015), the graduation rate of students in ASAP doubled in 2012 compared with students not in the program. This finding captured the attention of leaders at community colleges across the country. The MDRC is a nonprofit, nonpartisan social and education policy research organization whose staff are committed to identifying strategies to improve the social mobility of low-income people by enhancing the efficacy of social and education policies and programs

(Manpower Demonstration Research Corporation, 2015). According to the Manpower Demonstration Research Corporation (2012), ASAP advisors have small caseloads and provide comprehensive advising, enhanced career services, and tutoring for students enrolled in the program, thus substantially improving academic outcomes over 3 years.

Researchers have examined student success and analyzed its relationship with academic advising (Allen, Smith, & Muehleck, 2013; Donaldson, McKinney, Lee, & Pino, 2016; Erlich & Russ-Eft, 2013; Kot, 2014; Mu & Fosnacht, 2016; Shumaker & Wood, 2016; Young-Jones, Burt, Dixon, & Hawthorne, 2013). Unlike the Manpower Demonstration Research Corporation's (2012) study, these researchers have only focused on aspects of students' academic advising experiences. For example, Allen et al. (2013) measured students' attitudes toward their engagement with academic advising in a cross-sectional survey. In another study, Kot (2014) used a quantitative methodology to examine the effects of centralized advising on undergraduate students' performance in their first and second years of enrollment. The current study was different, in that I examined differences in the academic achievement of first-year full-time (FYFT) students at an urban community college in the northeastern region of the United States, based on having received a semester of one of four different academic advising methods (prescriptive, developmental, intrusive, or proactive) while controlling for high school grade point average (HSGPA). I measured student achievement by comparing the standardized HSGPA as a control variable and the standardized community college GPA (CCGPA) of students who received a prescriptive, developmental, intrusive, or proactive

method of academic advising to determine if a change occurred in the CCGPA based on the advising method used.

Erlich and Russ-Eft (2013) used a survey, in a quasi-experimental design, to examine changes in students' self-regulated learning strategy and self-efficacy levels. According to Erlich and Russ-Eft, academic advising fostered an encouraging mutual relationship between self-regulated learning and self-efficacy. Allen et al. (2013) found that advisors empower students' knowledge base on institutional procedures (e.g., understanding policies and procedures about the enrollment process and support services) and degree requirements by conducting information sessions. Young-Jones et al. (2013) also evaluated academic advising regarding student needs, expectations, and success using a qualitative survey. According to Young-Jones et al., student study skills, responsibility, self-efficacy, and perceived support, together with advisor responsibility and advisor empowerment, are the six interpretable factors that significantly relate academic advising to student success. Similarly, Mu and Fosnacht (2016), using data from the 2014 administration of the National Student Survey of Engagement (NSSE), examined senior students' survey responses to the academic advising module and found that academic advising positively affected grades of seniors in their study of 4-year institutions. Although I did not focus on seniors in my study, Mu and Fosnacht's perspective related to their engagement with academic advising was essential in shaping an academic advising model for FYFT community college students.

Engagement with academic advising is especially important for community college students (Shumaker & Wood, 2016). Shumaker and Wood (2016) examined first-

generation college students (FGCS) using data derived from the Community College Success Measure (CCSM), a needs assessment tool randomly distributed to 17,000 men from 68 community colleges. Shumaker and Wood researched service access, service efficacy, and service use to assess the differences between FGCS and non-FGCS. Time students spent using services such as career counseling, transfer services, tutoring, and academic advising defined service use (Shumaker & Wood, 2016). Shumaker and Wood's findings did not display a statistically significant variance amongst FGCS and non-FGCS. The similarity of Shumaker and Wood's study to the current study revolves around the efficacy aspect of the students' academic advising experience, which is important to students' capacity to succeed. I explain efficacy in more detail later in this chapter.

The current study revealed differences in academic achievement based on academic advising, as well as the strength of those differences. The researchers named above did not address the academic advising method that students experienced, nor did they specifically examine FYFT community college students. The current study furthers knowledge of the influence of four different academic advising methods (prescriptive, developmental, intrusive, or proactive) on the academic achievement of FYFT community college students while controlling for HSGPA. Equipping academic advising professionals with this knowledge has implications for positive social change, as it may help to improve FYFT community college student achievement. In the next two paragraphs, I provide a preview of the major sections of Chapter 1.

The background section consists of a brief exposition on academic advising, beginning with the history of academic advising, followed by the evolution of various types of advising. I then present the problem statement, followed by a concise statement on the purpose of the study. Next, I present the research question and hypotheses, followed by the theoretical basis for the current study within the context of Bandura's (1977b) social learning theory (SLT). This includes the rationale for the study design, a description of the nature of the study, and a list of concise definitions for the dependent variable, independent variable, and other terms used in the current study. I next highlight the assumptions, scope, delimitations, and limitations of the study. Finally, I present the significance of the study and a summary recapping the main points of the chapter.

Background

The history of faculty as academic advisors began in 1841 at Kenyon College (Harrison, 2004). David Bates Douglas, the president of Kenyon College, instructed all students to select a faculty member who would become their academic advisor. This decision was critical because the role of the faculty advisor is essential for student success. Academic advisors provide expert advice about the curriculum and serve as mentors throughout the academic career of their assigned students. This two-way relationship between faculty advisors and students is an essential part of a concept known as academic advising and has been around for only six decades (Broadbridge, 1996; Brubacher & Rudy, 1997; Chickering, 1969; Gallagher & Demos, 1983; Gillispie, 2003; Gordon, 1992; Harrison, 2004; Zunker, 2001). However, the concerns addressed by academic advising have been around since the birth of American colleges. Nevertheless,

many students, including first-year students, do not reap the benefits of the academic advising experience due to inherent limitations of faculty members' ability to develop a positive relationship with every student they encounter (Pargett, 2011).

As an educational process, academic advising helps to connect students with learning opportunities that promote student success. When done well, academic advising fosters and supports student engagement and the attainment of essential learning outcomes (Campbell & Nutt, 2008). This process is of particular importance for first-year students. According to Ishler and Upcraft (2005) and Tinto (1987), some first-year students have insufficient academic skills, inadequate commitment to the goal of finishing college, an incapacity to adapt to the academic and social life of the college, and a lack of broader assimilation into the college community. This results in high numbers of first-year students withdrawing from college. Effective academic advising addresses these issues by meeting students where they are and developing a trusting relationship with them during the process. Trust is an underlying psychological condition that can cause or result from behavioral actions such as cooperation or a choice such as taking a risk (Rousseau, Sitkin, Burt, & Camerer, 1998). Prior researchers have shown the importance of academic advising related to student satisfaction and engagement but have not specifically examined the various academic advising methods relative to student achievement. In the current study, I provide several definitions of academic advising and its evolvement over time, focusing on the engagement of the advisor and advisee. In the next two paragraphs, I highlight the perspectives of college administrators and academic advising experts who have researched academic advising.

To date, there are four different academic advising methods: prescriptive, developmental, intrusive, and proactive. Prescriptive and developmental academic advising methods are the main approaches to assist students in achieving their educational goals; however, cultural and historical changes and their effects on college students have given way to the intrusive and proactive methods of academic advising (Nutt, 2003). College administrators welcomed the introduction of intrusive and proactive enhanced advising models, especially given that approximately 50% of community college students who enroll in the fall term do not enroll in the spring term (American Association of Community Colleges [AACC], 2014). The fact that 60% of the community college population is not prepared for college-level coursework and needs remedial coursework is a factor contributing to the high dropout rate (AACC, 2014).

In addition to being academically underprepared, there are several reasons why college students drop out. Horton (2015) identified several barriers that put traditional and nontraditional students at risk of failing to achieve their goals. *At risk* is the term used to describe these students (Great Schools Partnership, 2014). Other circumstances (e.g., low test scores, domestic violence, health issues, teenage pregnancy, incarceration, homelessness, learning disabilities, disciplinary problems) may also cause students to drop out (Great Schools Partnership, 2014). Other factors that define an at-risk student include poor grade-school performance, being from a single-parent household, and having a sibling who dropped out (Horn, 1997). The key to students' success in coping with their existing or impending circumstances is the ability to think constructively

(Epstein, 1992). Young-Jones et al. (2013) supported Epstein's (1992) position related to student self-efficacy and perceived support fostered by the academic advising experience.

Proper academic advising of students into classes designed to eliminate the student's remedial course needs is critical during the first year of enrollment. There is a need to address the lack of necessary skills that can influence community college students' performance, persistence, retention, and graduation rates (AACC, 2014). Providing quality academic advising aligns with the community college mission to provide access to students at varying levels of academic preparedness. Academic advising will not fix all of the problems of higher education; however, this strategic direction aligns with Hunter and White's (2004) assertion that academic advising may be a good starting point when looking at ways to improve the performance, persistence, and retention rates of students. Moreover, academic advising can create a dynamic relationship between students and their education, reflecting the hope that they will become more thoughtful and intentional about the choices that they make. Therefore, academic advising should matter to students and academic advisors.

Good academic advising is often not associated with the characteristics of successful college experiences (Light, 2001). However, student satisfaction with academic advising coupled with the advisor–student relationship is an integral part of a positive college experience (Light, 2001). Nadler and Nadler (1999) and Peterson, Wagner, and Lamb (2001) found that students feel better about their advisors and the institution as a whole when they receive advising services. The need for academic advising to improve student achievement is a focal point for college administrators who

desire to shift the paradigm of the revolving-door image of community colleges. Therefore, in the current study, I examined whether or not there was a significant difference in FYFT community college students' achievement after receiving one of four different methods of academic advising. Providing a personalized approach to academic advising could potentially enhance FYFT community college students' decision making, which might result in improvements in their academic achievement. Widespread improvement of student achievement resulting from academic advising may positively influence the personal success of FYFT community college students. Widespread improvement would also begin restore society's impression of community colleges being a gateway for improving students' quality of life. The current study was needed to further knowledge on the influence of academic advising methods on FYFT community college student achievement. The current study was also needed to provide advisors information about available academic advising methods that could potentially aid the progression of all first-year students and add to the body of knowledge about academic advising methods and FYFT community college student achievement.

Problem Statement

The current study addressed the problem of the poor academic achievement of FYFT community college students. Despite the academic success and improved graduation rates of students enrolled in CUNY ASAP (CEO, 2010; Manpower Demonstration Research Corporation, 2012), poor student achievement, retention, and graduation rates are still significant challenges for many community colleges. According to Allen et al. (2013), these challenges are the result of open access to a wide variety of

programs offered to students in the protective environment provided by community colleges. Scrivener, Weiss, and Sommo (2012) posited that students come to campus underprepared and in need of remedial coursework and additional support. According to Complete College America (2014), students who enroll and do not finish their degrees are not likely to come back to college and are thus unprepared to enter the workforce; such students may then be forced to obtain low-income jobs and carry increased debt. To begin addressing these problems, Burt, Young-Jones, Yadon, and Carr (2013) asserted that academic advising provides one method to increase student success by educating and supporting students outside of the classroom. Similarly, Shaffer, Zalewski, and Leveille (2010) asserted that academic advising is one of the keys to student engagement and academic, career, and personal success. These observations are critical for community colleges whose leaders seek to improve FYFT student achievement, retention, and graduation rates.

Pascarella and Terenzini (1991) and Tinto (1993) are also among the many scholars who have acknowledged academic advising as an essential aspect of retaining students; however, few researchers have explicitly examined differences in FYFT community college students' achievement in relation to the academic advising method that students experienced while controlling for HSGPA. For example, Campbell and Nutt (2008) only conducted studies on different types of academic advising. They examined the role of academic advising in undergraduate education, documenting the achievement of student learning as it related to general education goals. Campbell and Nutt's study was different from the current study because their focus was on broader aspects of

academic advising (i.e., student learning and engagement), whereas the current study focused on student achievement.

Recent studies support the relevance and currency of the problem, providing positive perspectives on the importance of academic advising. For instance, Erlich and Russ-Eft (2013) examined student learning outcomes fostered by academic advising. The authors wanted to see if the social cognitive theory concepts of self-regulated learning and self-efficacy were affected by students' academic advising experience. The findings showed that academic advising fostered an encouraging mutual relationship between self-regulated learning and self-efficacy.

Mu and Fosnacht (2016) found that academic advising had a positive relationship with the grades of seniors in their study of 4-year institutions. This finding supports Young-Jones et al.'s (2013) assertion about student self-efficacy. Mu and Fosnacht also found that academic advising influenced the self-perceived gains of seniors. Cheung, Siu, and Shek (2017) surveyed first- and second-year students to identify their needs and preferences for advising. Cheung et al.'s findings showed that students viewed academic advising as fairly important and expected advisors to determine their needs, expectations, and preferences for academic advising. Workman (2015) used grounded theory techniques to interview six undeclared Midwestern university sophomores who experienced a modified form of appreciative advising. Workman's findings revealed the need to prioritize assistance with creating social connections on campus, as it is an important aspect of the student experience that advisors must also recognize. Bandura's (1977b) belief that learning is not only a developmental process, but also an intellectual

process that occurs in a social environment supports Workman's findings. Advisors may provide an important foundation for future exploration by helping students navigate social systems (Workman, 2015).

In addition to these recent studies, most of the available research has measured student perceptions or satisfaction with academic advising. Pantages and Creedon (1978); Pascarella and Terenzini (1979); Aitken (1982); Biddle, Bank, and Slavings (1987); and Bank, Biddle, and Slavings (1990) all referenced the importance of faculty interaction with students as well as students' interaction with support services. These researchers reported mixed results of either a positive relationship or no connection at all to the advising experience. Moreover, while these researchers referenced advising, they did not examine FYFT community college students.

The current study fills a gap in the research by determining if there is a difference in FYFT community college student achievement in the first semester and the academic advising method that the students experienced while controlling for HSGPA. For the current study, the dependent variable, student achievement, refers to students' GPA attained at the end of the Fall 2016 semester. Unlike prior research, the current study identified the academic advising methods as the independent variable. The current study's results add to the academic advising body of research by providing valuable information about the influence of academic advising methods (prescriptive, developmental, intrusive, & proactive) on FYFT community college student achievement in the first semester.

Purpose of the Study

The purpose of this quantitative study was to determine if there is a difference in the academic achievement of FYFT community college students based on having received one semester of any of four different advising methods (prescriptive, developmental, intrusive, proactive) while controlling for HSGPA. The independent variables (IV) were academic advising in general and its four methods (prescriptive, developmental, intrusive, & proactive). The covariate variable (CV), HSGPA, referred to the students' high school GPA. The dependent variable (DV) was student achievement. Student achievement was measured by comparing the standardized HSGPA (pretest) and FYFT CCGPA (posttest) of students who received one method of academic advising, as defined above, to determine if there was any change.

Research Question and Hypotheses

The following research question and hypotheses guided the current study:

RQ: What is the difference in FYFT CCGPA between students who participated in any of four different academic advising methods (prescriptive, developmental, intrusive, proactive) while controlling for HSGPA?

H_O1: There is no statistically significant difference in FYFT CCGPA between students who participated in any of four different academic advising methods while controlling for HSGPA.

H_A1: There is a statistically significant difference in FYFT CCGPA between students who participated in any of four different academic advising methods while controlling for HSGPA.

H_O2: There is no statistically significant difference in FYFT CCGPA between students who participated in a prescriptive academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

H_A2: There is a statistically significant difference in FYFT CCGPA between students who participated in a prescriptive academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

H_O3: There is no statistically significant difference in FYFT CCGPA between students who participated in a developmental academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

H_A3: There is a statistically significant difference in FYFT CCGPA between students who participated in a developmental academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

H_O4: There is no statistically significant difference in FYFT CCGPA between students who participated in an intrusive academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

H_A4: There is a statistically significant difference in FYFT CCGPA between students who participated in an intrusive academic advising method and

students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

H_O5: There is no statistically significant difference in FYFT CCGPA between students who participated in a proactive academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

H_A5: There is a statistically significant difference in FYFT CCGPA between students who participated in a proactive academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

Theoretical Framework for the Study

The theoretical framework for the current study was Bandura's (1977b) social learning theory (SLT). SLT was initially outlined by Bandura and Walters in 1963 and then refined by Bandura in 1977. The theory integrates behavioral, cognitive, and psychosocial theories of learning, yielding a comprehensive model that accounts for a wide range of real-world learning experiences. One of the tenets of the theory is that learning is a cognitive process that occurs in a social context and is not purely behavioral (Bandura, 1977b). The community college environment is suitable for this type of learning experience. As students engage faculty, staff, and other students, they gain an understanding of how to behave.

Bandura (2001) contended that students' level of self-efficacy influences their behavior, feelings, reflections, and motivations. These factors form an essential part of

students' ability to succeed. According to Bandura, learning involves observation, extraction, and decision making. Observational learning or modeling occurs when students extract information from what they observe and then make decisions about the performance of their behavior. All students have the potential and ability to learn; however, students must believe that they possess the ability to succeed, as articulated in the essence of Bandura's belief that individuals' sense of self-efficacy influences how they approach goals, tasks, and challenges (Bandura, 1977b).

The theory of self-efficacy emphasizes observational learning and social experience. For example, using effective academic advising as a means of building advisor–advisee trust allows academic advisors to show students models of appropriate academic behavior, which influences students' sense of self-efficacy. Moreover, students' cognitive, motivational, emotional, and decisional functionality is influenced when they believe in their own self-efficacy (Bandura, 1977b). This theory was delineated as a theoretical structure in which self-efficacy plays a central role in the behavioral change process resulting from fear or avoidance of undesired actions (Bandura, 1977b). The efficacy expectation is defined as students' ability to behave in a manner that allows them to produce desired outcomes. This theory is based on the principal assumption that creating and strengthening expectations of personal efficacy is the result of psychological procedures, whatever their form (Bandura, 1977b). Within Bandura's theoretical framework, a clear distinction is made between expectations of efficacy and response-outcome expectancies. *Outcome expectancy*, as defined by Bandura (1977b), is a person's educated guess that doing positive things (e.g., adhering to good advice) will yield

positive results (e.g., good grades). Accordingly, it follows that FYFT community college students' perception of their ability is enhanced through their continuous engagement with academic advisors, observation of other successful students, and modeling of behavior that ultimately leads to their success.

Students' perception of self-efficacy is quite different from their sense of self-esteem or locus of control. Although both constructs are important aspects of student success, they develop differently during students' engagement in social settings. Specifically, *perceived self-efficacy* involves students' judgment about their capability, whereas *self-esteem* involves a judgment of self-worth and *locus of control* involves judgment about whether outcomes are within their control or determined by forces outside their control (Bandura, 1977b). Students may believe that their ability to succeed is within their control but lack the self-efficacy to perform at the necessary level to produce the desired outcome (Bandura, 1977b).

The current study used Bandura's (1977b) SLT as its theoretical foundation. According to Bandura, expectations of personal efficacy are influenced by students' prior accomplishments (i.e., personal mastery of experiences), adherence to verbal persuasion (i.e., advice given by the academic advisor), vicarious experiences (learning from others), and physiological states (i.e., fear, anxiety, happiness). Personal efficacy can relate to student GPA. The advice given during the advisor–advisee exchange, coupled with student compliance in following the stated advice, enhances the potential for positive results. Within this framework, the student makes a clear distinction between expectations of efficacy and response-outcome expectancies.

The stated research question compared the influence of each academic advising method on FYFT community college student achievement while controlling for HSGPA. Bandura's SLT informed the research question in its incorporation and comparison of different academic advising methods as general models to represent the constructs of SLT. These constructs included adherence to verbal persuasion, vicarious experiences, and mitigating psychological states while controlling for HSGPA as a representation of students' prior accomplishments. I elaborate on this theoretical framework further in Chapter 2.

Nature of the Study

I used a quantitative method for this research project. Creswell (2003) described a quantitative study as one in which the researcher collects data using various strategies of investigation (e.g., experimentations and inquiries) and gathers data on predetermined instruments that produce statistical data. Using a quantitative methodology allowed me to examine the achievement of FYFT students who received various methods of academic advising in their first semester. The DV, student achievement, referred to students' GPA attained at the end of the Fall 2016 semester. The CV, HSGPA, referred to the students' high school GPA. The IV represented the type of academic advising method (prescriptive, developmental, intrusive, or proactive) that the student received.

I used an analysis of covariance (ANCOVA) to estimate the influence of the IV (prescriptive, developmental, intrusive, or proactive academic advising methods) on the DV (student achievement) while controlling for the CV (HSGPA). A repeated measure ANOVA may be used when there is a categorical variable and a normally distributed

interval variable repeated for every participant in the sample (Warner, 2013). However, in the current study, an ANCOVA was most appropriate because it can be used whenever there is a categorical (factor) and metric (covariate) IV (Warner, 2013). An ANCOVA combines two different cases of the generalized linear model (GLM), an ANOVA and regression analysis (Warner, 2013). In this relationship, a quantitative predictor variable is added to the ANOVA, making the analysis results more useful because the ANOVA does not assume the categorical predictor variable and quantitative outcome variable scores are linear (Warner, 2013).

Using the one-way ANCOVA allowed me to compare the DV in two or more different groups while considering the unpredictability of other variables (Warner, 2013). Using the one-way ANCOVA also allowed me to address the research hypotheses by assessing the interactions and main effects of the IV, DV, and CV as a means of control (Warner, 2013). During the ANCOVA analysis, I conducted a regression of the IV and DV and analyzed any unexplained variance in the model using the ANOVA (Warner, 2013). This allowed me to examine the results of the ANCOVA and determine if the IV influenced the DV in the absence of the CV (Warner, 2013).

I used archived data from a cohort of 1,948 FYFT students who matriculated during the Fall 2016 semester at an urban community college in the northeastern region of the United States. The results of the ANCOVA helped me to determine differences in academic achievement based on academic advising, along with the strength of those differences. I assumed that the variances of the students in each academic advising group would be equal. I used a Levene's test to determine homogeneity in the sample sizes

because these four academic advising groups were unequal (Warner, 2013). I also assumed that there would be a relationship between the DV and CV, and that the relationship between the DV and CV in each group would be linear (Warner, 2013).

Definitions

The following list defines the DV, IV, and other terms used in this quantitative study. The terms are a combination of common college terminology and definitions provided by Virtual Career Network (n.d.), University Language Services (n.d.), College Student Retention (n.d.), Grade Point Average (n.d.), and Warner (2013).

Academic advising method: The IV; the academic advising method (developmental, prescriptive intrusive, or proactive) used to engage students (Virtual Career Network, n.d.).

Archived data: The primary source of academic records for every enrolled student throughout the college's lifetime (Warner, 2013).

First-year full-time (FYFT): The status of students (excluding high school students who are a part of a special program) who are attending college for the first time (Virtual Career Network, n.d.).

Grade point average (GPA): The average of a student's final grades accumulated across the student's enrolled semesters (Virtual Career Network, n.d.). Adding up the total number of quality points earned by a student and dividing by the total number of enrolled credits calculates the GPA, including passing and failing grades (University Language Services, n.d.). Student GPA has a direct correlation on student achievement (the higher the GPA, the better the student achievement).

High school GPA (HSGPA): The CV; a student's GPA is a measure of academic achievement based on an average of all the grades the student received while in high school (Grade Point Average, n.d.).

Semester: The term (fall, winter, spring, or summer) of enrollment in college coursework (University Language Services, n.d.).

Student achievement: The DV; the measure of a student's academic standing (poor or good) based on the student's GPA based on the courses, credits, and academic grades used in the calculation of the student's GPA (Virtual Career Network, n.d.). Poor student achievement is associated with students whose GPA is below 2.0, and good student achievement is associated with students whose GPA is above 2.0 (University Language Services, n.d.).

Student retention: Students persisting or re-enrolling each semester, ultimately leading to graduation (College Student Retention, n.d.). A *first-year retention rate* is defined as the continuous enrollment of students from fall to fall (Braxton, Brier, & Steele, 2007; U.S. Department of Education, Institute of Education Statistics, 2010); however, institutions also measure semester-to-semester retention rates.

Assumptions

Research problems cannot exist without assumptions (Leedy & Ormrod, 2010). The following assumptions influenced the current study's methodology, findings, and generalizability:

1. All 1,948 FYFT were advised during the Fall 2016 semester by an academic advisor using one of the four academic advising methods.

2. The college had a systematic way of providing detailed academic advising information.
3. The archived data were provided in a timely fashion, and the data included the elements needed to perform the analysis.

My assumptions were based on my limited knowledge of the college and not on my cultural lens. If my assumptions had been based on my cultural lens, they would have fostered cultural bias in my interpretation of the data (Warner, 2013). These assumptions are important to identify because of their potential influence on data analysis.

Scope and Delimitations

The study sample included 1,948 FYFT students at the college enrolled in the Fall 2016 semester. Delimitations included set boundaries in the sample, variables, research question, theoretical objective, and timeframe. The college's full-time and part-time advisors advised first-year students using one of the four academic advising methods (prescriptive, developmental, intrusive, or proactive) as follows: Students in need of one or more developmental courses received prescriptive academic advising; students who had high SAT scores or HSGPA received developmental academic advising; students who did not need developmental coursework but did not have high SAT scores or HSGPA received intrusive academic advising; and students who were registered with the counseling office for special services received proactive academic advising. These guidelines were used to identify the type of academic advising that each student received as analyzed in the current study.

All first-semester students were required to see an academic advisor at the college. The information contained in the dataset was used to determine the type of academic advising that each student received as defined by the college. If the information needed to determine the type of academic advising that a student received was not provided in the archived data, I interpreted this to mean that no academic advising was provided.

I examined the effect of the advising experience with the understanding that all students have the potential to learn. In examining student achievement, I made an assumption about students' self-efficacy level based on their adherence to the advice of their advisors. According to Creamer (2000), the foundation for effective academic advising can be found in multiple theories. Bandura's theory encompasses advising theories of cognitive development, student development, decision making, and learning. Other advising theories include retention, career development, moral development, multiculturalism, personality, and adult development. These advising theories were excluded from consideration because they were beyond the scope of the current study.

The findings of the current study were not generalized because the sample used was from archived data from one institution. The sample was not representative of other populations within the institution, in other community colleges, in other states, or in other countries. Replicating the current study with a similar theoretical framework combined with a methodology that incorporates a random sample or expands the population would make the findings more generalizable if the replicated study produced similar research findings and conclusions. These adjustments would allow the findings and conclusions to

be extended to FYFT students outside the scope of the current quantitative study (Warner, 2013).

Limitations

Limitations influence the outcome of research, such as by yielding inaccurate calculations due to faulty data (Warner, 2013). The current study had the following limitations:

1. *Use of archived data*: While using archived data is acceptable, such data are considered to derive from secondary sources. Primary sources of data are collected and analyzed by the researcher. Secondary sources of data were collected and analyzed by someone else and made available for use by other people (Warner, 2013). I had no control of the methodology or analytical tools used during the collection of the data sources used in the current study. I exercised diligence in ensuring that the data came from an acceptable source before I used the data in the current study. To address this limitation further, I examined the values of the DV and IV to ensure that the values were consistent (i.e., I made sure that the students' GPA properly reflected the students' academic achievement).
2. *Study design*: The design of the current study did not call for the input of the advisors or advisees. While I considered adding surveys to address this limitation, doing so would have introduced a limitation in another form, such as an inability to control the responses. Specifically, self-reported data require careful consideration and can be problematic if not adequately controlled

(Warner, 2013). I correlated the values of the current study's DV to ensure that the archived data were consistent (i.e., I correlated the students' GPA with the students' earned credits and quality points).

3. *Use of the ANCOVA statistical model*: Data on CV must be collected before treatment is administered (Warner, 2013). In the current study, HSGPA was part of the archived data, and I had no control in collecting the data or determining how the data were collected. I had no quality control over the collected data.

Significance

The academic achievement of FYFT community college students is a concern of presidents on most community college campuses. The significance of the current study is that it provides greater understanding of which academic advising method has the greatest influence on student achievement. By determining whether there is a difference in FYFT community college students' achievement corresponding to the academic advising method that students experienced while controlling for HSGPA, the current study may influence institutional policy so that more FYFT community college students can realize and achieve improved academic achievement through the increased use of academic advising programs.

The current study is also significant because of the impacts that this research may have on retention and graduation rates, both of which are a significant concern of community college presidents. Furthermore, with elevated scrutiny of community colleges, and increased numbers of low-achieving students and low graduation rates, the

findings from the current study may be used in addressing concerns regarding the persistence and retention rates of FYFT community college students. Any improvement in retention and graduation rates will not only counter the existing scrutiny of community colleges, but also positively influence the progression of all first-year students. This may further help to address the concern of low completion rates raised in the latest report from AACC (2014).

The results of the current study provide valuable information about when and how advisors currently use academic advising methods by understanding the influence that each academic advising method has on FYFT community college students. As such, academic advisors may make informed decisions about when to use each academic advising method. This new information is an important contribution to the existing research because community colleges have much work to do in raising the bar in higher education standards (AACC, 2014). Identifying better ways to advise FYFT community college students is in line with meeting this goal.

There is a direct correlation between earning a degree and making a decent salary. Students who do not graduate from college earn less than students who obtain a degree. Forbes (2014) reported the potential median midyear salary for students with a bachelor's degree in petroleum engineering as $176,300 (Forbes, 2014). Community college students have the potential to earn $113,547 as an air traffic controller or $63,170 as a fashion designer (Money, 2013). The implication for positive social change here is the influence that the current study's findings may have for community college students'

quality of life as income earners, as well as the retention and graduation rates of FYFT community college students.

Summary

In Chapter 1, I introduced the current study, which addressed differences in the academic achievement of FYFT students based on having received one semester of one of four different academic advising methods (prescriptive, developmental, intrusive, or proactive) while controlling for HSGPA. Academic advising is an important part of the student experience; however, community colleges are still challenged with promoting student success. Few researchers have explicitly examined differences in FYFT community college students' achievement as they might relate to the academic advising method the students experienced while controlling for HSGPA.

Additionally, in Chapter 1, I provided background information for the study and discussed the problem statement, purpose of the study, associated research question and hypotheses, theoretical framework, nature of the current study, and independent and dependent variables (academic advising methods and student achievement). I also provided detailed information about the assumptions, scope and delimitations, limitations, and significance of the current study. In sum, the findings from the current study provide greater understanding of which academic advising method has the greatest influence on student achievement. The current study provides valuable information for institutions to develop a system to assess advisors and identify ways to enhance their ability to advise FYFT community college students to improve students' academic achievement.

In Chapter 2, I provide a detailed review of the literature on academic advising. I detail further the theoretical foundation upon which the current study was built. Lastly, I provide a summary of the major themes with a description of how the current study fills gaps in the existing research.

Chapter 2: Literature Review

Introduction

Academic advising is a topic of interest at the college and university levels because of its potential influence on FYFT community college student achievement. Using academic advising to address the poor academic achievement of community college FYFT students is the problem that the current study addressed. Examination of differences in the academic achievement of FYFT community college students and academic advising methods begins with the identification of the various academic advising methods used by academic advisors. There are several academic advising methods, namely prescriptive, developmental, intrusive, and proactive. A prescriptive academic advising method focuses on the student, and advisors who use this method tell students how to navigate college policies and procedures rather than tell them to do it themselves (Crookston, 1972). A developmental academic advising method also focuses on the whole student, and advisors who use this method partner with students to help them understand how to navigate college policies and procedures (O'Banion, 1972). An intrusive academic advising method is action oriented, and advisors who use this method motivate students to make informed decisions and ask for help when they need it (Earl, 1987). A proactive academic advising method is programmatic and focuses on structure. Programs that use this method require students to see an academic advisor and incorporate intervention strategies to help students who experience academic difficulties (Glennen, 1975).

According to Nutt (2003), prescriptive and developmental academic advising methods have been the main approaches used to assist students in achieving their educational goals. However, more recently, colleges have begun using intrusive and proactive academic advising methods due to cultural and historical changes and their effects on college students. One such change is the increase in the number of FGCS enrolling in college. According to Falcon (2015), FGCS face many obstacles (e.g., low self-esteem, lack of college readiness, financial instability) that influence their ability to become successful, warranting the need for enhanced intervention strategies. The purpose of this quantitative study was to determine if there were differences in the academic achievement of FYFT community college students based on having received a semester of one of four different advising methods (prescriptive, developmental, intrusive, proactive) while controlling for HSGPA. The results of the current study provide valuable information about these four academic advising approaches.

Academic advising is an important part of a student's college experience. Self-efficacy, as described by Bandura (1977b) in the theoretical framework of the current study, is assumed to be influenced by academic advising, ultimately affecting student success. Young-Jones et al. (2013) identified student self-efficacy as an interpretable factor that significantly relates academic advising to student success. Similarly, Mu and Fosnacht (2016) found that academic advising influences the self-perceived gains of seniors. In line with the current study, Erlich and Russ-Eft (2013) examined student learning outcomes fostered by academic advising to determine whether Bandura's (1986, 1997) social cognitive theory (SCT) constructs of self-regulated learning and self-

efficacy related to students' academic advising experience. Erlich and Russ-Eft sought to explain how Bandura's (1977b) SLT was useful in assessing student learning outcomes in academic advising. Examining 120 students who had experienced individual academic advising sessions, they compared the students' pre and postintervention self-regulated learning and self-efficacy strategy with their ability to apply academic planning skills. The results of two of Erlich and Russ-Eft's hypotheses confirmed the students experienced increased levels of self-regulated learning and self-efficacy because of their academic advising experiences.

Donaldson et al. (2016) conducted a case study using a qualitative method of analysis to examine community college student perceptions and analyze their relationship with intrusive academic advising. The authors found that students viewed intrusive academic advising as both positive and negative. The findings showed that there are benefits, limitations, and contributions attributed to intrusive academic advising related to student success (Donaldson et al., 2016). Referring to the support of a first-year experience program (FYE) as intrusive academic advising, Donaldson et al. noted that students would most likely not have been motivated to seek out academic advising if they had not been required to participate in the program. The findings were based on the analysis of interview data for 12 students who participated in an intrusive academic advising program. The findings support the view of the current study that academic advising promotes an enhanced level of student self-efficacy.

Thomas's (2017) research was more specific than Donaldson et al.'s (2016) research, in that Thomas's research focused on the merits of a program designed to

improve student outcomes in developmental math, reading, and writing courses. The Strong-Start Program featured an intrusive academic advising protocol that aimed to help students establish a set of predefined goals and enhance their level of academic success. The findings showed that students in the program passed developmental math courses at a significantly higher rate than students enrolled in instructor-matched comparison developmental math courses (Thomas, 2017). This research is important because it shows that underprepared students benefit from a more intrusive approach to academic advising (Thomas, 2017). Students enrolled in developmental courses are generally less prepared than students who are not enrolled in developmental courses.

Fowler and Boylan's (2010) quantitative study of a 2-year public college also focused on underprepared students. The authors found that newly enrolled students, who were underprepared in math, reading, and writing courses, were considered seriously academically deficient and faced many academic challenges. The authors presented a multidimensional approach to improve student success and retention that included (a) clear student guidelines; (b) mandatory orientation and first-year experience; (c) prescriptive, developmental, and intrusive academic advising; and (d) developmental education coursework (Fowler & Boylan, 2010). In addition, the authors observed an increase in mean GPA from 1.503 to 2.151 for students who participated in the Pathways to Success Program compared to students who did not participate in the program. Students experienced increases in student success and retention when developmental educators provided intrusive academic advising as well as clear student guidelines, traditional developmental education coursework, first-year transition coursework, and

tutoring. Fowler and Boylan's study served as a good reference point for the current study as it related to the program's influence on student GPA. While their results seem promising, they cannot be generalized to other institutions because the research was limited to students in a small 2-year institution (Fowler & Boylan, 2010).

While some studies have shown that retention and GPA are not improved significantly by academic advising (Aitken, 1982; Bean, 1980), others have found that academic advising is critical for improvements in retention and GPA (Crockett, 1978; Habley, 1981; Pascarella & Terenzini, 1978; Tinto, 2000; Wilder, 1981). Morehead and Johnson (1964) and Rossman (1967) conducted early studies showing a significant effect of academic advising on GPA and retention. Morehead and Johnson compared the GPA and retention rates of a group of male freshmen engineering students who were exposed to a different academic advising program than students in the control group, who experienced the traditional academic advising program. The authors found that students who experienced an increased level of informal contact in a different academic advising program had GPAs significantly higher than students in the control group (Morehead & Johnson, 1964). Raskin (1979) supported these findings, showing that informal contact with faculty advisors positively influences student achievement. Morehead and Johnson (1964), Rossman (1967), and Raskin (1979) all conducted studies around academic advising, GPA, student achievement, and retention. The current study examined differences in FYFT students' academic achievement based on the method of academic advising that the students received.

In an experimental study, Rossman (1967) also examined the value of faculty advisors to understand the effect of academic advising on a group of college freshmen. The experimental group consisted of a pool of 120 randomly selected freshmen (60 men and 60 women) enrolled at Macalester College and six randomly selected faculty members who were released from part of their teaching assignment to devote more time to academic advising (Rossman, 1967). The control group consisted of the remaining 400 freshmen and faculty in the program (Rossman, 1967). Findings showed that women in the experimental group experienced a slightly higher retention rate compared to the control group; however, there was no significant difference in the GPA of the experimental and control groups (Rossman, 1967). These findings are considerably different from those of Morehead and Johnson (1964), who showed a significant effect on the GPA of students who experienced academic advising.

Many researchers have highlighted the need to examine the influence of different methods of advising on FYFT community college student achievement (Donaldson et al., 2016; Fowler & Boylan, 2010; Morehead & Johnson, 1964; Nadler & Nadler, 1999; Raskin, 1979; Rossman, 1967; Thomas, 2017). However, according to Donaldson et al. (2016), few researchers have conducted empirical examinations on differences in FYFT community college student achievement and the academic advising method that the students experienced while controlling for HSGPA. In the remainder of Chapter 2, I describe the literature search strategy used for this review, followed by the theoretical foundation of the study, Bandura's (1977b) SLT. I then present the literature review related to the key variables in the study, which further illustrates the application of

Bandura's (1977b) theory in the literature and rationalizes its use in relation to the study. I conclude with a summary of the major themes and gaps in the body of literature pertaining to the study.

Literature Search Strategy

I designed the literature search strategy to identify seminal work and research literature to establish the relevance of the stated problem. First, I used the Walden Library to identify relevant education theories and theoretical works (i.e., constructivism, motivation, self-efficacy, self-determination, social cognitive theory, and student retention), which resulted in the list of theorists and theories presented in Appendix A. My preliminary review of the theoretical works of these scholars revealed that most of the theories listed in Appendix A were not relevant to my study, with some exceptions (i.e., Bandura, 1977a, 1977b, 1986; Deci & Ryan, 1985; Dewey, 1899, 1902, 1916, 1938; Herzberg, 1966; Maslow, 1943, 1954; Piaget, 1948, 1970; Tinto, 1987, 2010; Vygotsky, 1962). I used Google Scholar to expand my search, which resulted in the list of theorists and theories presented in Appendix B. These theorists conducted research related to learning (i.e., Bandura, 1997; Cooley, 1912; Covington & Beery, 1976; Deci, 1975; Greenspan, 1981; McClelland, Atkinson, Clark, & Lowell, 1953; Mead, 1910; Schunk, 1990; Zimmerman, 1989; Zimmerman & Schunk, 1989).

Identifying Appropriate Research Articles

I used the Walden Library EBSCO database as the primary means to locate the research articles discussed in this review. From the homepage, I selected "articles by topic" and then "education" as my topic, resulting in a list of relevant databases. After

carefully reviewing the options, I used the following databases: (a) Academic Search Complete, (b) Education Source, (c) ERIC, (d) PsycARTICLES, (e) PsycINFO, (f) SAGE Journals, and (g) SocINDEX with full text. These databases were appropriate for researching the field of education. Before selecting search terms, I referenced Walden's Subject Terms guide to get a sense of how best to use subject terms. I used three search boxes and the Boolean logic operators (and/or) to locate relevant articles. In the first search box, I used the search terms *academic advising* or *college advising* or *counseling in higher education*. In the second search box, I used the search terms *community college* or *junior college* or *two-year college*. In the third search box, I used the search terms *student achievement* or *academic performance* or *student success* or *student failure*. I used the Boolean logic operator *and* to combine the search boxes and *or* to tell the database to look for either of the search terms used in the search box.

Refining the Results of Research Articles

To refine the results, I limited the search to view only articles from peer-reviewed scholarly journals. This search yielded 127 possible articles. I then narrowed the articles to those published from 2013 to the present and topics directly related to the study (e.g., academic advising, college advising, counseling, student achievement, student success, academic performance, community college, 2-year college, junior college). This adjustment reduced the results to 23 possible articles. To understand further and select appropriate articles, I reviewed Walden's webpage on primary versus secondary sources and decided to use both. After a careful review of the available articles, I determined that only five were directly related to the variables in the current study; all other articles

related to aspects of my study, so I included them as well. To address these limited results, I used Google Scholar, which yielded better results, retrieving 72 additional peer-reviewed articles pertinent to the current study. I then reviewed three dissertations (Aitken, 1982; Gruccio, 2011; Hess, 1997) related to the influence of academic advising on student achievement, yielding further studies that examined student perceptions and/or satisfaction with services provided. These studies showed how students felt rather than how they behaved or learned to behave, which supports my problem statement that few studies have examined differences in FYFT community college students' achievement and the academic advising method that the students experienced while controlling for HSGPA.

Theoretical Foundation

Bandura's (1977b) SLT served as the theoretical foundation for the current study. Bandura and Walters initially outlined the theory in 1963, suggesting that learning results from observation, imitation, and modeling. The theory also includes the attention, memory, and motivation aspects of behavioral and cognitive learning theories. Bandura and Walters (1963) then refined SLT to include the psychosocial aspects of learning. Learned behavior is the focus of Bandura's SLT, which identifies verbal persuasion, vicarious experiences, physiological states, and performance accomplishments as four major sources of information. How well a student processes these major sources of information determines the student's level of personal efficacy (Bandura, 1977a). In such a social learning analysis, expectations of personal efficacy enable a student to make

better academic choices, leading to better grades. This theory references Skinner's (1948) concept of external, observable behavior and conditioning (Bandura & Walters, 1963).

Bandura's (1977b) SLT is in line the behavioral learning theories of classical conditioning and operant conditioning (Skinner, 1948); however, Bandura added mediational processing and observational learning to the process. Bandura's SLT states that after stimuli are introduced, mediating processes occur before a person responds to the stimuli. In contrast, Skinner (1948) viewed behavior as a consequence of previous actions, following the principle of reinforcement. Free will, in Skinner's view, is an illusion. Skinner conducted experiments using animals to study operant conditioning. The experiments involved placing animals in a box and rewarding certain behaviors. Skinner's goal was to determine which operant behaviors were more or less likely to occur based on applied processes. There were three types of operant behaviors or responses, as defined by Skinner (neutral, reinforced, or punished). There is no change in the probability of repeated behavior when the operant is neutral; an increase in the probability of repeated behavior when the operant is a positive or negative reinforcement; and a decrease in the probability of a repeated behavior when the operant is a punishment. Skinner's research was modeled after Thorndike's (1905) early law and effect work. Skinner's box was similar to Thorndike's puzzle box. Thorndike contended that behavior is strengthened when it is reinforced and weakened when it is not reinforced. While Bandura embraced these theories, he also believed in the process of observational learning, whereby behavior is acquired from the environment (Bandura, 1977b).

In subsequent work on behavior, Bandura, Ross, and Ross (1961) conducted an experiment with 72 children (36 boys and 36 girls) aged 3 to 6 from the Stanford University Nursery School, in which some children behaved aggressively after observing an adult model act hostilely toward a Bobo doll. After criticism from some psychologists that the model did not represent a real family situation because the adult model never interacted with the child, Bandura, Ross, and Ross repeated the experiment in 1963 with similar results. This time, the participants viewed a video of the Bobo doll being attacked, a secondary source of information, instead of witnessing it firsthand (Bandura & Walters, 1963). This experiment was conducted the same year in which Bandura and Walters first outlined SLT.

Bandura and Walters's (1963) results are important to the current research project because they show the effect that television, movies, social media, and other secondary sources of information have on student behavior. Despite criticism, these findings support the belief that observing other people in real-life situations allows a person to learn social behavior (Bandura & Walters, 1963). This idea has been reinforced in Bandura's (1965) subsequent research. In a third study, Bandura and Walters showed the participants a video of the Bobo doll being attacked. Using Skinner's (1948) reinforcement types designed to encourage and discourage behavior (operant conditioning), Bandura and Walters wanted to see if learning from other people's experiences would influence participant behavior. Some participants viewed a film of people being rewarded with food for acting aggressively, while others viewed a film of people being criticized for acting aggressively. Bandura and Walters's findings showed participants learn

appropriate behavior by seeing what happens to other people. Specifically, Bandura and Walters illustrated participants who observed the film of people being rewarded with food for acting aggressively were more likely to act aggressively themselves. In the following sections, I further explain the theoretical foundation by providing an evidence-based analysis of how Bandura's (1977b) SLT has been applied in the relevant literature.

Applying Bandura's Social Learning Theory

The current study questioned whether a student's academic achievement is changed by exposure to academic advising methods (i.e., prescriptive, developmental, intrusive, or proactive). Grades earned during the first year of students' academic experiences are important indicators of their achievement and potential to persist, exemplifying students' beliefs in their academic ability. In examining FYFT student achievement, a review of the advising approach was necessary to determine differences in academic achievement based on academic advising, as well as the strength of those differences.

Bandura's (1977b) SLT involves observation, extraction, and decision-making about the behavior being performed (observational learning or modeling). The theory follows the principal assumption that creating and strengthening expectations of personal efficacy result from various psychological procedures. Bandura's SLT can easily be applied in an academic advising setting because academic advising requires students to observe, absorb information, and make appropriate decisions based on the academic advising experience.

Bandura (1977a) defined *efficacy expectation* as the students' ability to behave in a manner that allows them to produce the desired outcome. Bandura believed individuals' sense of self-efficacy plays a significant role in how they approach goals, tasks, and challenges. One of the tenets of the theory is that learning is a cognitive process that transpires in a social context and is not purely behavioral. As such, all students have the potential to learn (Bandura, 1977b). A student's perception of self-efficacy is considered a self-regulation process (Bandura, 1977b). How students view themselves as learners and the steps students take to manage their educational experience are essential aspects in the evaluation of academic accomplishments (Zimmerman & Schunk, 1989). Erlich and Russ-Eft (2013) illustrated how Bandura's SLT is useful in assessing student learning outcomes in academic advising, finding that in academic planning, there is a shared correlation between self-regulated learning and self-efficacy. In the current study, students' perceived self-efficacy had a mediational role in motivating academic achievement and persistence. Students are influenced emotionally when levels of stress, anxiety, and depression are decreased by their self-efficacy belief to manage academic task demands (Bandura, 1997).

The theory of self-efficacy is outlined as a theoretical framework in which the concept of self-efficacy plays a fundamental role in the analysis of fearful and avoidant behavioral changes (Bandura, 1977a). In relation to the current study, if quality academic advising is given during the advisor–advisee exchange and the student follows the stated advice, the potential for positive results is enhanced. According to NACADA (2006), academic advising has its own pedagogy, curriculum, and learning outcomes that are

critical to teaching and learning. Academic advisors who subscribe to NACADA's beliefs provide quality academic advising when students' educational experiences, aspirations, abilities, and lives extend beyond the boundaries of the campus experience (NACADA, 2006). Within this advisor–advisee relational framework, the student learns how to make a clear distinction between self-efficacy and response-outcome expectancies.

Bandura (1977b) defined *self-regulation* as individuals' abilities to control their behavior by evaluating their performance and setting goals for achievement. Zimmerman and Schunk (1989) further expanded upon this construct and presented several different theoretical views of self-regulated learning. In referencing McCombs (1986, 1989), Zimmerman and Schunk (1989) depicted the phenomenological theory of self-regulated learning as self-esteem or similar perceptual processes. Similar to Bandura's description of self-regulated students, Zimmerman's conceptual framework described self-regulated learners as self-motivated, self-aware, socially sensitive individuals who utilize automatic methods of learning (Schunk & Zimmerman, 1994). In relation to the current study, students' self-efficacy beliefs motivate their learning with self-regulated processes such as goal setting, self-monitoring, and self-evaluation (Bandura, 1977b).

Rationale for Choosing Bandura's Social Learning Theory

During my search for a suitable theorist to use for the current study, I found Walberg had theories related to student achievement. Walberg's name did not appear in my initial search for theories related to education and student achievement, though his theoretical works provide a valuable perspective on student learning. Walberg's (1981) theory of educational productivity posits students exhibit productive learning when they

utilize a limited amount of their time and their teachers' time. DiPerna, Volpe, and Elliott (2002) cited Walberg's (1981) theory of educational productivity as one of the few empirically tested theories of school learning. Walberg's theory of academic achievement posits a student's cognitive, behavioral, and attitudinal educational outcomes are influenced by the student's psychological characteristics and immediate psychological environment (Reynolds & Walberg, 1992). This observation is supported by Bandura's (1977a, 1977b, 1986) research focused on social learning, self-efficacy, and social cognitive theoretical perspectives, as defined in this chapter.

In addition to the foundational theories noted here and in the previous paragraph, my review of Walberg's theoretical works revealed several theorists who conducted research related to learning (i.e., Bandura, 1997; Cooley, 1912; Covington & Beery, 1976; Deci, 1975; Greenspan, 1981; McClelland et al., 1953; Mead, 1910; Schunk, 1990; Zimmerman, 1989; Zimmerman & Schunk, 1989). The research of these scholars is referenced below as well as in Appendix B with the other theories not relevant to my study:

- Bandura (1997) and Schunk (1990) focused on goal setting, which is an essential aspect of learning and achievement. Schunk found goal setting influences self-efficacy, motivation, and performance. Bandura found a person with high self-efficacy expectations could achieve more than a person with low self-efficacy expectations.
- Cooley (1912), Greenspan (1981), and Mead (1910) focused on social awareness, which is a person's ability to accurately read situations and is

related to self-awareness, which refers to a person's ability to conduct an accurate self-assessment and maintain a well-balanced sense of self-confidence leading to enhanced self-efficacy (Bandura, 1977a). Cooley believed people develop an idea of who they are through social interactions. Greenspan argued social awareness is just as important as cognitive abilities and adaptive behavior when working with individuals with disabilities. Mead (1910) believed a person develops a concept of self through a social process or a series of actions that goes on in the person's mind.

- Covington and Beery (1976) focused on self-worth, which is related to a person's level of self-awareness, self-determination, and self-efficacy (Bandura, 1977a). Ability, effort, performance, and self-worth are the four elements of the self-worth model. Covington and Beery believed ability, performance, and effort are related to self-worth, and performance is the result of individuals' ability and effort.
- Deci (1975) focused on intrinsic motivation, which refers to the act of doing something because it satisfies you. Deci showed whenever rewards are at stake; the effects of intrinsic motivations persist.
- McClelland et al. (1953) focused on the need for achievement, which is represented by a person's implicit or explicit desire to achieve success. On the other hand, a person's implicit or explicit desire to avoid failure represents the person's fear of failure.

- Zimmerman (1989) and Zimmerman and Schunk (1989) focused on social cognitive theories of self-regulation, volition, and motivation. Zimmerman identified forethought, volitional control or performance, and self-reflection as the three major activities related to self-regulation. From this perspective, Zimmerman viewed learning as an open-ended cyclical activity that includes the learner's participation.

My review of the theoretical works of these scholars revealed most of the theories listed in Appendix B were related to the direction of my study but were not appropriate for use as a foundational theory because they referenced earlier theories of motivation, self-determination, self-efficacy, self-regulation, social cognition, and social/interpersonal skills. Zins, Weissberg, Wang, and Walberg (2004) posited self-regulated learning strategies, social/interpersonal abilities, and motivational orientations are important domains for facilitating academic performance. These findings build upon several theoretical works (i.e., Bandura, 1977a, 1977b, 1986; Deci & Ryan, 1985; Maslow, 1943, 1954). This led me to focus on an additional set of scholars as well as (i.e., Dewey, 1899, 1902, 1916, 1938; Piaget, 1948, 1970; Tinto, 1987, 2010; Vygotsky, 1962, 1978; Walberg, 1981). This research was more closely related to my study, as detailed below:

- Bandura (1977a, 1977b, 1986) focused on self-efficacy, and social cognitive and social learning theories. Bandura (1977a) embraced the classical and operant conditioning perspectives of behavioral learning theories. Bandura (1977b) expounded upon this belief further, noting people only attempt what

they believe they can accomplish and shy away from things they believe they cannot do. Bandura (1986) is supported by both SLT and SCT, in that how people behave is a product of how they believe, think, and feel.

- Deci and Ryan (1985) focused on self-determination and motivation theories. The authors believed a person's actions are not only guided by intrinsic motivations, but can also be guided by self-regulation of extrinsic motivation. Within this context, a nonintrinsically motivated activity (i.e., social pressures) can curtail a person's intrinsically motivated actions, especially after early childhood (Deci & Ryan, 1985).
- Dewey (1899, 1902, 1916, 1938) focused on progressive and experimental education. Dewey (1899) believed the industrial age warranted a "new education" that would also be a part of the social evolution that was also needed. Dewey (1902) pursued the challenge of how to provide students with a quality education in a democratic society. Dewey (1916) addressed the influence of adult experiences on students' interaction with society. Dewey (1938) argued an individual's present, future, and ability to contribute to society are affected by the human experience; therefore, educators must gain an understanding of the nature of the human experience.
- Maslow (1943, 1954) focused on motivational theory, which is referenced in Bandura's (1977a) theory of self-efficacy. Maslow's theory purported that within a given hierarchy of needs, people will be motivated to achieve needs based on the order of precedence relative to their present position in life

(Maslow, 1943, 1954). Within this framework, a person's level of self-confidence, self-worth, and the feeling of being useful can be enhanced by satisfying their self-esteem (Maslow, 1943).

- Piaget (1948, 1970) focused on child development and constructivism. Piaget (1948) believed action (e.g., physical experience and logico-mathematical experience) is the source of knowledge and intelligence. Piaget (1970) suggested children progress through four stages (sensorimotor, preoperational, concrete operational, formal operational), reflecting the qualitative differences in their cognitive abilities.
- Tinto (1987, 2010) focused on student retention, particularly student failure, dropout, attrition, and persistence. Tinto (1987) examined the reasons for and solutions to student attrition. Tinto (2010) explored the institutional condition, identifying the resources needed to retain students.
- Vygotsky (1962, 1978) research on constructivism similar to Piaget (1948, 1970). Unlike behaviorism, which focuses on language as a stimulus, constructivism recognizes the role of language in learning, which Vygotsky (1978) argued is first interpersonal, then intrapersonal. Similarly, all higher mental functions are embedded within a sociocultural setting but are social in origin (Vygotsky, 1962, 1978).
- Walberg (1981) focused on academic achievement, academic productivity, educational productivity, and productivity. Walberg identified nine factors that affect the student's cognitive and affective outcomes.

After reviewing these theoretical works, I found Tinto (1987, 2010) and Walberg (1981) were the only scholars who focused on aspects of student achievement. Tinto focused on student retention as it related to student failure, dropout, attrition, and persistence, which are all byproducts of student achievement. Walberg focused on academic achievement and educational productivity in an elementary or secondary school setting. The remaining researcher focused primarily on the psychosocial aspects that promote achievement; however, none of the studies cited above focused explicitly on FYFT community college student achievement, which is the focus of the current study. Of the above literature, Bandura's theories (i.e., SLT, SCT, & self-efficacy) provided the most appropriate foundation to examine student achievement, because they address the behavioral and cognitive aspects of learning, as I discuss further below.

An Integrated Approach to Learning

Bandura's (1977b) SLT integrates behavioral, cognitive, and psychosocial theories of learning in a comprehensive model that accounts for a wide range of real-world learning experiences. Within this context, *behavior* refers to a person's response resulting from the stimulus in the environment, and *cognitive* refers to a person's behavior resulting from input in the environment followed by a mediation process. *Mediation* refers to paying attention to what is going on in front of the individual. Bandura views learning as a process that involves observation, whereby a person learns to make decisions based on information extracted from those observations (observational learning or modeling). An example of observational learning or modeling was exhibited in the Bobo doll experiments (Bandura, 1965; Bandura et al., 1961, 1963), as discussed

above. In the context of the current study, as students engage academic advisors during the academic advising process, they observe the appropriate behavior of the advisor and their fellow students in a social setting. As students process advisors' acceptable behavior, they may begin to model the behavior and start making appropriate decisions, yielding improved achievement (i.e., better grades), in line with Bandura's view of the learning process.

The Potential to Learn

One of the tenets of the current study is that all students have the potential to learn. However, students must believe they possess the ability to succeed. Bandura (1977a) stated individuals' perceptions of self-efficacy plays a significant role in how they approach goals, tasks, and challenges. Observing appropriate behavior during an advising session must be accompanied by the belief that they can be academically successful. This will translate into better decision-making when students encounter challenges, fostering better academic choices and better grades, based on Bandura's theoretical view.

Zimmerman and Schunk (1989) believed how students perceive themselves and regulate stimuli introduced during the learning process are critical factors in the examination of academic achievement. The theory of self-efficacy emphasizes observational learning and social experience. A person's self-efficacy level moves them toward established outcome expectations by analyzing changes achieved with fearful and avoidant behavior (Bandura, 1977a). Can academic advising influence students' levels of self-efficacy and foster better academic achievement?

Expectations of Personal Efficacy

Bandura (1977b) based SLT on the assumption that creating and strengthening expectations of personal efficacy are the result of various psychological procedures. Assuming the academic advising experience is effective, students learn to make sound (self-regulated) decisions. Sound choices (i.e., selecting the proper sequence of courses) lead to enhanced outcomes (i.e., good grades and student achievement). In studying self-regulated learning and academic achievement, Zimmerman and Schunk (1989) presented several different theoretical views. In addition to the operant conditioning theoretical view proposed by Skinner (1948) and the social cognitive theoretical view defined by Bandura (1986), Zimmerman and Schunk (1989) presented a phenomenological theoretical view, a Vygotskian theoretical view, a constructivist approach, and a volitional analysis. *Volition* refers to the faculty or power of using one's will (Zimmerman & Schunk, 1989). As a construct, it plays a minor or implied role in operational definitions of self-regulated learning.

Vygotsky (1978) believed that for the development of culturally organized human psychological function, learning is an essential and necessary part of the process. Unlike Zimmerman and Schunk, Vygotsky placed more emphasis on cultural aspects rather than on self-regulated actions. Zimmerman and Schunk (1989) stated self-oriented feedback loops comprise most definitions of self-regulated learning. Zimmerman and Schunk (1989) described self-reinforcement, self-recording, and self-instruction responses as operant theories, referencing Mace, Belfiore, and Shea (1989). Does academic advising

influence students' behavior by way of the advisor–advisee exchange, enhancing their level of personal efficacy and thus improving academic achievement?

Perceptions of Self-Efficacy

Zimmerman and Schunk (1989) considered a student's perception of self-efficacy as a self-regulation process. Bandura (1977a) viewed self-efficacy and achievement success as student motives. Schunk (1984, 1989) agreed, believing that a student's perception of self-efficacy is not only a motive to learn but also a subsequent outcome of attempts to learn. This is in line with the constructivist approach to self-regulated learning, which not only stresses the development of self-regulatory processes based on conceptual change but also places emphasis on personal theories and discovery learning. Therefore, it is critical academic advising processes strengthen a student's self-efficacy perception.

Unlike self-esteem, self-efficacy is not a global trait; *self-efficacy* is individuals' beliefs that they can perform certain skills or activities (Lent et al., 2005). Similarly, *academic self-efficacy* is beliefs about achievement in an academic setting and, specifically, the student's capacity to perform course-based activities and assignments successfully (Zimmerman, 1995). For the current study, it was more appropriate to consider academic self-efficacy rather than generalized self-efficacy, which refers to individuals' general beliefs in their ability to solve problems and reach goals. Studies have shown generalized self-efficacy is less associated with students' academic performance than academic self-efficacy (Multon, Brown, & Lent, 1991). Studies have also shown academic self-efficacy is reliable in predicting grades and persistence in college (Multon

et al., 1991). Using a diverse sample and a wide variety of experimental projects and assessment approaches, Multon et al. (1991) found statistically significant positive relationships (effect size) between self-efficacy beliefs and academic performance (.38) and persistence (.34). Within this context, students' past failures and successes can influence their level of self-efficacy and affect their future successes and failures (i.e., grades). Further, students with high self-efficacy are less likely to give up than students with low self-efficacy. Using effective academic advising as a means of building advisor–advisee trust allows advisors to show students models of appropriate academic behavior, which influences their sense of academic self-efficacy (Bandura, 1977a).

Outcome Expectancy

The definition of *outcome expectancy* is students' belief that if they mimic appropriate behavior modeled by the academic advisor and other successful students, they will also experience a similar level of success (Bandura, 1977a). The advisor–advisee exchange is an opportunity to enhance students' outcome expectancy and potential for positive results. Within this framework, students make a clear distinction between expectations of efficacy and response-outcome expectancies. Similar to Schunk (1984, 1989), Erlich and Russ-Eft (2013) sought to explain how Bandura's (1977b) SLT could be used in assessing student-learning outcomes in academic advising. Examining 120 students who had experienced individual academic advising sessions, they compared the students' pre and postintervention self-regulated learning and self-efficacy strategy with their ability to apply academic planning skills. The results of two of Erlich and Russ-Eft's hypothesis tests revealed students experienced increased levels of self-

regulated learning and self-efficacy because of their academic advising experiences. Further, the results of Erlich and Russ-Eft's third hypothesis test confirmed the mutual association among self-regulated learning and self-efficacy in academic planning.

In another study, Shumaker and Wood (2016) examined efficacy utilizing a similar theoretical framework comprised of the socio-ecological outcomes (SEO) model designed by Wood, Harris, and White (2015). Shumaker and Wood investigated the societal factors that influence FGCS. Specifically, Shumaker and Wood examined the interplay of four socioecological domains: noncognitive, academic, environmental, and campus ethos. Shumaker and Wood examined how students navigated and/or interpreted their experiences with faculty engagement, environmental constraints, campus climate and culture, and their own "dispositions and salient identities (e.g., masculine, racial) that influence the ways they interact and interpret their college experiences" (p. 11). This capacity can have a direct effect on their personal efficacy level and ability to overcome barriers, ultimately affecting their academic performance. For example, if students feel discriminated against because of their salient identity and cannot place that feeling in a proper perspective, it may influence their level of classroom participation. This could influence the way the instructor views the students' academic ability and ultimately affect their grades.

Shumaker and Wood's (2016) findings revealed there was no significant difference between the service uses of FGCS versus non-FGCS. This is significant because it is not only contrary to prior research regarding FGCS, which suggested FGCS did not use college services as much as non-FGCS (Barry, Hudley, Kelly, & Cho, 2009),

it also stresses the importance of the college's role in providing services for FGCS and students' involvement in their own academic success. Consequently, the authors recommended creating programs to foster service access and service efficacy to support FGCS (Shumaker & Wood, 2016). This recommendation is in line with Bandura's (1977b) SLT concerning the students' expectations of personal efficacy, the perception of self-efficacy, and outcome expectancy.

Through the engagement of students with academic advising services institutions provide, FYFT community college students learn about available services and will take advantage of the services provided as their levels of self-efficacy and self-regulation increase. While the goal and desire of most community colleges is to ensure all FYFT students participate in the academic advising process, students inevitably slip through the cracks. As Shumaker and Wood (2016) stated, institutions do not do a good job of successfully serving this type of population, despite having the opportunity to do so. The current study addressed the gap in the present literature by examining differences in FYFT community college students' achievement and the academic advising method the students experienced while controlling for HSGPA. In the next section of this chapter, I review literature related to the key variables used in the current study.

Literature Review Related to Key Variables

The key variables in the current study were academic advising (IV), HSGPA (CV), and student achievement (DV). As discussed below, Frost (2000) defined three eras of time that illustrate the progression of academic advising in relationship to the increased complexity of the student body and academic curriculum development.

Academic Advising Eras

According to Frost (2000), there have been three distinct academic advising eras within higher education: undefined, defined and unexamined academic advising activity, and defined and examined academic advising activity. The first era addressed the needs of students who followed a standard curriculum with no course variability; the second era addressed the needs of students who were exposed to a more robust system of course availability despite the desire of faculty to maintain the traditional curriculum; and the third era addressed the needs of a more complex student body who had access to a robust selection of available courses and other choices (Frost, 2000). Table 1 displays the attributes of these three eras of academic advising followed by the definition of academic advising during the third era identified by Frost (2000).

Table 1

Academic Advising Eras

Time period	Advising activity	Curriculum type
1636–1870	Undefined	Standard and no variability
1870–1970	Defined & unexamined	Traditional vs. robust elective system
1970–present	Defined & examined	Robust elective system

Note. The three eras of academic advising were identified by Frost (2000).

Definitions of Academic Advising

The definition of *academic advising* has evolved over time (Crookston, 1972; Earl, 1988; Glennen, 1975; O'Banion, 1972). As described throughout this section, academic advising has seen an increasing level of faculty and advisor involvement in the development of college students. Research has shown that regular engagement with

advisors encourages students to keep pursuing academic success (Chickering & Gamson, 1987; Glennen, Farren, & Vowell, 1996). Chickering and Gamson (1987) not only encouraged contact between faculty and students, but also viewed academic advising as important. Glennen et al. (1996) found an academic advising center at a regional comprehensive university increased retention and graduation rates.

Crookston (1972) defined academic advising as a negotiated agreement between the advisor and the student in which both parties benefit from the teaching but with varying degrees of learning. The key to a successful academic advising experience is the involvement of the student and the student's ability to navigate the challenges of the college experience. Contrary to Crookston (1972), Crockett (1978) believed academic advising helps students to gain a better understanding of themselves as well as the resources available at the institution designed to address their needs and to help them meet their personal goals. Similarly, Raskin (1979) suggested academic advising seeks to understand the needs of the student and to provide students with detailed information about the college's academic and support programs via academic planning. Raskin (1979) highlighted the definition, role, and functionality of academic advising lacks consensus in the literature. In support of Raskin (1979), Habley's (1981) definition of academic advising acknowledges the fact students may experience conflict between their expectations and the college's ability to meet their needs, as well as how academic advising helps in the mediation of such conflict. In the following review, I reference studies related to academic advising, first-year students, self-efficacy, student retention,

and student achievement (i.e., a student's GPA). I describe the four academic advising methods and academic advising progression over time.

Academic Advising Methods

As previously mentioned, there are several academic advising methods (e.g., prescriptive, developmental, intrusive, & proactive). A detailed description and application of each of these four methods is presented below.

Prescriptive academic advising. Crookston (1972) viewed the doctor/patient relationship as the best comparison to prescriptive academic advising. Viewed as one of the oldest and most basic methods of academic advising, prescriptive academic advising has become the traditional way for faculty to engage students (Lowenstein, 1999). In this hierarchical relationship with an advisor who provides a one-directional flow of information, the student is a passive recipient (Lowenstein, 1999). Crookston is well known for developing the prescriptive and developmental methods to academic advising (Hemwall & Trachte, 1999). Prior to the changes in universities resulting from the availability of federal funding in the 1950s, interaction between faculty and students was very limited. A typical interaction would consist of the faculty member telling the student which course(s) to take. In the process of prescriptive academic advising, students receive guidance and solutions to their immediate concerns such as course enrollment. As new student populations have entered colleges and universities, administrators have looked for ways to address their needs by developing new programs (e.g., freshman orientation). Academic advising also began to evolve as Crookston introduced developmental

academic advising to address the concerns and limitations of prescriptive academic advising, as discussed below.

Developmental academic advising. The psychosocial theories of Erikson (1963) and Chickering (1969) both played a pivotal role in the developmental academic advising method, according to McFarlane (2013). Erikson (1963) identified eight stages of psychosocial development (trust vs. mistrust, autonomy vs. shame/doubt, initiative vs. guilt, industry vs. inferiority, identity vs. role confusion, intimacy vs. isolation, generativity vs. stagnation, & integrity vs. despair). According to Erikson (1963), a person must successfully resolve the conflict that occurs between the two conflicting ideas at each of the eight stages of psychosocial development. Failure to do so will leave the person feeling inadequate, ultimately leading to an unproductive member of society (Erikson, 1963). Similarly, Chickering's (1969) theory of identity development identifies seven vectors (developing competence, managing emotions, moving through autonomy toward independence, developing mature interpersonal relationships, establishing identity, developing purpose, & developing integrity) that contribute to the development of identity.

Working independently of each other, two well-known academic advising experts, Crookston (1972) and O'Banion (1972), based their definitions of developmental academic advising on Chickering's (1969) theory of identity development. According to Crookston, the definition of academic advising also includes facilitating the student's behavioral awareness, rational processes, problem-solving, and decision-making skills. Crookston identified two basic assumptions from student development theory: (a) higher

learning is an opportunity for a student to plan to achieve a self-fulfilling life; and (b) the student must share equal responsibility with the teacher (and not merely be a passive receptacle for knowledge) for the learning context, process, and development to be of any real quality.

Similarly, O'Banion (1972) defined developmental academic advising as a process that encompasses a mutually respectful relationship between the advisor and advisee that addresses the student's concerns. O'Banion identified five key steps in the academic advising process: (a) exploration of life goals, (b) exploration of vocational goals, (c) program choice, (d) course choice, and (e) scheduling courses. Both Crookston (1972) and O'Banion described processes that attempt to address the needs and concerns of students. Expected outcomes of the academic advising process include developing the competence or increasing capacity to master a range of tasks intellectually, physically, and socially; becoming an independent thinker by confronting issues; and developing the ability to assess and clarify interests, educational goals, and career aspirations.

In addition to Crookston (1972) and O'Banion (1972), several other researchers have defined developmental academic advising (e.g., American College Testing Program, 1984; Brown, 1984; Chickering, 1994; Creamer & Creamer, 1994; Fielstein & Lammers, 1992; Frost, 1994; Spokane, 1994; Winston, Enders, & Miller, 1982). These definitions have evolved from the constantly changing landscape of students who possess different goals and needs. Winston et al. (1982) defined developmental academic advising as a systematic process to assist students in achieving their educational, career, and personal goals. Similarly, the American College Testing Program (1984) defined it as a process

that assists students in the development of their educational plans and the clarification of their life/career goals. In contrast, Brown (1984) defined the term as the student development educator's ability to engage with students.

Fielstein and Lammers (1992) further identified five goals for developmental academic advising: (a) to improve study skills, (b) to plan courses of study, (c) to improve interpersonal skills, (d) to understand their values, and (e) to explore career options. Creamer and Creamer (1994) defined the term as the achievement of specific learning, developmental, career, and life goals established through the advisor–advisee relationship. Chickering (1994) further stated its fundamental purpose is in the advisor's ability to help students become advocates for their academic and personal development during their lifelong journey. Frost (1994) similarly defined the term as the advisor's effective use of the academic advising relationship. These definitions clearly identify the two roles (e.g., teacher/counselor, mentor/motivator) in the advisor–advisee relationship.

A developmental academic advising method requires an environment that allows the advisor–advisee relationship to grow. Most institutions do not have academic advising structures that fully support this type of academic advising approach. This dilemma is primarily due to the size of advisor–advisee caseloads and the cost of supporting this type of model. For example, CUNY ASAP partially supports this type of model, providing a combination of prescriptive and intrusive academic advising methods for students. At CUNY, in colleges that have ASAP, the advisor–advisee caseload is 150:1, while most other advisor–advisee caseloads in CUNY average 300 to 1 (Manpower Demonstration Research Corporation, 2012).

Prescriptive and developmental academic advising methods have historically been viewed as the main approaches for assisting students to achieve their educational goals; however, in subsequent years, additional methods have emerged. Spokane (1994) provided a more comprehensive perspective in his definition of developmental academic advising, stating academic advising is a service or function designed to meet the adolescent needs of students that is not the responsibility of an individual and can only be accomplished by a team of professionals that communicate with one another. Spokane's (1994) definition is symbolic of the cultural and historical changes in academic advising expectations of new student populations (e.g., multicultural students, students with disabilities, nontraditional students, veterans) that have caused the role of the academic advisor to shift, resulting in four distinct academic advising approaches: prescriptive, developmental, intrusive, and proactive methods of academic advising; the latter two of which I discuss below.

Intrusive academic advising. Glennen (1975) first introduced intrusive academic advising as an academic advising strategy designed to build relationships with students to anticipate their needs. Intrusive academic advising, viewed as a student retention intervention strategy, aids low achieving students who exhibit an academic deficit, which results in unsatisfactory GPA and diminished disposition toward academics. According to Earl (1987), intrusive academic advising was designed to meet the total needs of the student as a holistic approach that incorporates prescriptive and developmental model components. It encourages students to act by pursuing the help they need. Intrusive academic advising practices were improved upon by Glennen to offer additional support

to students. The improvements yielded the proactive academic advising method, discussed in the next paragraph.

Proactive academic advising. Glennen (1975) sought to improve intrusive academic advising practices by blending academic advising and counseling into one discipline, and introduced proactive academic advising through the work of a group of voluntary faculty members. This new model was designed to allow advisors to build relationships with students while providing students with information before they requested it, and focused on the interests, abilities, and goals of the students (Glennen, 1975). According to Earl (1988), proactive academic advising uses qualities of both prescriptive academic advising (awareness of student needs, structured programs, & experience) and developmental academic advising (relationship to a student's total needs). Proactive academic advising is more structured than intrusive academic advising, as it pertains to student intervention (Earl, 1988). Advisors intervene at the first sign of academic difficulty; as opposed to waiting for the student, advisors act deliberately in order to motivate the student to seek help (Earl, 1988). Varney (2012) agreed with Earl's description of proactive academic advising, specifying it involves calculated mediation on the part of the advisor to motivate students.

College administrators welcomed the introduction of the two enhanced academic advising methods (intrusive and proactive); especially since approximately 50% of community college students enrolled in the fall term do not enroll in the spring term (AACC, 2014). Deploying an intrusive or proactive method of academic advising encourages advisors to engage students beyond academics, allowing them to find out

things about the student that could potentially cause them to withdraw from college after the first semester of enrollment. This is an important benefit, especially since only 20% of community college students who go on to pursue a bachelor's degree earn the degree within 8 years of graduating from high school. Further, according to the National Center for Public Policy and Higher Education (2011), only 15% of high-income students compared to 44% of low-income students enroll in community college after high school.

As previously mentioned, 60% of the community college population does not have the basic skills needed to complete a college course. As such, proper academic advising of courses designed to eliminate a student's remedial deficit is critical during the first year of enrollment. Proper academic advising influences the performance, persistence, retention, and graduation rates of community college students. Further, this aligns with the community college mission to provide access to students at varying levels of academic preparedness. As such, there is a need to improve upon the performance, persistence, and retention rates of students so that more students can graduate.

Academic Advising and Student Success

Academic advising programs promote student success as reflected by the retention and degree completion rates of students (Habley & McClanahan, 2004; McClenney & Waiwaiole, 2005; Ruffalo Noel Levitz, 2006). According to Lowenstein (1999), institutions that deploy a prescriptive academic advising method exhibit an authoritative posture in addressing student inquiries. Institutions that deploy a developmental academic advising method involve students in the decision-making process (Lowenstein, 1999). Institutions that deploy an intrusive academic advising

method require students to be advised each semester as a prerequisite to enrollment for the next semester (Backhus, 1989; Earl, 1988). However, do students take advantage of these programs? While it is not possible for academic advising to fix all of the problems of higher education, Hunter and White (2004) asserted academic advising might be a good place to start. Academic advising can establish a fundamental relationship between students and their education with the hope that students will become more reflective and strategic about the choices they make. In the next paragraph, I explore differences in FYFT community college students' achievement and the academic advising method the students experienced and identify studies related to the scope of the current study.

Academic advising is an important foundation for academic integration and the promotion of informal faculty contact by researchers (Crookston, 1972; Nadler & Nadler, 1999; Pascarella & Terenzini, 1976; Raskin, 1979; Ryan, 2013). Academic advising plays a critical role in the student's educational experience (Allen et al., 2013; Atherton, 2014; Crocker, Kahla, & Allen, 2014; Darling, 2015; Paul & Fitzpatrick, 2015; Smith & Allen, 2014; Tinto, 2012). Students must participate in at least five academic advising sessions in order to realize the benefits and appreciate the services provided by the institution and their academic advisor (Nadler & Nadler, 1999; Peterson et al., 2001; Wilder, 1981). College administrators recognize the importance of academic advising. Smith and Allen (2006) conducted research at a doctoral-research-intensive, urban university. Based on the results of a 2003 academic advising web-based survey administered to 2,193 undergraduates, the authors identified 12 academic advising functions (both prescriptive and developmental) in five domains (i.e., integration,

referral, information, individuation, & shared responsibility) as essential components of quality academic advising.

Similarly, Crocker et al. (2014) conducted a case study to show changes in the academic advising process for one department, providing a detailed description of the stages of academic advising. The authors defined academic advising as a prescriptive process designed to inform students about the classes they need to take in order to complete their degree (Crocker et al., 2014). As advisors continue to engage students, academic advising begins to take on a developmental characteristic, in which the advisor talks to the student about things not related to their degree, such as career interests and other personal areas. The more contact the student has with the advisor, the more intrusive the academic advising experience becomes, fostering proactive actions on the part of the student (Crocker et al., 2014). This is an important observation for the current study because it implies students' engagement with academic advising are situational and change as contact with the academic advisor increases. This observation also shows academic advising engagement is progressive, highlighting the need to choose the right academic advising method for FYFT students.

An academic advising system that provides components of both prescriptive and intrusive academic advising methods is viewed as an ideal academic advising system for students (Crocker et al., 2014). Within this type of system, the faculty advisor not only helps students with course selection but also helps to set career and personal goals. This combined academic advising approach is reflective of the ASAP-like advising approaches discussed in the current study, supporting research findings that academic

advising is an important foundation for academic integration and promotion of informal faculty contact (Crookston, 1972; Nadler & Nadler, 1999; Pascarella & Terenzini, 1976; Raskin, 1979).

Jones and Hansen (2014) discussed how even virtual intrusive academic advising may have a positive influence on student success. The authors referenced the fact that the best practice of intrusive academic advising (i.e., developing personal relationships and connecting the student to the institution) is realized through engagement during the live session. This observation highlights the power of intrusive academic advising, even in a virtual setting, and its ability to affect students' lives.

In another study, Atherton (2014) used data from the Cooperative Institutional Research Program survey to assess student engagement with academic advising, finding students who need academic advising the most (e.g., first-time college students, low-income students, students of color) do not utilize academic advising services. This finding suggests institutions have to be intentional about their academic advising strategies, and raises the question: who is responsible for a student's academic success? Smith and Allen (2014) provided two perspectives: (a) students are responsible for their success and must find a way to overcome any obstacles they encounter through self-determination and internal motivation; and (b) the institution is responsible and must recognize the obstacles that students face and provide solutions to assist them. There is value in both of these perspectives, especially for FYFT community college students who are among those students whom do not take advantage of the services institutions provide (i.e., academic advising). The value is that students eventually become self-sufficient,

allowing advisors to focus on students who still need their expertise. Examples of the importance of academic advising are discussed in the next few paragraphs.

First-time students can gain an understanding of timelines, policies, and procedures related to their enrollment and degree requirements through information functions provided by academic advisors (Allen et al., 2013). Part of Allen et al.'s (2013) overall goal was to provide information about academic advising practices at community colleges and four-year institutions. Practicing communication and the enhancement of students' critical thinking skills are two further aspects of the academic advising experience (Paul & Fitzpatrick, 2015). Campus leadership and academic advisors must recognize the importance of integrating academic advising strategies that promote student success within the college or university environment (Darling, 2015).

The importance of academic advising is supported in the research (Darling, 2015; Paul & Fitzpatrick, 2015; Smith & Allen, 2014; Tinto, 2012). First-year students need to be engaged beyond the scope of their views of the college experience, and academic advising can accomplish this task (Tinto, 2012). Darling (2015) noted that in order for students to be successful, academic advising strategies must enable student success by addressing barriers early in the process, in agreement with Tinto (2012). Darling's (2015) assertion supports the academic advisor–advisee perspective on the most effective strategies to promote student success identified per Smith and Allen (2014).

Ryan (2013) identified intrusive academic advising as a specific form of academic advising that influences student success. Ryan experimented in 2010 to determine the effect of incorporating intrusive academic advising in the freshman seminar course

COL105 offered to incoming freshmen. Students enrolled in the modified COL105 sections (the experimental group) received intrusive academic advising from a specially trained freshman seminar instructor, and students who were enrolled in nonmodified COL105 sections received academic advising from advisors who were not their instructor. Ryan found that students in the modified COL105 sections earned higher overall GPAs and were retained at a higher rate than students who were in the nonmodified sections.

Smith and Allen (2014) tested the immediate outcomes related to students' academic advising experiences, identified five cognitive, and three affective outcome measures that influenced retention. While all of the cognitive and outcome measures identified by Smith and Allen are relevant to student retention, knowledge of degree requirements, appreciation of the advisor–advisee relationship, and recognition of the importance of a mandatory academic advising experience during the first semester are germane to the current study. Of the remaining measures, Smith and Allen found students who were academically advised with a clear understanding of their educational plan and the available resources needed to be successful were more likely to be retained.

Additional studies have shown considerable improvement in the GPA of students who participate in academic advising sessions as well as in their retention (Crockett, 1978; Habley, 1981; Pascarella & Terenzini, 1978; Tinto, 2000; Wilder, 1981). Habley (1981) recognized differences between students' expectations and the college's ability to satisfy their expectations in his definition of academic advising. Despite the noted differences, Habley (1981) acknowledged academic advising as the only service in which

students can express their concerns with an individual who is equally as concerned with the students' academic performance. Similarly, Crockett (1978) recognized academic advising as a service that addresses the needs of students. Pascarella and Terenzini (1978) agree with Tinto (2000), recognizing academic advising as critical for improvements in GPA. However, Wilder (1981) believed students must engage an academic advisor multiple times in order to realize the benefits of academic advising. This body of research provides a foundation for the present study, though some have limited generalizability due to the use of small sample sizes. The current study examined differences in FYFT community college students' achievement and the academic advising method the students experienced while controlling for HSGPA. The current study is generalizable to the population because the sample size is large enough to achieve statistical power. This means there was an 80% chance of finding a relationship between academic advising methods and student achievement if a relationship existed in my sample population.

Academic Advising, Self-Efficacy, and Student Achievement

In my literature search, I found studies similar to the current study; however, I did not locate a study that specifically examined the variables in the same manner as I did. For example, Shumaker and Wood (2016) examined societal aspects of the FGCS experience, which are important to a student's ability to succeed. Shumaker and Wood performed ANCOVA to examine students' access and use of institutional services. The scope of their study was broader than the current study, as it encompassed more than academic advising alone. Shumaker and Wood examined self-efficacy and self-regulation constructs. The broader approach was a strength in the study because it encompassed

societal factors that may have influenced their outcomes, providing a thorough view of the phenomenon. I did not note any weaknesses in their approach.

The theory of self-efficacy emphasizes observational learning and social experience. According to Bandura (1977b), learning encompasses observation, extraction of relevant data from those observations, and review of behavioral performance to make an informed decision (observational learning or modeling). Academic advising is among the available services for college students to gain an understanding of appropriate behavior in becoming a successful college student. Allen et al. (2013) examined the role of academic advising in student success in order to inform academic advising practices at the participating institutions. However, their study design was dissimilar to the design of the current study. Allen et al. examined the importance attributed to 12 academic advising functions by two groups: (a) students enrolled at five universities who had transferred from one of the study's community colleges, and (b) students enrolled at two community colleges who planned to transfer to four-year institutions. Allen et al. analyzed a subsection of information collected in a large-scale research project administered in the spring of 2010 and 2011, and asked students and advisors about their attitudes toward engagement with academic advising at their respective institutions. Allen et al. compared the respective demographic data of the target population with the age, race/ethnicity, and gender of the sample from each institution. Allen et al. used simultaneous regression analyses to assess the importance ratings of each of the 12 academic advising functions (criterion or DV) and student status (IV). The results showed students recognized academic advising as an important aspect of their overall

success (Allen et al., 2013). The results for pre and posttransfer students significantly differed in their ratings of seven of the 12 functions and highlighted the kinds of academic advising that were highly valued by both groups.

A major strength of their study was the excellent student response rate (25%) compared to an average response rate (10–15%) for external surveys, allowing the findings to be more-readily generalized. The major limitation of the study, according to Allen et al. (2013), is that the cross-sectional design did not allow the researchers to ensure student attitudes changed at the pre and posttransfer phases of the study. Shumaker and Wood (2016) examined students' use of services (i.e., academic advising), while Allen et al. measured students' attitudes toward experiences with academic advising. In another study, Smith and Allen (2014) examined how often students engaged in formal academic advising, as discussed below.

Smith and Allen (2014) examined the outcomes of another large online survey of 22,305 students from two community colleges and seven universities. The study determined how often students engaged in the formal academic advising system and if the students self-advised using official academic advising material or relied on the advice from informal sources to choose the required classes. Smith and Allen introduced five cognitive measures and three affective outcome measures related to student judgments and attitudes, noting the outcomes were linked to student retention. Smith and Allen revealed students' desire to continue at their institution and complete their educational program was consistent with the students' knowledge and attitudes. Additionally, the more contact the students had with their advisors, the higher their outcome measure score

and the more likely they were to persist. In the data analysis, all eight ANCOVA were significant. Specifically, the follow-up tests revealed a consistent pattern of higher scores for students who received frequent academic advising compared to students who received occasional academic advising or who were not advised. This observation is also consistent with Bandura's (1977b) SLT, which embraces the idea that all students have the potential to learn, though students must believe they possess the ability to succeed, as their sense of self-efficacy plays a significant role in how they approach goals, tasks, and challenges. Similar to Smith and Allen (2014) and the current study, Erlich and Russ-Eft (2011) examined self-efficacy as well as the application of several of Bandura's other theories, as discussed below.

Erlich and Russ-Eft (2011) applied Bandura's (1986, 1997) SCT and self-regulated learning to evaluate changes in community college students' self-regulated learning strategy levels and self-efficacy in academic planning as outcomes of an academic advising session. This statement is in line with the current study's premise that a student's level of self-efficacy can increase as a result of effective academic advising experiences. Erlich and Russ-Eft did not view self-regulated learning as an ability that a student possesses before participating in an academic advising session. Self-regulated learning was viewed as an event with: (a) a beginning (forethought phase), (b) a process portion during the appointment (performance phase), and (c) an end point (self-reflection phase). Erlich and Russ-Eft deployed micro-analytic assessment questions to capture student responses during the forethought and self-reflection stages of the academic advising session. Micro-analytic valuations have been traditionally used in self-regulated

learning and self-efficacy studies (Bandura, 1977a, 1986). According to Erlich and Russ-Eft, the instrument served as a check on the advisor assessments made via the rubric and micro-analytic questions by providing the student's self-evaluation perspective.

A sample of 120 community college students (61 women, 56 men; 3 chose not to answer the question on gender) located in a large metropolitan area in California participated in the study. The participants ranged in age from 18 to 60 years, and 70% of the sample was between 18 and 24 years old with a median age of 21 years. The median number of units completed for students who had completed between 0 and 91 academic units was 31. Erlich and Russ-Eft (2011) used Cronbach's alpha and Pearson correlation for test-retest reliability. Erlich and Russ-Eft's study was limited because it only included one community college, requiring additional research with other institutions and students. The current study was also limited because it only included one community college and is further limited because it did not contain any input from faculty, staff, or students. The limitation of Erlich and Russ-Eft's (2011) study is it utilized a quasi-experimental, post- and retrospective pretest design, in which two internal validity factors (testing and instrumentation) were uncontrolled. In addition to SLT, the current study examined Bandura's (1986) SCT, which explains human agency through the interdependence of three main determinants using a three-point model called triadic reciprocal causation (Bandura, 1986, 1997). Erlich and Russ-Eft's study highlights the gap in the literature regarding academic advising methods, particularly relating to the application of Bandura's (1977a, 1977b, 1986) theories.

Researchers have approached the concept of academic advising in various ways for different types of students, as highlighted in this section. Choosing the right academic advising method is critical, especially for FYFT students. For example, students who need to take remedial courses in their first semester may benefit more from a prescriptive academic advising approach. In the next section, I provide additional details about this cohort of students.

First-Year Full-Time Students

According to Misra, McKean, West, and Russo (2000), transitioning to college for students familiar with the high school environment can be a very stressful experience and can ultimately lead to their decision to withdraw from college. Although a community college is sometimes viewed as an extension of high school, the academic challenges and increased level of expectation can be overwhelming and stressful (Misra et al., 2000). The transition from high school also promotes fear due to the students' progression into unknown territories in college (Paul & Kelleher, 1995). Returning students also experience a certain level of stress related to college; however, because of the conflicts and frustrations associated with first-year students' transitional changes, they experience a higher level of stress (Misra et al., 2000). First-year students are often void of a strong social support system and lack an appropriate coping mechanism to deal with such stress (Misra et al., 2000).

Pascarella and Terenzini (2005) stated academic advising serves as a vehicle to counter the stress and fear of the unknown that first-year students experience, enhancing their decision to persist, experience success, and graduate. First-year students enter

college believing they can be successful; however, the dramatic change in their lives of going to college hampers their ability (Levine & Cureton, 1998). This shift results in a perplexing situation for students wanting to be independent yet desiring someone from the college (i.e., an academic advisor) to give them direction (Chickering & Reisser, 1993). According to Tinto (2012), first-year students need to engage beyond the scope of their views of the college experience, and academic advising can accomplish this task, enhancing students' chances for academic success.

Allen et al. (2013) noted FYFT college students gain an understanding of timelines, policies, and procedures related to their enrollment and degree requirements through information sessions provided by academic advisors. Therefore, FYFT college students who actively engage academic advisors enhance their chances of being successful academically. Through this process, students have the chance to develop a personal relationship with the academic advisor, which has a positive effect on their academic careers (Nutt, 2000). Thus, academic advising is a critical service for FYFT college students and an influential factor in student achievement (Pascarella & Terenzini, 1977).

The Importance of First-Year Grade Point Averages

There is a direct correlation between students' GPA and student achievement. *Grade point average* refers to the average of the student's final grades accumulated during the student's enrolled semesters. Adding up the total number of quality points earned by a student and dividing by the total number of enrolled credits calculates the GPA, indicating passing and failing grades. The values range from 0.00–4.00. The higher

the GPA, the better the student has performed (University Language Services, n.d.). Better grades may also be a reflection of less stress among first-year students and a belief that they can perform academically (i.e., academic self-efficacy). In a study of traditional students enrolled in engineering schools, Hackett, Betz, Casas, and Rocha-Singh (1992) identified academic self-efficacy and perceived stress as predictors of student GPA.

According to Murtaugh, Burns, and Schuster (1999), first-year students' GPA are a strong predictor of persistence and retention compared to other researched variables (e.g., student satisfaction with academic advising). This fact highlights the importance of addressing the barriers first-year students face, such as dealing with the loss of family, cultural isolation, and confusion about academic goals (Pascarella & Terenzini, 1977, 1980; Tinto, 1987). Providing academic advising during the first year of students' college experience addresses these barriers, which is why students need extra time with an academic advisor (Broadbridge, 1996).

The Influence of HSGPA on First-Year GPA

The American College Testing (ACT) organization identifies HSGPA as a strong predictor of first-year GPA (American College Testing Program, 2015). ACT conducted studies on the effect of the ACT composite score and HSGPA on first-year GPA. Westrick, Le, Robbins, Radunzel, and Schmidt (2015) found HSGPA is a greater predictor of first-year GPA than the ACT composite score. In the same study, Westrick et al. (2015) found the combination of the ACT composite score and HSGPA is a better predictor than either score individually. Prior researchers (Cimetta, D'Agostino, & Levin, 2010; McGhee, 2003) also conducted studies involving other predictor variables yielding

mixed results. McGhee (2003) examined the combination of the college's admission test, a state test, and the HSGPA in predicting first-year GPA. Unlike Westrick et al.'s findings, McGhee found only trial effects on the aggregate effects of first-year GPA. Cimetta et al. (2010) examined the combination of the Arizona Instrument to Measure Standards (AIMS) test, the SAT, and the HSGPA in predicting first-year college GPA. Like McGhee, Cimetta et al. found only minor variances between two cohorts when using the summative results of combining the two tests with HSGPA.

In another ACT study, McNeish, Radunzel, and Sanchez (2015) noted ACT composite scores and HSGPA indirectly measure academic commitment, academic work habits, and educational planning as alternative dimensions of college readiness. In the current study, academic advising was viewed as the means to enhance these college readiness dimensions. In addition to recognizing the role that ACT, SAT, and Regent scores play in senior college admission decisions, academic advisors must have an understanding of the relationships between HSGPA, first-year GPA, and student achievement at the community college level.

Student Achievement

In the current study, *student achievement* referred to the student's overall GPA based on the courses, credits, and academic grades used in the calculation of GPA. *Student achievement*, *academic achievement*, *academic performance*, *academic success*, *student success*, and *student performance* are used interchangeably in the current study. A student is viewed as achieving satisfactory academic progress when the GPA is 2.00 or higher. For the current study, student achievement was measured by comparing the

standardized HSGPA (pretest) and FYFT CCGPA (posttest) of students who received a method of academic advising, as defined above, to determine if there was any change. A high GPA represents student success at the high school and collegiate levels. High school GPA is known to be one of the predictors for success in college (Strauss & Volkwein, 2002). Strauss and Volkwein (2002) noted the self-reporting of intellectual growth is also a relevant predictor of college success.

Administrators at four-year institutions use HSGPA and standardized test scores as measures for recruitment and admittance. Since community colleges are open enrollment institutions, the factors of high school performance are not weighed as heavily during the admission decision-making process, though they dictate the academic programs and courses in which students can enroll. Many students enter college with minimal skills and academic capabilities. However, open enrollment colleges do not have control over this aspect (Roueche & Roueche, 1993; Tagg, 2003). The students are usually from the same demographic profile (socioeconomic status, single-parent households, ethnicity, and high school preparation) and, regrettably, not much has changed since the 1970s (Roueche & Roueche, 1993; Strauss & Volkwein, 2002; Tinto, 1987).

Community colleges and universities use GPA as a measure of academic success (Bean & Metzner, 1985; Elkins, Braxton, & James, 2000; Hawley & Harris, 2005; Strauss & Volkwein, 2002). Strauss and Volkwein (2002) used CUM GPA and faculty perceptions of student leaning to determine student performance, which is in line with the current study's definition of student achievement. The authors found six individual

student characteristics (gender, high school rank, student effort, classroom experiences, and number of hours employed) and one organizational characteristic (institutional mission) accounted for most of the difference in predicting academic achievement measured by GPA (Strauss & Volkwein, 2002). I reflected on student effort from Bandura's (1977a) viewpoint that ability, effort, performance, and self-worth are the four elements of the self-worth model. According to Covington and Beery (1976), self-worth is related to a person's level of self-awareness, self-determination, and self-efficacy, which is referenced in the theoretical foundation of the current study.

Community colleges and universities may not view each other's GPA in the same manner because of the variation in calculating grades. In a meta-analysis of higher education research, Pascarella and Terenzini (2005) identified variation in grade calculation by colleges and universities as a limitation in using grades to measure academic success. Pascarella and Terenzini cautioned researchers about the possibility of grade inflation or grading variations when using GPA as a measure of academic success. Both Strauss and Volkwein (2002) and Pascarella and Terenzini recognized cognitive growth and subject matter competence also result from students earning higher course grades and GPA. This observation is in line with Bandura's (1977b) belief that students' cognitive, motivational, emotional, and decisional functionality is influenced by beliefs in self-efficacy, emphasizing the importance of the role of academic advisors.

Student Retention

In the current study, student retention is viewed as a byproduct of student achievement. Students who maintain a 2.0 GPA or higher are usually retained in

subsequent semesters. On the other hand, students who fall below this academic standard are less likely to be retained due to the institution's academic standing policies. Studies have shown when a student's perception of the academic advising experience is good, there is a positive correlation with student retention (King, 1993; Pascarella & Terenzini, 2005). Metzner's (1989) findings are in line with these studies. Metzner identified eight studies highlighting a positive relationship with student retention and student perception of the quality of the academic advising experience. In the current study, *student retention* refers to students who persist or re-enroll each semester, ultimately leading to graduation. *First-year retention rates* are defined as the continuous enrollment of students from fall to fall (Braxton et al., 2007; U.S. U.S. Department of Education, Institute of Education Statistics, 2010); however, institutions also measure semester-to-semester retention rates. *Student attrition* is the opposite of student retention and refers to students who do not persist or re-enroll in subsequent semesters.

Siekpe and Barksdale (2013) identified the attrition and retention of college students as perhaps the largest problem facing higher education institutions today. Indeed, in the same study, 30% of first-year students did not return for their sophomore year (Siekpe & Barksdale, 2013). Similar to Tinto's (1987) findings identifying lack of preparedness, commitment, and social/academic integration to the campus as reasons why students do not return in their sophomore year, Siekpe and Barksdale cited lack of money, family problems, loneliness, and academic struggles as other reasons. Braxton et al. (2007) also report the issues of student departure, persistence, and attrition as being closely related to student retention. These studies highlight the importance of academic

advising in delineating college demands and the role of academic advisors in assisting in the development of students' understanding of those demands (King, 1993).

Building upon King's (1993) findings, O'Keeffe (2013) noted in order to promote student success and retention, academic advisors should focus on improving their relationship with students and fully understand their advising needs. Adequate focus includes addressing the transitions stages (separation from past associations, transition with the group, incorporation as an established member of the group) identified by Tinto (1987). Student satisfaction and retention studies have shown student satisfaction is the greatest known predictive variable of student retention (Schreiner, 2009). In another study, Ruffalo Noel-Levitz (2014) identified academic advising, financial aid, registration, faculty interaction, campus culture, and climate as factors contributing to college students' overall satisfaction. Academic advisors should know about all of these areas. When an academic advisor demonstrates knowledge of the student's advising needs and shows concern for the student's welfare, it contributes to the student's satisfaction with the academic advising experience and retention (Ruffalo Noel-Levitz, 2014). In the next paragraph, I highlight two studies showing the effect of successful academic advising experiences.

In Kot's (2014) examination of the effects of centralized advising on undergraduate student achievement in their first and second years of enrollment, Kot found an increase in the first-term, second-term, and cumulative GPA of first-year students who experienced centralized academic advising compared to students who were not advised. According to Kot, there was a decrease in the probability of first-year

attrition for students advised in their second semester. In another study, Swecker, Fifolt, and Searby (2013) examined the relationship between advising and retention of FGCS. The authors highlighted the importance of FGCS meeting with their academic advisors. The authors showed the odds of retaining a student increase by 13% for every meeting with an academic advisor. These findings are significant for the current study, which was designed to determine differences in academic achievement based on academic advising method and the strength of those differences. In the next section, I examine additional research similar to the current study, highlighting the strengths and weaknesses inherent in their approaches.

Studies Related to the Research Question

Six recent studies (Allen et al., 2013; Atherton, 2014; Falcon, 2015; McFarlane, 2013; Shumaker & Wood, 2016; Tinto, 2012) focused on first-year students. Tinto (2012) posited first-year students need to be engaged beyond the scope of their views of the college experience, and academic advising can accomplish this task, enhancing students' chances for academic success. McFarlane (2013) focused on academic advising structures that support first-year student success and retention, addressing the need to develop enhanced intervention strategies designed to enhance FGCS' chances for success. Atherton (2014) also focused on FGCS, but found the students who needed academic advising the most did not utilize academic advising services. This observation is an important finding because Falcon (2015) found FGCS face many obstacles that affect their ability to become successful, warranting the need for enhanced intervention strategies. Contrary to Atherton (2014), Shumaker and Wood (2016) found no significant

difference in the use of services by FGCS and non-FGCS students, suggesting all students have the potential to succeed.

Learned behavior is the focus of Bandura's (1977b) SLT, the theoretical foundation for the current study, which identifies four major sources of information: verbal persuasion, vicarious experience, physiological states, and performance accomplishments. Aspects of Bandura's self-efficacy and social cognitive theories also relate to students' ability to be successful. Individuals' sense of self-efficacy plays a significant role in how they approach goals, tasks, and challenges (Bandura, 1977a).

Theorists in three recent studies (Erlich & Russ-Eft, 2011; Shumaker & Wood, 2016; Young-Jones et al., 2013) examined self-regulated learning and self-efficacy from different perspectives. Erlich and Russ-Eft (2013) support Young-Jones et al.'s findings, revealing in academic planning, there is "a positive reciprocal relationship between self-regulated learning and self-efficacy" (p. 16). Erlich and Russ-Eft's hypothesis tests revealed students experienced increased levels of self-regulated learning and self-efficacy because of their academic advising experiences. Correspondingly, Shumaker and Wood (2016) examined the interplay of four socioecological domains: noncognitive, academic, environmental, and campus ethos. These domains must be properly aligned in order for true learning to take place. Within this context, true learning enhances the chance for first-time students to be academically successful, as I discuss further in the next paragraph.

Community colleges and universities use GPA as a measure of academic success (Bean & Metzner, 1985; Elkins et al., 2000; Hawley & Harris, 2005; Strauss &

Volkwein, 2002). In line with the current study's definition of student achievement, Strauss and Volkwein (2002) used cumulative GPA and faculty perceptions of student leaning to determine student performance. Prior research has shown academic advising is critical for improvements in retention and GPA (Crockett, 1978; Habley, 1981; Pascarella & Terenzini, 1978; Tinto, 2000; Wilder, 1981). Likewise, Morehead and Johnson (1964) as well as Rossman (1967) also showed a significant effect from academic advising when examining GPA and retention as objective measures.

One two recent studies (Fowler & Boylan, 2010; & Ryan, 2013) focused on GPA. Fowler and Boylan (2010) found a positive difference in the GPA of students who participated in the Pathways to Success Program compared to students who did not participate in the program. Similarly, Ryan (2013) found positive differences in the GPA and retention of students enrolled in the modified COL105 sections compared to students who were enrolled in the nonmodified sections. Both of these studies support prior research that has shown academic advising or faculty engagement is critical for improvements in retention and GPA. In the final paragraph of Chapter 2, I highlight studies related to student success.

Only six recent studies focused on student success (Darling, 2015; Donaldson et al., 2016; Jones & Hansen, 2014; McFarlane, 2013; Ryan, 2013; Young-Jones et al., 2013). Darling (2015) focused on creating an academic advising structure that promotes commuter student success by addressing barriers early in the process. Donaldson et al. (2016) focused on first-year community college students' attitudes toward and perceptions of intrusive academic advising. Jones and Hansen (2014) focused on how

virtual academic advising can promote student success. McFarlane (2013) focused on academic advising structures that support first-year student success and retention. Ryan (2013) focused on how to improve academic achievement and retention of first-time students at a two-year college. Ryan's research was limited to a control group of students in a specified course. Young-Jones et al. (2013) focused on whether academic advising influences student success. The current study aimed to answer a similar question, examining differences in FYFT community college students' achievement and the academic advising method the students experienced while controlling for HSGPA.

Summary

Community colleges are essential to the development of students who later enter the workforce (NCLS, 2014). Critics of community college efforts assume this will not be the case for many students because they view community colleges as revolving doors that bring many students in through the enrollment process, only to see them leave one to two semesters later (Barefoot, 2004; McGrath & Spear, 1991). Examining the achievements and the unwavering problems of community college efforts, McGrath and Spear (1991) attempted to justify the need to maintain the open access policies of community colleges despite the tensions, dilemmas, and uncertainties related to open access. They stated these issues undermine the effectiveness of community college efforts (McGrath & Spear, 1991).

In examining the reasons why community college students drop out, educational researchers over the past 30 years have focused on the effects of external environments and student characteristics rather the effects of community college processes such as

academic advising (Barefoot, 2004). Today, many academic advising experts believe academic advising is one way to counter the perception highlighted by McGrath and Spear (1991), and to address the concerns expressed by Barefoot (2004). Unfortunately, good academic advising is one of the most undervalued characteristics of successful college experiences (Light, 2001). The current study assessed differences in academic achievement based on academic advising method, and the strength of those differences. Assuming advisors are capable of handling the changing demographics of college students as described by London (1992), students should be able to benefit from the advisor–advisee relationship. However, as college enrollments increase, so does the advisor–advisee caseload ratio.

In Chapter 2, I provided a review of the literature. All studies referenced related to the study variables and/or Bandura's (1977b) SLT. Based on the literature review, six major themes emerged from these studies: the role of community colleges, the role of academic advising/counseling in higher education, educational planning/programs, the student experience, self-efficacy/self-regulation, and academic achievement/student performance. Several subthemes emerged from these studies, including: academic achievement, academic integration, academic success, behavior, child development, first-year students, motivation, personal-efficacy, retention, self-awareness, self-regulated learning, self-efficacy, self-esteem, self-worth, student experiences, student performance, and student satisfaction.

Academic advising is an important foundation for academic integration and promotion of informal faculty contact (Crookston, 1972; Nadler & Nadler, 1999;

Pascarella & Terenzini, 1976; Raskin, 1979). The majority of the literature examined academic advising focused on student satisfaction with the academic advising process or student retention. Mu and Fosnacht (2016) focused on the perceived gains of seniors who received academic advising, finding academic advising influenced students' perceptions. Similarly, Erlich and Russ-Eft (2013) found academic advising increases levels of self-regulated learning and self-efficacy. However, many researchers (e.g., Donaldson et al., 2016; Fowler & Boylan, 2010; Morehead & Johnson, 1964; Nadler & Nadler, 1999; Raskin, 1979; Rossman, 1967; Thomas, 2017) have highlighted the need to examine the influence of different methods of academic advising on FYFT community college student achievement. Indeed, only two studies (McFarlane, 2013; Young-Jones et al., 2013) focused on examining differences in FYFT community college students' achievement and the academic advising methods the students experienced while controlling for HSGPA. These studies are different from the current study. McFarlane (2013) focused on advising structures, while Young-Jones et al. (2013) focused on student needs. In contrast, the current study determined differences in academic achievement based on academic advising method, and the strength of those differences.

Research has shown academic advising programs promote student success (Habley & McClanahan, 2004; McClenney & Waiwaiole, 2005; Ruffalo Noel Levitz, 2006). Academic advising also plays a pivotal role in students' educational experiences (Allen et al., 2013; Atherton, 2014; Crocker et al., 2014; Darling, 2015; Paul & Fitzpatrick, 2015; Smith & Allen, 2014; Tinto, 2012). As such, academic advising can

create a fundamental connection between students and their education. Academic advising is thus critical for improvements in retention and GPA (Crockett, 1978; Habley, 1981; Pascarella & Terenzini, 1978; Tinto, 2000; Wilder, 1981).

In contrast, some researchers have found academic advising does not improve retention and GPA significantly (Aitken, 1982; Bean, 1980). Further, no studies have shown the differences in academic achievement based on academic advising, and the strength of those differences. The current study adds to the body of literature and helps to fill this gap. With this additional information, institutions may more effectively utilize academic advising to enhance the chance of FYFT community college student success.

In Chapter 3, I detail the design of the study and explain more fully the study variables and procedures. I explain the study methodology used to examine differences in FYFT community college students' achievement and the academic advising method the students experienced while controlling for HSGPA at an urban community college in the northeast region of the United States.

Chapter 3: Research Method

Introduction

The purpose of this quantitative study was to determine if there was a difference in the academic achievement of FYFT community college students based on having received one semester of any of four different advising methods (prescriptive, developmental, intrusive, proactive) while controlling for HSGPA. To accomplish this, I examined the records of 1,948 FYFT students at an urban community college in the northeastern region of the United States enrolled in the Fall 2016 semester (archived data) to determine the strength and effect of the IV (prescriptive, developmental, intrusive, or proactive academic advising methods) on the DV (FYFT community college student achievement) while controlling for the CV (HSGPA). In this chapter, I define the study variables and describe the research design in relation to the research question. In addition, I discuss the methodology, including the population, sample size, sampling procedures, data collection, participation, and recruitment procedures. A review of the procedures and permissions required to gain access to the data (see Appendix C) as well the instrumentation, operational constructs, and use of study variables follows. Finally, after providing the data analysis procedures and identifying the software and statistical tests used and how they were interpreted, I review potential threats to validity and ethical concerns. I conclude with a summary of the methodology.

Research Design and Rationale

I used a quantitative methodology in the current study, which was designed to determine differences in academic achievement (DV) based on academic advising

method (IV), and the strength of those differences while controlling for HSGPA (CV). The grades earned during the Fall 2016 semester were essential indicators of students' achievement and potential to persist, influencing students' beliefs in their academic ability. I chose to use a quantitative study design because it also allowed me to examine and describe the cause-and-effect relationships between the two variables, academic advising methods and student achievement (Creswell, 2003).

The decision to use an ANCOVA and archived data to detect main and interactive effects between academic advising methods and student achievement was intentional. Using a quantitative methodology allowed me to quantify the archived data without having to interact with study participants (Aron & Aron, 2003). This decision also minimized the data collection timeframe for the current study, reducing time constraints and keeping resources at a minimum compared to conducting a qualitative study, which would have taken longer to gather data and required a much more stringent Institutional Review Board (IRB) review, especially if involving human subjects. The current study's design did not require the use of human subjects and was consistent with research goals to advance knowledge in the area of academic advising and improving student achievement (McFarlane, 2013; Young-Jones et al., 2013).

The research question was answered using archived data that already exist. With archival data, there was no need to collect data from subjects. In contrast, a qualitative design choice would have involved the use of interviews or observational data, which is characteristic of many qualitative methodologies (Aron & Aron, 2003). A main difference between a quantitative and qualitative methodology is that a quantitative

methodology usually tests a theory. Therefore, a qualitative design would not have been appropriate for the current study. Showing differences in academic achievement (DV) based on academic advising method (IV), and the strength of those differences while controlling for HSGPA (CV), as defined in the previous chapters, may influence community colleges as well as the advising profession. The findings advance knowledge in this area by adding to the existing literature on academic advising. With this additional information, institutions may more effectively use academic advising to enhance the chances of FYFT community college student success.

Methodology

Population

I analyzed archived data from a cohort of 1,948 FYFT students enrolled at an urban community college in the northeastern region of the United States. Founded in 1946, the college enrolls approximately 13,000 full- and part-time college credit students. I examined the archived data of FYFT students who received various methods of academic advising (prescriptive, developmental, intrusive, or proactive) offered by the college's full-time and part-time advisors. For the current study, a student who enrolled in 12 or more credit hours was taking a full-time credit load.

Sample and Sampling Procedures

The sample was drawn from the archived dataset and included groups of students who were advised using one of the four methods of academic advising (prescriptive, developmental, intrusive, or proactive). Students were identified and selected based on the model of advising that the students experienced, characteristic of the students'

program affiliation or assigned advising group as reflected in the archived data. Part-time, transfer, and nondegree students were removed from the sample. A more detailed description of the selection process can be found below in the section on procedures for obtaining and using archived data.

Sample Size Calculation

Using the sample population size of 1,948 students and the Survey System sample size calculator, a power analysis was conducted, which determined that I needed a sample size of 325 students to obtain statistical power (Creative Research Systems, n.d.). Statistical power is the likelihood or probability of achieving statistical significance, a probability value less than 0.05 ($p < 0.05$), given a specific sample size and effect size (Cohen, 1988). A good sample size is obtained when there is an 80% chance or greater of achieving statistical significance (Warner, 2013). I used a confidence level of 95%, which has a corresponding significance level of 0.05 or 5% (Cohen, 1988).

Procedures for Obtaining and Using Archived Data

I began collecting data after approval was obtained from appropriate authorities, including Walden University's IRB and the research site's IRB. I examined the archived records of students who were advised by the college's full-time and part-time advisors during the Fall 2016 semester. The data contained in the college's archived dataset consisted of the demographic and academic records obtained during the semester for enrolled students. Using the college's archived data also allowed me to review and analyze the strength and effect of each advising method on FYFT community college student achievement. There are inherent advantages and disadvantages of primary and

secondary (archived) data. Using archived data saves time and money because you can expedite the data collection phase provided that the dataset is readily accessible. There are also fewer risks and ethical concerns, especially when the topic involves a vulnerable population or sensitive topic (Warner, 2013).

Using archived data is the most ethical way to conduct a study, even when using students or any other vulnerable group (Walden University's Research Ethics FAQs for Educational Settings, n.d.). To avoid risks, I asked the college to remove all identifiers from the dataset, which was a satisfactory way to manage vulnerable individuals (Walden University's Research Ethics FAQs for Educational Settings, n.d.). Depending on the source of the archived data, the quality, availability, and amount of desired data may be good or bad. Other challenges include finding the right dataset that aligns with the research question, as not all existing datasets are easily accessible. I used the college's archived data, so finding the right dataset was not a concern. However, missing information from the dataset was a concern, as was the complexity of obtaining the dataset from the college (i.e., completing the IRB process, identifying a liaison to assist with the data, obtaining the dataset in a timely fashion, and understanding the data once they were received). Fortunately, the archived data did not have any missing information, so no data needed to be reconciled. Notably, the original purpose for collecting the primary data and the data's intended use were different from the current study's design and may have required recoding. Recoding data is substituting variable values with values that are more useful. In determining the procedures used to select, access, and analyze the archived data, I took these considerations into account (Warner, 2013).

Procedures for requesting access to the research site's archived data. According to research site's website, there is a two-step process that those who wish to conduct research at the institution must follow. The first step is to submit a written proposal to the college's Research Review Committee (RRC) and then receive subsequent approval by the IRB. The goal of the IRB is to ensure that the rights and welfare of human subjects are protected. The RRC is composed of the vice president for academic affairs, the vice president for student affairs, and the dean of institutional research and planning. This committee might have included other members of the college network if my proposal had warranted additional committee members' expertise. No research can be conducted at the college without the approval of the college's RRC and IRB.

Proposal submission deadlines. Proposals for research at the research site during the summer or fall terms must be submitted by March 30, and proposals for research to be conducted during the spring term must be submitted by October 30. It was critical for me to submit my request by March 30 in order to finish my study in the designated timeframe. My proposal and corresponding documentation were submitted to the research site via the provided web link. I used the following steps to ensure that I secured, analyzed, and used the college's archived data appropriately:

1. I sent formal communication to research site's RRC for subsequent review by the IRB, requesting access to the institution's archived data and data definitions.

2. After approval from the college's RRC and IRB, I carefully reviewed the documentation or study design for the original data, detailing all procedures for recruitment, participation, and data collection associated with the main study.
3. I created a new table of data definitions linking the archived data elements with the data elements of the current study.
4. I created an exception table for missing or unusable data.
5. I articulated a detailed procedure for analyzing the archived data.

Based on the current study's research question, the data analysis procedures included the identification of the statistical analysis strategy, sampling strategy, variable usage (dependent and independent), interpretation guidelines, and a description of the software package used to analyze the data.

Contents of my written proposal. I submitted my proposal to the research site's RRC on February 13, 2018, with a follow-up email and telephone call to the RRC's chairperson on March 22, 2018. My proposal included the study purpose, methodology, timeframe, presentation format and intended audience, risks for human subjects, space needs, and data needs. The proposal also included a copy of the research site's IRB Human Subjects Form, identification of any space provided by the host institution, and affirmation of my acceptance of the conditions of approval as noted on the college's website (see Appendix C).

Operationalization

The following is a list of the dependent and independent variables used in the current study and the operational definition of how each variable was used:

- *Academic advising method:* The method of academic advising was assigned to the archived student records as follows: Students in need of one or more developmental courses received prescriptive academic advising; students who had high SAT scores or HSGPA received developmental academic advising; students who did not need developmental coursework but did not have high SAT scores or HSGPA received intrusive academic advising; and students who were registered with the counseling office for special services received proactive academic advising. There was a separate column in the archived dataset to denote the method of academic advising that each student received.
- *GPA:* The HSGPA and FYFT CCGPA were standardized using the *descriptives* command and the *save* subcommand in Statistical Package for the Social Sciences (SPSS). This analysis step saved the *z*-scores of the DV.
- *Student achievement:* Student achievement was measured by comparing the standardized HSGPA (pretest) and FYFT CCGPA (posttest) of students who received a method of academic advising, as defined above, to determine if there was any change.

Data Analysis Plan

I analyzed the effect of using the IV (academic advising methods) on the DV (student achievement) while controlling for the CV (HSGPA). The archived data were

provided by the research site's Institutional Research Office. Academic advising methods were assigned to the archived student records as follows: students who received developmental academic advising; students who received prescriptive academic advising; students who received intrusive academic advising; and students who received proactive academic advising based on the student's academic condition. I used an ANCOVA to assess the differences in the DV (posttest) while controlling for the CV (pretest). An ANCOVA is an extended form of an ANOVA and can be used whenever an IV has more than two levels and there is a need to control for one or more interval-scaled peripheral variables (Warner, 2013). The peripheral variable was HSGPA, which was not calculated but used as a covariate. The effect of the peripheral variable was eliminated during the analysis process (Warner, 2013). The IV included four academic advising methods. I analyzed the data using the SPSS computer software program. I used descriptive statistics and other results for the independent, dependent, and covariate variables of interest to determine the extent of the difference in FYFT CCGPA among students receiving prescriptive, developmental, intrusive, or proactive methods of academic advising (Warner, 2013).

Research question and hypotheses. The following research question and hypotheses guided the current study:

RQ: What is the difference in FYFT CCGPA between students who participated in any of four different academic advising methods (prescriptive, developmental, intrusive, proactive) while controlling for HSGPA?

H_O1: There is no statistically significant difference in FYFT CCGPA between students who participated in any of four different academic advising methods while controlling for HSGPA.

H_A1: There is a statistically significant difference in FYFT CCGPA between students who participated in any of four different academic advising methods while controlling for HSGPA.

H_O2: There is no statistically significant difference in FYFT CCGPA between students who participated in a prescriptive academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

H_A2: There is a statistically significant difference in FYFT CCGPA between students who participated in a prescriptive academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

H_O3: There is no statistically significant difference in FYFT CCGPA between students who participated in a developmental academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

H_A3: There is a statistically significant difference in FYFT CCGPA between students who participated in a developmental academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

H_O4: There is no statistically significant difference in FYFT CCGPA between students who participated in an intrusive academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

H_A4: There is a statistically significant difference in FYFT CCGPA between students who participated in an intrusive academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

H_O5: There is no statistically significant difference in FYFT CCGPA between students who participated in a proactive academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

H_A5: There is a statistically significant difference in FYFT CCGPA between students who participated in a proactive academic advising method and students who participated in any of the three remaining academic advising methods while controlling for HSGPA.

With the use of an ANCOVA in the current study, if there was no difference in the FYFT CCGPA of students who experienced prescriptive, developmental, intrusive, or proactive methods of academic advising, the null hypothesis would not be rejected. An ANCOVA is a combination of an ANOVA and regression analysis. Because the ANOVA portion of the ANCOVA does not assume that the categorical predictor variable and quantitative outcome variable scores are linear, a quantitative predictor variable, HSGPA

(the CV) was added to the ANOVA to make the analysis results more useful (Warner, 2013). The desired level of confidence is set by the researcher and can be set at 90, 95, or 99%. For the current study, I used a 95% confidence level and a 4.96 interval level to calculate that a sample size of 325 students was needed to obtain statistical power. A confidence level of 95% has a corresponding significance level of 0.05 or 5%. The hypothesis test is significant when the *p*-value is less than 5%, or the confidence interval does not contain the null hypothesis value (Warner, 2013).

Threats to Validity

Internal and external validity measures are critical aspects of a quantitative study. Internal validity ensures that the principle of cause and effect closely follows the design of the experiment. Internal validity ensures statistical inferences about causal effects are valid for the population being studied. The main focus of checking for internal validity is on the causal effect of IV on the DV. Threats to internal validity should also be a concern of the researcher, who must assess such threats to mitigate any critiques regarding the study's design and identify measures of possible improvement (Warner, 2013). Instead of threats to internal validity being viewed as a treatment for outcomes, it may be viewed as an alternate explanation (Campbell & Stanley, 1966). Campbell and Stanley (1966) identified 12 threats to internal validity: history, selection, mortality, maturation, instrumentation, testing, statistical regression, placebo (nocebo) effect, contamination effect, Hawthorne effect, experimenter bias, and interaction effects. Many of these threats were mitigated because I used archived data, except for selection and experimenter bias.

Selection bias occurs during the nonrandom distribution of participants resulting in differences between the treatment and control groups (Campbell & Stanley, 1966). To avoid this potential internal threat, I double-checked the students in each group to ensure they were coded correctly. This approach relates to how I avoided experimenter bias. Experimenter bias is the conscious or unconscious effect on the outcome based on the experimenter's expectations and desires (Campbell & Stanley, 1966). To avoid this potential threat to internal and external validity, I double-checked the statistical analysis of the results, in addition to double-checking the coding of the sample data. I also refrained from interjecting my thoughts from my personal experience with academic advising, ensuring the college's story was told correctly. Finally, I asked a couple of my colleagues to read my final report to obtain critical feedback.

Campbell and Stanley (1966) identified sample bias, reactive or interaction effects of testing, the reactive effects of arrangements, multiple treatment interference, and interaction effects as the five threats to external validity. Similar to the check for internal validity, all of these threats, except for sample bias, were mitigated because I used archived data. Sample bias is an example of selection bias, which can occur during the sample selection process (Campbell & Stanley, 1966). To avoid the possibility of sample bias, I followed the same procedures of double-checking the data coding and statistical analysis of the results. I also ensured the sample was representative of the target population.

The desired level of confidence is also an important consideration in mitigating threats to validity (Warner, 2013). Similar to the current study, most researchers set the

confidence level at 95%, capturing sufficient confidence intervals that contain the true value of their corresponding parameter. This implies the confidence interval should have the desired confidence level. It is important to note the data do not determine the confidence level. Therefore, omitting variable bias may constitute a threat to internal and external validity. To avoid this potential threat, all omitted variables were included in the data. Thus, complying with these and other steps to ensure internal validity ensured external validity, allowing me to make statistical inferences about the causal effects of academic advising on student achievement for students at the college. I can then generalize the statistical inferences from the current study to other populations and settings.

Ethical Procedures

Ethical procedures contribute to the internal and external validity measures of a quantitative study. Ethics are the principles of conduct governing an individual or a group (Ethics, n.d.). Ethical procedures serve as the foundation for researchers to conduct meaningful studies. According to Best and Kahn (2006), there is unprecedented scrutiny regarding the ethical behavior of individual researchers. This is especially a concern with research that involves human subjects. College IRB seek to protect the rights and welfare of human subjects, and every researcher must ensure the ethical procedures used in a study are designed to protect the participants in an investigation. According to the ethical standards of the American Educational Research Association, researchers must respect the rights of their research populations and the integrity of the institutions where the research occurs (Strike, Anderson, Curren, Robertson, & Pritchard, 2002).

In the current study, I ensured the ethical procedures were followed even though archived (secondary) data were used. Researchers have a moral obligation to obtain appropriate consent from study participants (Ethical Standards, 2012). Before accepting a participant's consent, researchers must provide detailed information about the study's purpose and methods, making sure every participant fully understands the risks and demands associated with the study. This also includes ensuring no harm or danger comes to the participants and unnecessary invasion of privacy is avoided at all costs. As a part of the formal procedure, I obtained permission from Walden University's IRB to conduct the research, submitted a written proposal to the research site's RRC and, upon approval, obtained permission from the research site's IRB to conduct research at the institution. I subsequently received a letter of approval to research at the institution from the chair of research site's IRB (see Appendix C).

Reviewing Primary Investigator Procedures

Before conducting the research, I reviewed the procedures used by the primary investigator/collector of the archived data to determine if appropriate ethical procedures were followed. While I had no control over the procedures used by the primary investigator, reviewing them allowed me to address any concerns and discuss how they were addressed in the current study. This includes data access and storage procedures, dissemination protocols, and disposal techniques upon the conclusion of the current study. I received the archived data request via electronic transmission. All identifying information from the data file was removed before it was sent to my email address. The archived dataset was stored anonymously on a password-protected computer. Only I had

access to the archived dataset and retained the dataset based on Walden University IRB guidelines. These steps ensured I was aware of each institution's requirements for following appropriate ethical standards.

Summary

In Chapter 3, I detailed the study's research design and methodology. In sum, I employed a quantitative methodology to examine archival data from a cohort of 1,948 FYFT students who matriculated in the Fall 2016 semester at an urban community college in the northeast region of the United States and engaged in various forms of academic advising. The DV was student achievement, referring to the students' GPA. The IV was academic advising methods (prescriptive, developmental, intrusive, or proactive). The rationale for using these variables was their usefulness in determining student achievement.

During the data analysis process, I matched the archived records of students who received prescriptive, developmental, intrusive, or proactive methods of academic advising during the Fall 2016 academic advising period. The research question examined whether students' academic achievement was changed by exposure to academic advising. The conceptual framework of the current study was designed to show the differences in academic achievement based on academic advising method, and the strength of those differences. This design was consistent with research designs needed to advance knowledge in the area of academic advising as it relates to improving student achievement (i.e., McFarlane, 2013; Young-Jones et al., 2013). I also detailed potential threats to validity as well as ethical procedures and concerns relevant to the study.

Assuming the data analysis met the ethical guidelines and eliminated any threats to internal and external validity, this allowed me to make statistical inferences about the causal effects of academic advising on student achievement for students at the college.

In Chapter 4, I provide a detailed report of the findings of the current study. The report shows the extent of differences in FYFT student GPA among students receiving prescriptive, developmental, intrusive, or proactive methods of academic advising, which can be generalized across the sample population. I utilize tables and figures to illustrate the results and summarize how the findings answer the study's research question.

Chapter 4: Results

Introduction

The purpose of this quantitative study was to determine whether there was a difference in the academic achievement of FYFT community college students based on having received a semester of any of four different academic advising methods (prescriptive, developmental, intrusive, proactive) while controlling for HSGPA. One research question and five hypotheses guided this study. The research question for this study was the following: What is the difference in FYFT CCGPA between students who participated in any of four different academic advising methods (prescriptive, developmental, intrusive, proactive) while controlling for HSGPA? To answer this question, I used the first hypothesis to examine whether there was an overall statistically significant difference in FYFT CCGPA between students who participated in any of four different academic advising methods while controlling for HSGPA. I used the remaining four hypotheses to examine whether there was a statistically significant difference in FYFT CCGPA between students who participated in any of four different academic advising methods (prescriptive, developmental, intrusive, proactive) while controlling for HSGPA.

In the remainder of this chapter, I provide a general overview of the data collection process and the results of the analysis. In the Data Collection section, I provide information about the timeframe for collecting the data, discrepancies from the plan presented in Chapter 3, descriptive statistics, and univariate analysis that justified the inclusion of the covariate. I discuss the results of the analysis, including descriptive

statistics, statistical assumptions, and statistical analysis of the findings, which included an illustration of the results that pertain to this study using tables and figures. I conclude Chapter 4 with an answer to the research question, leading to the conclusions and recommendations in Chapter 5.

Data Collection

The IRB approval number for this study is 12-20-18-0066619. After receiving the approval of Walden's IRB to proceed with my final study, I obtained archived data for 1,948 FYFT community college students who were enrolled in the Fall 2016 semester from the current study's research site's IRB office. The data were transmitted electronically via email in a password-protected file. The information contained in the college's archived dataset consisted of the demographic and academic records obtained during the semester for enrolled students. To ensure that there were no discrepancies in data collection from the plan presented in Chapter 3, I carefully reviewed the documentation for the archived data, detailing all procedures for recruitment, data collection, and participation associated with the main study.

Discrepancies in the Collected Data

Several unexpected issues arose during my initial review of the archived data. Specifically, I found that 70 of the 1,948 records were for nondegree students. Of the remaining 1,878 records, 1,442 students did not have an HSGPA, which was required as input for the ANCOVA. Of the remaining 436 records, 86 students had a 0.00 FYFT CCGPA recorded in the Fall 2016 semester, which was also required as input for the ANCOVA, leaving 350 student records for analysis. For the current study, I used a 95%

confidence level and a 4.96 interval level to calculate that a sample size of 325 students would be needed to obtain statistical power. Thus, the 350 student records were sufficient for the sample size in the current study. Based on the current study's research question, I used the data preparation procedures detailed in the next few paragraphs to maintain the integrity of the statistical analysis strategy, sampling strategy, variable usage (dependent and independent), interpretation guidelines, and software package used to analyze the archived data.

Data Preparation

Based on the guidelines of the operationalization section of Chapter 3, I assigned the method of academic advising to the archived student records as follows: Students in need of one or more developmental courses were assigned to the prescriptive academic advising group; students who had high SAT scores or high school averages were assigned to the developmental academic advising group; students who did not need developmental coursework but did not have high SAT scores or high school averages were assigned to the intrusive academic advising group; and students who were registered with the counseling office for special services were assigned to the proactive academic advising group.

Data Conversion

Using the *import data* command in SPSS, I converted the modified MS Excel file containing the 350 student records into an SPSS data file. Because the HSGPA and FYFT CCGPA were reported in the dataset using different scales of measure, both were standardized using the *descriptives* command, and the *save* subcommand in SPSS. This

analysis step saved the *z*-scores of the dependent and covariate variables in the SPSS data file for future use. The newly created SPSS dataset was now ready for analysis.

Data Modification

The current study was designed to compare four groups of advising methods (prescriptive, developmental, intrusive, proactive). However, the descriptive analysis showed that there was only one participant in the intrusive group. Therefore, this participant was dropped from the study, and only the remaining three groups were compared during the analysis phase. This change is reflected in the results section and the remainder of Chapters 4 and 5. Thus, the HSGPA and the FYFT CCGPA were standardized again based on the new sample size (n = 349).

Sample Descriptive Statistics

The tables below reflect the baseline descriptive characteristics of the sample. All of the records in the sample were accounted for, so there are no missing data in the tables. Descriptive statistics indicated that approximately 54% of the sample population received developmental academic advising, 36% received prescriptive academic advising, and 10% received proactive academic advising, as shown in Table 2.

Table 2

Academic Advising Method

	Frequency	Percent	Valid percent	Cumulative percent
Developmental	190	54.4	54.4	54.4
Prescriptive	124	35.5	35.5	90.0
Proactive	35	10.0	10.0	100.0
Total	349	100.0	100.0	

The details of the FYFT CCGPA referring to the average of the student's final grades accumulated during the Fall 2016 semester are shown in Table 3. Students' FYFT CCGPA is a measure of their academic achievement, based on the average of all grades that they received during the semester. The college used a 4-point scale in the calculation of students' FYFT CCGPA (i.e., 4.00 = A, 3.00 = B, 2.00 = C, 1.00 = D, 0.00 = F). The FYFT CCGPA was reported with two decimal points to allow for gradation within the scale (e.g., 2.74). The FYFT CCGPA ranges shown in Table 3 reflect students' academic achievement after receiving academic advising.

There were 349 students in the sample population, as shown in Table 2 and Table 3. Approximately 8.6% of the sample population (30 students) earned an FYFT CCGPA of 1.00 or below, 13.7% (48 students) earned an FYFT CCGPA between 1.01 and 2.00, 38.4% (134 students) earned an FYFT CCGPA between 2.01 and 3.00, and 39.3% (137 students) earned an FYFT CCGPA between 3.01 and 4.00, as shown in Table 3. Thus, 77.7% of the sample population (271 students) earned an FYFT CCGPA above 2.0.

Approximately 4.2% of the sample population who received developmental academic advising (eight students) earned an FYFT CCGPA of 1.00 or below, 9.5% (18 students) earned an FYFT CCGPA between 1.01 and 2.00, 40.0% (76 students) earned an FYFT CCGPA between 2.01 and 3.00, and 46.3% (88 students) earned an FYFT CCGPA between 3.01 and 4.00, also shown in Table 3. Thus, 86.3% of the sample population who received developmental academic advising (164 students) earned an FYFT CCGPA above 2.0.

Approximately 15.3% of the sample population who received prescriptive academic advising (19 students) earned an FYFT CCGPA of 1.00 or below, 21.0% (26 students) earned an FYFT CCGPA between 1.01 and 2.00, 33.9% (42 students) earned an FYFT CCGPA between 2.01 and 3.00, and 29.8% (37 students) earned an FYFT CCGPA between 3.01 and 4.00, also shown in Table 3. Thus, 63.7% of the sample population who received prescriptive academic advising (79 students) earned an FYFT CCGPA above 2.0.

Approximately 8.6% of the sample population who received proactive academic advising (three students) earned an FYFT CCGPA of 1.00 or below, 11.4% (four students) earned an FYFT CCGPA between 1.01 and 2.00, 45.7% (16 students) earned an FYFT CCGPA between 2.01 and 3.00, and 34.3% (12 students) earned an FYFT CCGPA between 3.01 and 4.00, also shown in Table 3. Thus, 80.0% of the sample population who received proactive academic advising (28 students) earned an FYFT CCGPA above 2.0.

Comparatively, the developmental academic advising method yielded the highest percentage of students (86.3%) who earned an FYFT CCGPA above 2.0. The proactive academic advising method yielded the next highest percentage of students (80.0%) who earned an FYFT CCGPA above 2.0, and the prescriptive academic advising method had the lowest percentage of students (63.7%) who earned an FYFT CCGPA above 2.0.

The findings from my study showed that developmental academic advising was the most effective method to use for FYFT community college students. Of the three remaining advising methods studied, prescriptive academic advising was found to be the

least effective. As mentioned earlier, only one student was categorized as receiving intrusive academic advising, and was, therefore, dropped from the study. In Chapter 5, I recommend that this method of academic advising is also studied. Finding from my study also showed that the assignment of an academic advising method was a less essential factor in determining student achievement as compared to the student's level of academic preparedness (i.e., developmental course needs or HSGPA).

Table 3

Fall 2016 Term GPA Distribution (After Academic Advising)

	Developmental	Prescriptive	Proactive	Total	Cumulative percent
GPA range = 0.00-1.00	8	19	3	30	8.6
GPA range = 1.01-2.00	18	26	4	48	13.7
GPA range = 2.01-3.00	76	42	16	134	38.4
GPA range = 3.01-4.00	88	37	12	137	39.3
Total	190	124	35	349	100.0

The Minimum (0.33), Maximum (4.00), Mean (2.74) FYFT CCGPAs, and the standard deviation (0.87) for enrolled students are shown in Table 4. In addition, the details of the Zscore (Fall16_TermGPA) referring to the standardized average of the student's final grades accumulated during the Fall 2016 semester, which was calculated using the *descriptives* and *save* commands in SPSS, are shown in Table 4. The Zscore (Fall16_TermGPA) was reported with a scale of negative and positive values with two decimal points to allow for gradation within the scale (e.g., -2.76, 1.44). The Minimum (-2.76), Maximum (1.44), Mean (0.00) standardized FYFT CCGPAs, and the standard deviation (1.00) for enrolled students are also shown in Table 4. Similarly, the Minimum

(-2.93), Maximum (2.49), Mean (0.00) standardized HSGPAs, and the standard deviation (1.00) for enrolled students are shown in Table 4.

The ANCOVA used the standardized FYFT CCGPA and HSGPA during data analysis, as discussed in the next paragraph. This procedure is an integral part of the ANCOVA analysis; because the standard score (*z*-score) produces the raw score of the FYFT CCGPA and HSGPA, which are based on different measurement scales. The main disadvantage is the assumption that the data are normally distributed, which is only problematic if the data are skewed (Warner, 2013).

Table 4

Fall16_TermGPA and z-Scores

	N	Minimum	Maximum	Mean	Std. deviation
Fall16_TermGPA	349	0.33	4.00	2.74	0.87
Zscore(Fall16_TermGPA)	349	-2.76	1.44	0.000	1.00
Zscore(HighSchoolGPA)	349	-2.93	2.49	0.000	1.00
Valid *N* (listwise)	349				

ANCOVA Assumption Testing and Data Analysis

Ten assumptions must be considered in order to use a one-way ANCOVA, according to the Laerd Statistics data analysis tool (Laerd Statistics, 2019). The design of the current study met the first four assumptions of having a continuous DV, a categorical IV with two or more groups that are independent of each other, a CV, and independence of observations. The remaining six assumptions (linearity, homogeneity of regression slopes, normality of within-groups residuals, testing for homoscedasticity, homogeneity of variances, & outliers) were examined using SPSS Statistics to determine the appropriateness for using an ANCOVA and are discussed in subsequent sections of this

chapter. The current study deployed an ANCOVA with standardized FYFT CCGPA as the DV, academic advising as the IV, and standardized HSGPA as the CV.

Testing for Linearity

It was assumed that the standardized HSGPA (CV) and the standardized FYFT CCGPA (DV) were linearly related to all three levels of academic advising (IV). The scatterplot shown in Figure 1 was used to visually examine whether or not this assumption was met, which means that there must be a linear relationship between 'ZHighSchoolGPA' (HSGPA) and 'ZFall16_TermGPA' (FYFT CCGPA) at all three levels of academic advising. Based on the visual inspection of the Figure 1 scatterplot, I found that there was a linear relationship (straight line) between 'ZHighSchoolGPA' (Pre) and 'ZFall16_TermGPA' (Post) for the developmental, prescriptive, and proactive academic advising methods (*R2 Linear* = 0.103, 0.025, & 0.079 respectively). Therefore, the assumption of linearity was met.

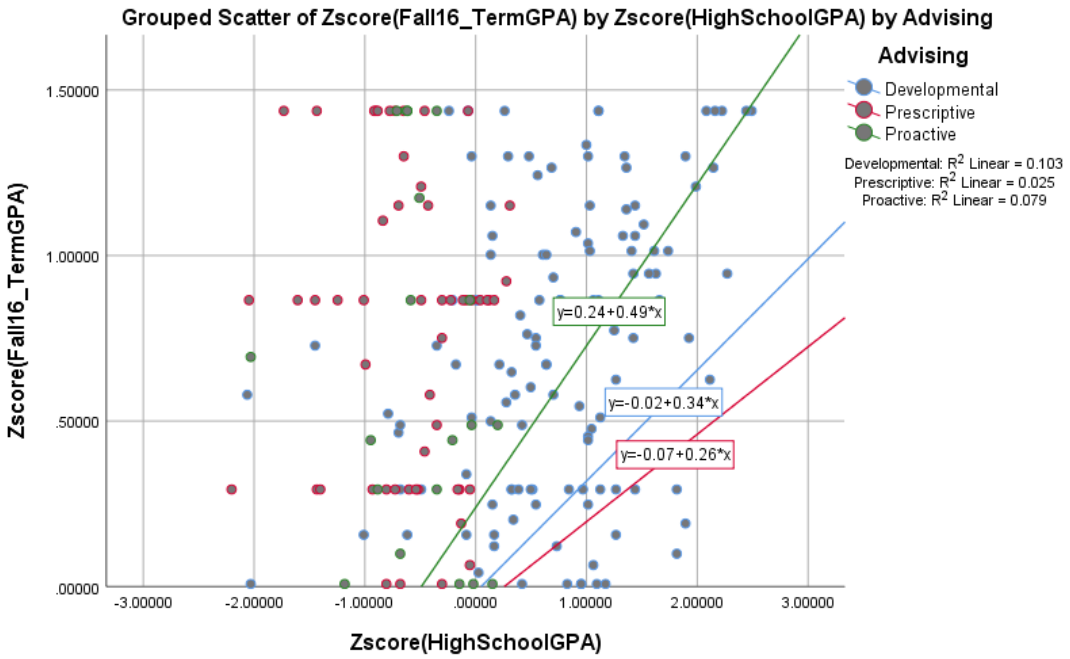


Figure 1. Scatterplot showing the linearity of each advising group.

Testing for Homogeneity of Regression Slopes

The assumption for homogeneity of regression slopes test examines the interaction between HSGPA (CV) and academic advising (IV). In order to meet this assumption, the regression lines above must be parallel, and there must not be any interaction between HSGPA (CV) and academic advising (IV), according to Laerd Statistics (2019). To determine if there was homogeneity of regression slopes, the interaction between the CV and IV must not be statistically significant ($p > .05$). After examining the Advising * ZHighSchoolGPA interaction shown in Table 5, I found that there was no statistically significant interaction between 'ZHighSchoolGPA' and 'Advising' ($F_{(2, 343)} = .29$, *ns*), $p = .750$, which means that there was homogeneity of regression slopes as the interaction term was not statistically significant, thus meeting this assumption. This finding also suggests that the linear relationship shown in the scatterplot

above does not significantly differ between ‘Advising’ groups (Table 5). All other output was ignored because the data were not relevant for determining whether the homogeneity of regression slopes assumption was met.

Table 5

Testing Interaction Between Standardized HSGPA and Academic Advising Methods

Source	Type III sum of squares	*df*	Mean square	*F*	Sig.
Corrected model	36.7[a]	5	7.35	8.09	.000
Intercept	0.28	1	0.26	0.30	.582
Advising	1.22	2	0.61	0.67	.512
ZHighSchoolGPA	10.5	1	10.5	11.6	.001
Advising * ZHighSchoolGPA	0.52	2	0.26	0.29	.750
Error	311	343	0.91		
Total	348	349			
Corrected total	348	348			

Testing for Normality

The Shapiro Wilk test was used to examine the normal distribution of each method of academic advising, the independent variable (Laerd Statistics, 2019). The significance values for the developmental, prescriptive, and proactive academic advising groups were less than .05 (.000, .000, .042) respectively, as shown in Table 6. As assessed by Shapiro-Wilk’s test ($p > .05$), the standardized residuals, (ZRE_1), were not normally distributed, which violated the assumption of normality of within-group residuals.

Table 6

Tests of Normality

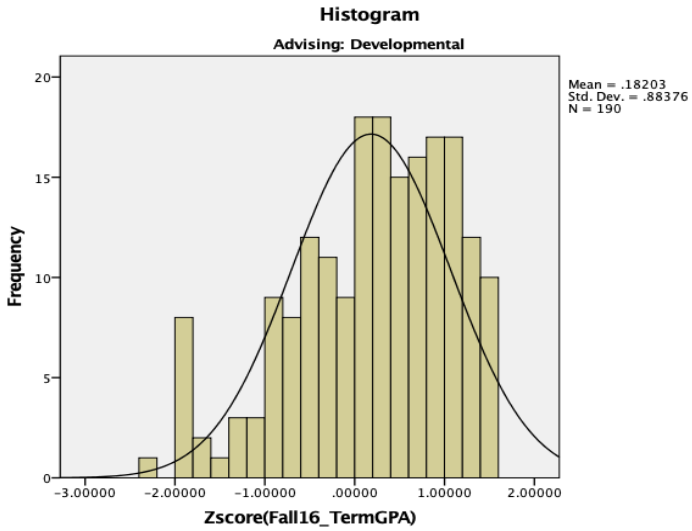
	Academic advising	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	*df*	Sig.	Statistic	*df*	Sig.
Zscore(Fall16 _TermGPA)	Developmental	0.082	190	.004	0.95	190	.000
	Prescriptive	0.10	124	.002	0.95	124	.000
	Proactive	0.10	35	.200*	0.94	35	.042

*This value is a lower bound of the true significance.
[a]Lilliefors significance correction.

According to Laerd Statistics (2019), deviation from normality has to be severe to require data to be transformed. Further, using nonparametric tests would have introduced additional assumption tests, and running test comparisons would have required data transformation. Therefore, I decided to continue moving forward with the analysis. Additionally, nonnormality does not substantially affect the Type I error rate; thus, the one-way ANCOVA would still be considered robust, according to Laerd Statistics. However, it is important to note that the variation in the sample size of each advising group (developmental, prescriptive, proactive) could be problematic and is a threat to validity, according to Laerd Statistics. The same is true for differences in the skewness of each advising group. Skewness and kurtosis are discussed further in the next paragraph.

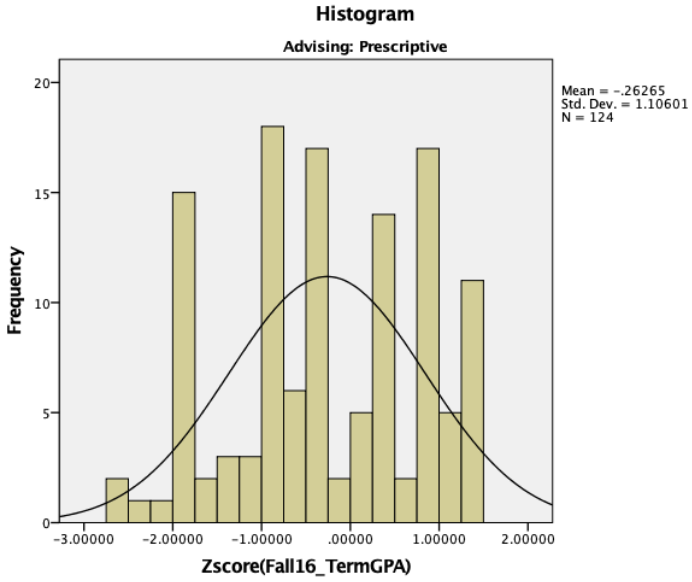
The histogram of each academic advising group (Figures 2-4) indicates the amount of skewness and kurtosis for ZFall16_TermGPA. A histogram details the distribution of numerical data and will be examined visually (Warner, 2013). According to Warner, the skewness and excess kurtosis must be equal to zero for the data to be considered perfectly normal and symmetrically distributed. The skewness is -.73, -.24, -

.79 and the kurtosis is .04, -.90, .99 respectively for each academic advising group (developmental, prescriptive, proactive) are represented in Figures 2-4. The negative skewness is represented by a longer tail on the lower end of the distribution, according to Warner. Kurtosis for normally distributed data is equal to three. According to Warner, a positive score for excess kurtosis (Figure 2 & 4) is considered to be leptokurtic, and a negative score for excess kurtosis (Figure 3) is considered to be platykurtic as compared to the normally distributed curve. According to Laerd Statistics (2019), if the group size is small, platykurtosis can have a profound effect, but in this example, the sample size for the prescriptive advising group (n = 124) was not considered to be small.



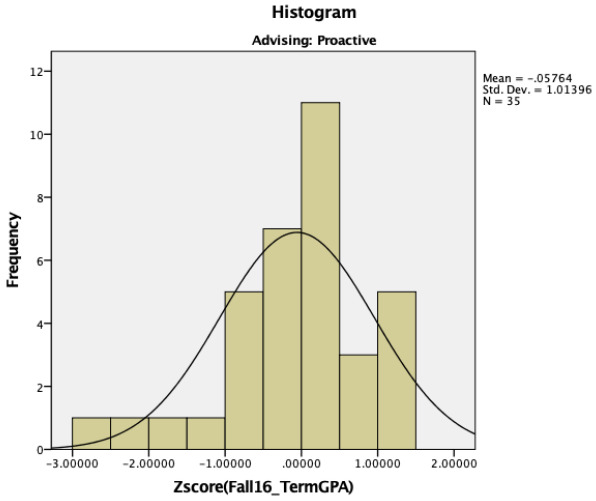
Skewness = -.73, Kurtosis = .04

Figure 2. Histogram showing the skewness and kurtosis for developmental academic advising.



Skewness = -.24, Kurtosis = -.90

Figure 3. Histogram showing the skewness and kurtosis for prescriptive academic advising.



Skewness = -.79, Kurtosis = .99

Figure 4. Histogram showing the skewness and kurtosis for proactive academic advising.

Testing for Homoscedasticity

The test for homoscedasticity, an important assumption of a one-way ANCOVA, examines the error of variances in each advising group and determines if the error of variances was equal between groups (Laerd Statistics, 2019). I used the *chart builder* command in SPSS and created a simple scatter of the standardized residuals, (ZRE_1), against the predicted values, (PRE_1), grouped by the independent variable categories (Figure 5). The errors of prediction (standardized residuals) must be equally distributed amongst the predicted values in order to meet the assumption of homoscedasticity, according to Laerd Statistics. While the scatterplot for the developmental and prescriptive groups reflected homoscedasticity, as assessed by visual inspection of the standardized residuals plotted against the predicted values, there was not a clear linear relationship between 'ZHighSchoolGPA' and 'ZFall16_TermGPA' in the proactive group. Thus, the assumption of homoscedasticity was not met (Figure 5).

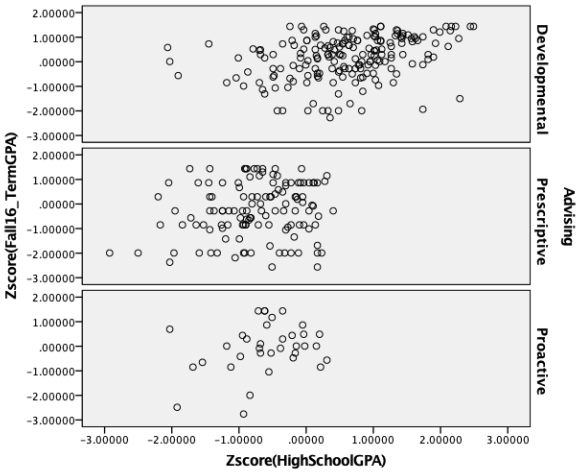


Figure 5. Zscore scatterplot for Fall 2016 term GPA showing the error of variances (homoscedasticity) in each advising group.

Testing for Homogeneity

The homogeneity of variances test examines the variance of residuals. Equal variances were not assumed for this test. In order to meet this assumption, the variance of residuals must be equal for all ‘Advising' groups. Levene’s test of equality of error variances was used to assess this assumption (Laerd Statistics, 2019). Levene’s test examines whether the variances of each advising group are approximately equal. In order to reflect equality of variances, the results must not be statistically significant (i.e., $p >$ .05). Levene’s test of equality of error variances revealed that the variance of ‘ZFall16_TermGPA’ varied significantly between ‘Advising’ groups ($F_{(2, 346)} = 6.29$, $p =$ .002), which violated the homogeneity of variance assumption. Therefore, the null hypothesis of the variance of residuals being equal for all ‘Advising' groups was rejected as reflected in the results of the Levene’s test shown in Table 7. The violation of the homogeneity of variance assumption as well as the small and uneven size of the sample are threats to validity.

Table 7

Levene's Test of Equality of Error Variances

F	df1	df2	Sig.
6.29	2	346	.002

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups. Dependent variable: Zscore(Fall16_TermGPA).

Testing for Outliers

According to Laerd Statistics (2019), any ‘ZRE_1’ score that is greater than or less than three standard deviations is considered an outlier. This examination was

accomplished by sorting the ‘ZRE_1’ scores within the data view window. In examining the ‘ZRE_1’ scores, I found that there was one outlier in the developmental and two outliers in the proactive groups respectively (Figure 6), but they were kept in the dataset because removal of the outliers did not improve the results of the Levene’s test. Further, the relationship between the standardized HSGPA (CV) and the standardized FYFT CCGPA (DV) became less linear. Moreover, the proactive academic advising group was small, so the removal of the two outliers would have made it smaller, thus compromising the ability to meet one or more of the assumptions (Figure 6).

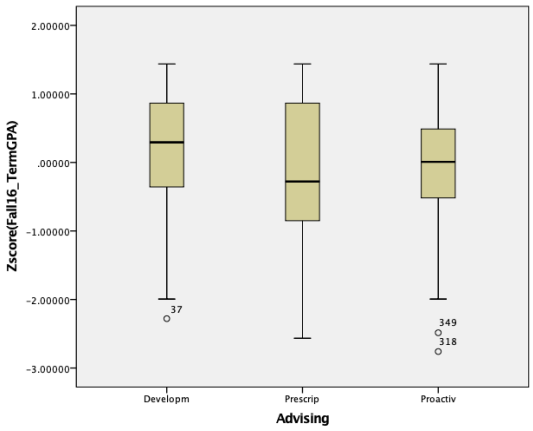


Figure 6. Diagram showing the outliers for Fall 2016 term GPA in each advising group.

Data Transformation

According to Laerd Statistics (2019), the transformation of data is one of the four ways to deal with a violation of normality. Using a nonparametric test, carrying on with the analysis regardless, and running test comparisons, are the other three ways to deal with a violation of normality. According to Laerd Statistics, deviation from normality has to be severe to require data to be transformed; however, using nonparametric tests would have introduced additional assumption tests, and running test comparisons would have

required data transformation regardless. Therefore, in an attempt to remedy the violation of normality and some of the other violations resulting from the assumption tests, ‘Fall16_TermGPA’ was transformed using a log transformation. The new variable (‘logGPA’) was then standardized (‘ZlogGPA’). However, this transformation:

1. Caused the skewness to increase in all three groups of ‘Advising’
2. Created more outliers in each ‘Advising’ group
3. Increased the kurtosis in the Proactive group to the extent that it was no longer considered a normal distribution
4. Did not improve the linear relationship between ‘ZHighSchoolGPA’ and ‘ZFall16_TermGPA’ in any group of ‘Advising’
5. Did not remedy the violation of homogeneity of variance assumption

Thus, the analysis was conducted using the original (not log-transformed) ‘ZFall16_TermGPA’ as the DV. The results of the analysis are described in the next section.

Study Results

My preliminary review of the archived data used in the current study revealed that 70 of the 1,948 records were nondegree students. Upon further review, I found that 1,442 of the remaining 1,878 students did not have an HSGPA, thus eliminating 1,512 students from the sample population because they did not meet the requirements to be used as input in the ANCOVA. A closer examination of the remaining 436 students revealed that 86 students had a 0.00 FYFT CCGPA recorded in the Fall 2016 semester, and there was only one student in the intrusive advising group. These student records were also

eliminated from the study because they did not meet the requirements to be used as input in the ANCOVA. Therefore, only 349 student records were used.

During assumption testing, I found that the initial four assumptions of having a continuous DV, a categorical IV with two or more groups that are independent of each other, a CV, and independence of observations were all met. During the testing of the remaining six assumptions that were examined using SPSS Statistics, I found that there was a linear relationship between the standardized HSGPA and standardized FYFT CCGPA for the developmental, prescriptive, and proactive academic advising methods (*R2 Linear* = 0.103, 0.025, & 0.079 respectively). In addition, I found that there was no significant interaction between the standardized HSGPA and academic advising ($F_{(2, 343)}$ = .29, *ns*), p = .750, which means that there was homogeneity of regression slopes meeting this assumption. Further, while examining the 'ZRE_1' scores, I found that there was one outlier in the developmental and two outliers in the proactive groups, respectively. The remaining three assumptions were not met as detailed in the next paragraph.

In testing for normality, I found that the standardized residuals, (ZRE_1), were not normally distributed, which violated the assumption of normality of within-group residuals. The assumption of homoscedasticity was not met because there was not a clear linear relationship between standardized HSGPA and the standardized FYFT CCGPA in the proactive group. Finally, the homogeneity of variance assumption was not met because the Levene's test of equality of error variances revealed that the variance of

standardized FYFT CCGPA varied significantly between academic advising groups ($F_{(2, 346)} = 6.29$, $p = .002$).

The frequencies and descriptions of the data used during the analysis are shown in Table 8. The overall range for the standardized FYFT CCGPA ('ZFall16_TermGPA') was -2.76 – 1.44 (*M* = 0.000, *SD* = 1.00) as indicated in Table 8. The range for the developmental advising group was -2.28 – 1.44 (*M* = 0.18, *SD* = 0.88). The range for the prescriptive advising group was -2.56 – 1.44 (*M* = -0.26, *SD* = 1.11). The range for the proactive advising group was -2.76 – 1.44 (*M* = -0.06, *SD* = 1.01). The overall range for the standardized HSGPA ('ZHighSchoolGPA') was -2.93 – 2.49 *M* = 0.000, *SD* = 1.00). This information was used later in the chapter to report the results of the hypotheses tests for the academic advising methods (developmental, prescriptive, proactive).

Table 8

Frequencies and Descriptives

Variable	*N*	Range	*M(SD)*
Standardized college GPA			
Overall	349	-2.76 – 1.44	0.00(1.00)
Developmental	190	-2.28 – 1.44	.18(.88)
Prescriptive	124	-2.56 – 1.44	-.26(1.11)
Proactive	35	-2.76 – 1.44	-.06(1.01)
Overall standardized high school GPA	349	-2.93 – 2.49	0.00(1.00)

Hypothesis Testing for Academic Advising Overall

This study utilized five hypotheses to answer: What is the difference in FYFT CCGPA between students who participated in any of four different academic advising

methods (prescriptive, developmental, intrusive, proactive) while controlling for HSGPA?

The null hypothesis stated that there is no statistically significant difference in FYFT CCGPA between students who participated in any of four different academic advising methods while controlling for HSGPA.

The first alternative hypothesis stated that there is a statistically significant difference in FYFT CCGPA between students who participated in any of four different academic advising methods while controlling for HSGPA.

After removing the intrusive academic advising group because it only had one record, an ANCOVA was conducted using FYFT CCGPA as the dependent variable, advising method as the independent variable, and HSGPA as the covariate. With the use of an ANCOVA in the current study, if there were no difference in the FYFT CCGPA of students who experienced prescriptive, developmental, or proactive methods of academic advising, the null hypothesis would not be rejected.

As shown in Table 9, there was no significant effect of advising on FYFT CCGPA ($F_{(2, 345)} = .42$, *ns*). Therefore, the null hypothesis was not rejected. The lack of significant effect of the advising method in the ANCOVA was interpreted with caution because the dataset did not satisfy all the assumptions necessary for the ANCOVA. More specifically, the smaller sample size of the proactive group compared to the developmental or prescriptive group, lack of a clear linear relationship between HSGPA and FYFT CCGPA in the proactive group, and unequal variances of FYFT CCGPA

between the three advising groups made it difficult to draw a definite conclusion about the effect of academic advising on FYFT CCGPA.

After conducting additional analysis using independent-samples *t-tests* and an analysis of variances (ANOVA), I determined that the ANCOVA was still the most appropriate analytic tool to use, based on my research question, variables, and analysis design, because it yielded the results with the most statistical power. An ANCOVA combines two different cases of the generalized linear model (GLM), an ANOVA and regression analysis (Warner, 2013). In this relationship, a quantitative predictor variable is added to the ANOVA making the analysis results more useful since the ANOVA does not assume that the categorical predictor variable and quantitative outcome variable scores are linear (Warner, 2013).

Table 9

ANCOVA Examining FYFT CCGPA From Advising Method Controlling for HSGPA

Predictor	Sum of squares	*df*	Mean square	*F*	*p*	Partial η^2
Corrected model	36.2	3	12.1	13.4	.000***	.104
Intercept	0.25	1	0.25	0.28	.598	.000
High school GPA	21.2	1	21.2	23.5	.000***	.060
Advising	0.76	2	0.38	0.42	.656	.000
Error	311	345	0.90			

***$p < .001$.

Hypothesis Testing for Academic Advising Methods

Hypotheses 2-5 were designed to answer the research question: What is the difference in FYFT CCGPA between students who participated in the prescriptive,

developmental, intrusive, or proactive academic advising method, respectively while controlling for HSGPA. In each advising method, the null hypothesis stated that there would be no statistically significant difference in FYFT CCGPA and each alternative hypothesis stated that there would be a statistically significant difference in FYFT CCGPA between students who participated in the prescriptive, developmental, intrusive, proactive academic advising method, respectively while controlling for HSGPA. Since the null hypothesis of the first hypothesis test was not rejected, post hoc tests were not run during the analysis phase of the current study for the remaining four hypotheses. If post hoc tests were run, the null hypothesis for the remaining four hypotheses would not have been rejected. The descriptive statistics are previously shown in Table 8, reflecting the minimal statistical difference between each academic advising method, support the decision not to conduct further hypothesis testing. Specifically, the overall range for the standardized FYFT CCGPA ('ZFall16_TermGPA') was -2.76 – 1.44 (M = 0.000, SD = 1.00). The range for the developmental advising group was -2.28 – 1.44 (M = 0.18, SD = 0.88). The range for the prescriptive advising group was -2.56 – 1.44 (M = -0.26, SD = 1.11). The range for the proactive advising group was -2.76 – 1.44 (M = -0.06, SD = 1.01). The overall range for the standardized HSGPA ('ZHighSchoolGPA') was -2.93 – 2.49 M = 0.000, SD = 1.00).

Summary

In Chapter 4, I provided a synopsis of the data collection methods and reported the findings of the current study. The null hypothesis was not rejected based on the results shown in Table 9 revealing that there was no significant effect of advising on

FYFT CCGPA among students receiving prescriptive, developmental, or proactive methods of academic advising. Therefore, information regarding the effect of academic advising on FYFT CCGPA could not be generalized across the sample populations. The descriptive statistics and ANCOVA analysis included tables and figures to illustrate the results and a summary of how the results answered the research question used to guide the current study.

The initial four assumptions of having a continuous DV, a categorical IV with two or more groups that are independent of each other, a CV, and independence of observations were all met. Further assumption tests showed that there was a linear relationship between the standardized HSGPA and standardized FYFT CCGPA for the developmental, prescriptive, and proactive academic advising methods (*R2 Linear* = 0.103, 0.025, & 0.079 respectively). In addition, there was homogeneity of regression slopes based on the finding that there was no significant interaction between the standardized HSGPA and academic advising ($F_{(2, 343)} = .29$, *ns*), $p = .750$. The examination of the 'ZRE_1' scores revealed that there was one outlier in the developmental group and two outliers in the proactive group. However, these outliers were kept to avoid compromising the sample further.

The remaining three assumptions of normality of within-group residuals, homoscedasticity, and homogeneity of variance were not met. Specifically, the standardized residuals, (ZRE_1), were not normally distributed, there was not a clear linear relationship between standardized HSGPA and the standardized FYFT CCGPA in the proactive group, and the Levene's test of equality of error variances revealed that the

variance of standardized FYFT CCGPA varied significantly between academic advising groups ($F_{(2, 346)} = 6.29$, $p = .002$).

Before conducting any analysis, my preliminary review of the distribution of FYFT CCGPAs for students in the sample population revealed that the developmental academic advising method yielded the highest percentage of students (86.3%) who earned an FYFT CCGPA above 2.0. I also discovered that the proactive academic advising method yielded the next highest percentage of students (80.0%) who earned an FYFT CCGPA above 2.0, and the prescriptive academic advising method had the lowest percentage of students (63.7%) who earned an FYFT CCGPA above 2.0. While the data reflects that students who received developmental academic advising attained an FYFT CCGPA above 2.0 at a higher percentage than students who received proactive or prescriptive academic advising, it does not mean that the differences between the adjusted advising group means were statistically significant. The results of the ANCOVA analysis detailed in the next paragraph supported this observation.

The main finding of the current study was that there is no significant effect of advising on FYFT CCGPA ($F_{(2, 345)} = .42$, *ns*). The lack of significant effect of advising method in the ANCOVA suggests that the advising method does not have a significant effect on students' GPA in college. Since the first null hypothesis was not rejected, the remaining hypothesis tests for each advising method were not examined. In other words, the post hoc tests were not run during the analysis phase of the current study. However, descriptive statistics showed minimal differences in the range, mean, and standard deviation for the standardized FYFT CCGPA of each academic advising method but not

enough to be considered statistically significant ($p > .05$). This finding supported the decision not to reject the null hypothesis meaning that there were no statistically significant differences between the adjusted advising group means.

In Chapter 5, I will reiterate the purpose and nature of the current study. I will interpret the findings, detailing any certain or revealed limitations. I will also describe recommendations for further research that are grounded in the strengths and limitations of the current study as well as in the literature reviewed in Chapter 2. Finally, I will provide implications for positive social change, ensuring that they do not exceed the boundary of the current study, and provide a message that captures the essence of the current study.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative study was to determine whether there is a difference in the academic achievement of FYFT community college students based on having received one semester of any of four different advising methods (prescriptive, developmental, intrusive, proactive) while controlling for HSGPA. A one-way ANCOVA was used to estimate the influence of the IV (prescriptive, developmental, intrusive, or proactive academic advising methods) on the DV (student achievement) while controlling for the CV (HSGPA). The study was needed to further knowledge about the influence of academic advising methods on FYFT community college student achievement. The main finding was that there was no statistically significant difference in the FYFT CCGPA for students who received academic advising versus those who did not. The analysis in this study revealed no statistically significant improvement in students' FYFT CCGPA by any academic advising method in the first semester of enrollment. The next few sections consist of the interpretation of the findings, limitations of the study, recommendations for future research, implications for social change, and conclusions.

Interpretation of the Findings

The study's findings were interpreted with caution, as the dataset did not satisfy all of the assumptions necessary for the ANCOVA. In particular, the smaller sample size of the proactive group compared with the developmental or prescriptive group, lack of a clear linear relationship between HSGPA and FYFT CCGPA in the proactive group, and unequal variances of FYFT CCGPA between the three advising groups made it difficult

to draw a definite conclusion about the influence of academic advising on FYFT CCGPA. One research question and five hypothesis tests guided the study.

Findings and the Research Question

The first hypothesis test examined the influence of academic advising on FYFT CCGPA. Since the null hypothesis for this test was not rejected, the remaining four hypothesis tests that examined individual academic advising methods were not conducted. The interpretation of the finding of the first hypothesis test is detailed in the next paragraph.

First hypothesis test. The first hypothesis test answered the following question: What is the difference in FYFT CCGPA between students who participated in any of four different academic advising methods (prescriptive, developmental, intrusive, proactive) while controlling for HSGPA? The ANCOVA results showed that there was no significant influence of academic advising on the academic achievement of FYFT community college students. The finding is in line with studies that have shown that the influence of the academic advising experience may be limited and require multiple engagements (Wilder, 1981). Wilder (1981) found that students must engage an academic advisor multiple times to realize the benefits of academic advising. Further, studies have shown that students feel better about their advisors after participating in at least five advising services (Nadler & Nadler, 1999; Peterson et al., 2001; Wilder, 1981).

Pretest/posttest finding. The research question was designed to control for HSGPA. The ANCOVA analysis controls for the HSGPA to ensure that the academic advising method was solely responsible for any statistical difference in the FYFT

CCGPA. In this study, the pretest (HSGPA) and posttest (FYFT CCGPA) yielded the only significant relationship ($F_{(1, 345)} = 23.5$, $p < .001$.). This pretest/posttest finding suggests that HSGPA can be used as a predictor of academic achievement. Specifically, students' performance in high school (i.e., HSGPA) represents a prior accomplishment that can influence their expectation of personal efficacy. The significant relationship found between students' pretest (HSGPA) and posttest (FYFT CCGPA) in the current study's ANCOVA analysis supports this finding. Thus, students with high HSGPAs were more likely to perform well in their first semester of college enrollment. This result can be used in conjunction with placement results and other pretest indicators (i.e., SAT, ACT, & Regent scores) to better place students into remedial or developmental courses, which can influence students' self-esteem and ability to succeed. Proper academic advising of courses designed to eliminate a student's remedial deficit is critical during the first year of enrollment. The current study's pretest/posttest finding confirms the results of studies that have shown that HSGPAs are strong predictors of first-year GPAs (American College Testing Program, 2015; Cimetta et al., 2010; McGhee, 2003; McNeish et al., 2015; Westrick et al., 2015).

Findings and Social Learning Theory

The theory used in this study was Bandura's (1977b) social learning theory (SLT). According to Bandura, expectations of personal efficacy are influenced by a student's prior accomplishments (i.e., personal mastery of experiences), adherence to verbal persuasion (i.e., advice given by the academic advisor), vicarious experiences (learning from others), and physiological states (i.e., fear, anxiety, happiness). The

current study's finding is partially in line with Bandura's view of the learning process. As students engage academic advisors during the advising process, they begin to learn appropriate behaviors as they listen to the instructions of their advisor and observe their fellow students in this type of social setting. The potential for positive results is enhanced as students begin to comply with the advice given during the advisor-advisee exchange, fostering improvement in students' efficacy.

The initial Fall 2016 advising experience may not have provided enough time for FYFT students to reap the benefits of learned appropriate behavior (i.e., adherence to verbal persuasion, vicarious experiences), according to Bandura's (1977b) SLT. Given an appropriate amount of time, a trusting relationship can develop between the advisor and the student, fostering meaningful conversations that benefit the student during this period. The current study findings related to Bandura's SLT are in line with Donaldson et al.'s (2016) research results that there are benefits, limitations, and contributions attributed to academic advising related to student success. Bandura's theory also suggests that as students process advisors' acceptable behaviors, they may begin to model the behavior and start making appropriate decisions, yielding improved achievement (i.e., better grades).

Addressing the Gap

I addressed the gap in the literature by determining if there was a difference in FYFT community college student achievement in the first semester and the academic advising method that the students experienced while controlling for HSGPA. In the current study, although there was no significant relationship between academic advising

and FYFT CCGPA ($F_{(2, 345)} = .42$, *ns*), a significant relationship was found between the current study's pretest (HSGPA) and posttest (FYFT CCGPA) analysis ($F_{(1, 345)} = 23.5$, $p < .001$.), previously shown in Table 9. These findings suggest that HSGPA can be used as a predictor of academic achievement. These findings also suggest that in order to realize the benefits of academic advising, students must engage an academic advisor multiple times, which is expounded upon further in the recommendations section of this chapter.

Limitations of the Study

The nature of the archived dataset produced the main limitations of this study. While using archived data is acceptable, archival sources of data are considered secondary. Primary sources of data are collected and analyzed by the researcher. Secondary sources of data are collected and analyzed by someone else and made available for research by other people (Warner, 2013). Thus, the first limitation of using archived data was the lack of random assignment into the academic advising groups. The random assignment of students would have ensured that the academic advising experience was the cause of any differences between groups rather than a confounding variable. This limitation was addressed by using students' HSGPA as the covariate in the ANCOVA model of analysis.

The second limitation related to the archived data was the missing pieces of information (i.e., HSGPA) for the majority of the students. Although the data came from a reliable source, I had no way of knowing that the data source would be missing pieces of data that would affect my ability to meet all of the assumptions of the ANCOVA. Further, I had no control over the methodology or analytical tools used during the

collection of the archived data sources used for the current study. I exercised diligence in ensuring that the data came from an acceptable source before I used it in the current study. To further address this limitation, I examined the values of the dependent and independent variables in the SPSS data file to ensure that the values were consistent (i.e., making sure the student records contained the proper values). This examination was an essential step in the process because the main focus of checking for internal validity was on the causal effect of IV on the DV, according to Warner (2013). However, while examining the data, I discovered that 70 records were for nondegree students, 1,442 students did not have an HSGPA, and 86 students had a 0.00 FYFT CCGPA recorded in the Fall 2016 semester. Because these records did not meet the ANCOVA requirements, they were eliminated, leaving 350 student records for analysis. This sample size was sufficient to achieve statistical power but would also produce a sampling error that could affect the Type 1 error rate.

The third limitation was the inclusion of only one community college in the design of the study. Therefore, the demographics of the sample population may not be representative or generalizable to community colleges across the United States. For example, 44% of the total population of FYFT college students in this study were female and 56% were male, compared to the total college population, which is approximately 52% female and 48% male. Gender and other descriptive statistics vary across community colleges, which may affect students' academic achievement. This finding is in line with Strauss and Volkwein's (2002) findings that six individual student characteristics (gender, high school rank, student effort, classroom experiences, and the

number of hours employed) and one organizational characteristic (institutional mission) accounted for most of the difference in predicting academic achievement measured by GPA. In addition, the reduction of the sample size during the data review and ANCOVA analysis caused unevenness across the three advising groups because the assignment was based on students' placement results. While students often come to college campuses in need of developmental coursework and academic support, the placement results of students in the current study may not be representative of how students placed in developmental coursework in other community colleges across the United States. Therefore, findings from this study may not be generalized to other community college populations.

Recommendations

The results of the current study showed that there was no statistically significant difference in the academic achievement of FYFT community college students after the first semester of receiving academic advising. In the following paragraphs, I present administrative and programmatic recommendations, as well as recommendations for future research.

Administrative Recommendations

I propose three administrative recommendations based on the findings of the current study:

Required multiple advising. The developmental academic advising method yielded the highest percentage of students in good academic standing based on the preliminary review of the data. However, the ANCOVA analysis results showed that

academic advising does not influence academic achievement significantly in the first semester of enrollment. Thus, students may need to engage academic advisors continually in order to experience an enhanced self-efficacy level. This observation provides a good foundation for proposing additional research designed to determine whether there is a difference in the academic achievement of FYFT community college students based on having received a semester of any of four different advising methods (prescriptive, developmental, intrusive, proactive) while controlling for HSGPA. Therefore, community college administrators should consider requiring students to see an academic advisor every semester or at a minimum during the first year of enrollment in order to realize the benefits of academic advising. Community college administrators should also explore ways to coordinate the academic advising experience across campus to ensure consistency in messaging about academic advising. This process entails increasing collaboration and exchange of information among faculty, academic advisors, staff, and students about the merits of academic advising.

Required collection of HSGPA data. While examining the influence of HSGPA was not part of the current study's design, the information is important for college administrators to know. However, HSGPA is often not a part of the community college student's record, primarily because community colleges are open-admission institutions that do not use HSGPA for admission purposes. The pretest (HSGPA) and posttest (FYFT CCGPA) yielded the only significant relationship ($F_{(1, 345)} = 23.5$, $p < .001$.). For example, 74% of the student records in this study were missing the HSGPA, which affected this study's assumption testing and ANCOVA analysis. Academic advisors

should consider incorporating precollege performance indicators (i.e., HSGPA) into the advising conversation and not just rely on student placement information. Therefore, ensuring that the admissions office collects and records HSGPA information in the database system is crucial. It is recommended that colleges modify their admission and advising procedures to include HSGPA review as part of their protocols.

Use HSGPA and other precollege performance indicators to assist in student placement. Admission counselors can use students' HSGPA in conjunction with placement results and other pretest indicators (i.e., SAT, ACT, & Regent scores) for student placement because placement tests alone may not truly reflect students' overall academic ability. Academic advisors can incorporate HSGPA and other precollege performance indicators into the advising conversation to better place students into remedial or developmental courses, which can influence students' self-esteem and ability to succeed. Moreover, college administrators can use this information to help shape admission guidelines, placement exams, and remedial/developmental course placement.

Programmatic Recommendations

I propose the following two programmatic recommendations:

First-year program with centralized advising. Academic advising is among the available services for college students to gain an understanding of appropriate behavior in becoming a successful college student. In order for students to learn appropriate behavior, they must be able to observe, extract relevant information from their observations, and review their behavioral performance to make an informed decision, according to Bandura (1977b). In the findings of a study conducted by Kot (2014), first-year students at a large

metropolitan public research university who experienced centralized academic advising realized an increase in their first-term, second-term, and cumulative GPA compared to students who were not advised. In the findings of another study conducted by Fowler and Boylan (2010), students who were seriously academically deficient and participated in the Pathways to Success Program realized a positive difference in their GPAs compared to students who did not participate in the program. Therefore, it is also recommended that community colleges explore the creation of a first-year program designed to provide centralized academic advising in their first term and second term.

Mandated first-year academic advising. Given the nonsignificant findings of the current study and my administrative recommendations designed to enhance academic advising opportunities for FYFT community college students, the development of a first-year program could potentially promote positive social change. Based on this study's findings, I would recommend that developmental academic advising be the primary method used by academic advisors. However, I would also advocate for the other academic advising methods (prescriptive, intrusive, proactive) to be included in the academic advisor toolkit and used based on the student's academic standing. I suggest that academic advising be mandated for students during their first year of enrollment. Students should also be encouraged to seek academic advising beyond their first year of enrollment.

According to Bandura (1977a), the theory of self-efficacy emphasizes observational learning and social experience. Bandura's theory suggests that a person's self-efficacy level is improved as they evaluate changes resulting from fearful and

avoidant behavior, which ultimately moves them toward established outcome expectations. I recommend students' continuous engagement with an academic advisor to help determine whether academic advising influences their levels of self-efficacy and fosters better academic achievement. This recommendation is the premise of the proposal for future research that is highlighted in the next few paragraphs.

Recommendations for Additional Research

The academic advising experience must be intentional and programmatic to ensure consistency in advisor/student engagement. I recommend that additional research be conducted to explore the influence that academic advising has on student achievement over the first year of enrollment. These research studies could include the following:

Random assignment of students into academic advising groups. Using a framework similar to the current study, students would be randomly assigned into academic advising groups. The random assignment of students into academic advising groups would avoid one of the current study's limitations. The random assignment of students into academic advising groups would also ensure that the academic advising experience was the cause of any differences between groups rather than a confounding variable. The random assignment of students into academic advising groups would also alter the sample size of each advising group and influence the results of the assumption testing. This revised research model would show the net effect of academic advising during the first semester of students' enrollment.

Repeated ANCOVA analyses. Using a framework similar to the current study, the ANCOVA would be run three times. The first ANCOVA would use the Fall 2016

semester's CCGPA as the DV and HSGPA as the CV. The second ANCOVA would use the Spring 2017 semester's CCGPA as the DV and the Fall 2016 semester's CCGPA as the CV. The third ANCOVA would use the Fall 2017 semester's CCGPA as the DV and Spring 2017 semester's CCGPA as the CV. In this model, students would be tracked for three semesters (except for students who drop out). This revised research model would show the net effect of academic advising during the first year of students' enrollment.

Addition of survey instrument to the current methodology. Future research should also include the use of a survey instrument that obtains additional information about the academic advising experience. The survey would be administered after each advising session in order to capture students' immediate responses. Adding this qualitative aspect to a future research project would allow the researcher to find out information about the advising experience, such as:

1. The number of times the student met with the advisor.
2. The student's satisfaction with the advising experience.
3. The degree to which students understand the degree path.
4. The student's comfortability with advising tools (i.e., DegreeWorks).
5. The degree to which the student followed the advisor's advice.
6. The degree to which students feel the advisor is meeting their needs.
7. The degree to which students feel empowered by the advising experience.

This recommendation for future research is in line with Bandura's (1977a) theory of self-efficacy, which emphasizes the importance of observational learning and social experience.

Using HSGPA to predict student achievement. The current study showed that HSGPA could be used as a predictor of FYFT CCGPA during students' first semester of enrollment as reflected in the significant relationship yielded during the pretest (HSGPA) and posttest (FYFT CCGPA) of the ANCOVA analysis. I recommend examining the relationship between students' HSGPA and FYFT CCGPA beyond the first semester. Similar to the current study, HSGPA could be used as the CV across multiple semesters to determine if the level of significance is retained. For example, using the current study's methodology, the Spring 2017 semester (second semester) would be used as the IV, and HSGPA would be used as the CV. Academic advising would still be used as the DV. The pretest/posttest analysis would be conducted during the running of the ANCOVA, and the results would reflect the level of statistical significance, similar to the current study. This information can be interpreted as appropriate during the review of the overall ANCOVA results. The model could be replicated for subsequent semesters (i.e., Fall 2017, Spring 2018) to determine the net effect of HSGPA across multiple semesters. It could also be compared to the net effect of academic advising across multiple semesters. This information would be useful in determining if HSGPA can be used as a predictor of student achievement beyond the first semester of enrollment.

Utilization of multiple colleges in the current methodology. I would also recommend that the future study be conducted using multiple community colleges or community colleges within a system (i.e., SUNY, CUNY). This approach would not only address the limitation of the sample size but would also make the findings more

generalizable to the sample population addressing one of the limitations of the current study.

Implications for Social Change

Academic advising is an integral part of students' college experience. This premise is especially true for FYFT community college students who enter college with multiple academic and personal needs. The study's finding showed that there was no significant influence of academic advising on FYFT CCGPA ($F_{(2, 345)} = .42$, *ns*). Thus, the gap to determine the difference in FYFT community college students' achievement and the academic advising method the student experienced, while controlling for HSGPA was not filled. However, the current study showed that there was a significant relationship between students' HSGPA and FYFT CCGPA ($F_{(1, 345)} = 23.5$, $p < .001$.) which suggests that HSGPA can be used as a predictor of academic achievement. While the pretest/posttest finding was not the focus of this study's ANCOVA analysis, the information could be used in future research related to academic advising and academic achievement. It can also be useful information for admission counselors and academic advisors.

Although I did not obtain the positive results I hypothesized, nevertheless findings from the current study showed a slight increase in the FYFT CCGPAs of the developmental academic advising group compared to the prescriptive and proactive academic advising groups. This information is encouraging news for future research in this area. Establishing a relationship with students and encouraging them to seek academic advising beyond their first semester of enrollment is in line with the current

study's findings. Thus, in order for improvement in students' GPAs to be realized, academic advisors should rely on the findings of the current study and utilize information about students' prior academic experiences during the advising session. For example, incorporating information about students' HSGPA into the advising session and decision-making rather than relying only on placement results could potentially enhance students' chances for academic success during their first semester and beyond. This knowledge is critical for administrators, admission staff, academic advising professionals, and researchers desiring to influence the success of FYFT community college students who enter college with varying academic deficiencies.

From a societal point of view, underprepared students and low completion rates are two of the seven concerns raised in the report, published in the Community College Review (2017). This report refers to the American Dream as being imperiled. Part of the American Dream is homeownership, which requires financial resources to make a down payment, a good credit score, and the ability to make mortgage payments consistently. There is a direct correlation between earning a degree and making a decent salary, which ultimately affects students' students' ability to achieve the American Dream. Therefore, academic advising must become a continuous part of their college experience to enhance their chances for academic success.

From an organizational point of view, equipping academic advising professionals with knowledge about the influence of academic advising has implications for positive social change by improving FYFT community college student achievement. Engagement with academic advising is especially important for community college students

(Shumaker & Wood, 2016). Therefore, to engage students properly, institutions should ensure that the organizational structure reflects an appropriate number of academic advising professionals. This level of commitment is particularly important for community colleges, which serve the most vulnerable students.

From an individual or family point of view, the implication for positive social change is the influence that the current study's research findings can have on community college students' quality of life as income earners, as well as retention and graduation rates of FYFT community college students. Providing academic advising to a community college graduate who could potentially earn $113,547 as an air traffic controller or $63,170 as a fashion designer is worth the investment (Money, 2013).

Conclusion

This quantitative study explored the difference in the academic achievement of FYFT community college students, based on having received a semester of any of four different advising methods (prescriptive, developmental, intrusive, proactive) while controlling for HSGPA. One research question guided the examination of 1,948 FYFT records (archived data) of students who were enrolled in Fall 2016 at a community college in the northeast region of the United States. A one-way ANCOVA was used to estimate the influence of the academic advising method (IV) on student achievement (DV) while controlling for HSGPA (CV).

The main finding in the ANCOVA was that there was no significant effect of academic advising on FYFT CCGPA ($F_{(2, 345)} = .42$, *ns*) suggesting that these academic advising methods do not have a significant influence on FYFT community college

students' GPA in the first semester of enrollment. It was recommended that this finding be interpreted with caution due to the failure to satisfy all of the assumptions necessary for the ANCOVA using the current study's dataset. The failed assumptions included the lack of clear linear relation between HSGPA and FYFT CCGPA in the proactive group, the smaller sample size of the proactive group compared to the developmental or prescriptive group, and unequal variances of FYFT CCGPA between the three advising groups.

The current study's findings and the methodology employed to evaluate the results were limited in three ways including the lack of random assignment into the academic advising groups, the missing pieces of information from the archived dataset, and the study's design limiting the analysis to one community college. These limitations not only affected the current study's findings but also affected the ability to generalize the findings to the FYFT community college student population and other community colleges across the United States.

Despite the current study's findings, prior research (Pascarella & Terenzini, 1978; Tinto, 2000) supported the notion that academic advising was critical for improvements in GPAs. However, in order for students to realize the influence of academic advising, they must engage an academic advisor multiple times as found Wilder's (1981) research. These researchers' findings support the need for further research that uses the current study's design to explore the difference in the academic achievement of FYFT community college students, based on having received multiple semesters of any of four different advising methods (prescriptive, developmental, intrusive, proactive) while

controlling for HSGPA. Further research should also include multiple institutions in the model in order to make the study's findings more generalizable to the community college FYFT student population.

Prior research has shown that academic advising is critical for improvements in retention and GPAs (Crockett, 1978; Fowler & Boylan (2010); Habley, 1981; Kot, 2014; Pascarella & Terenzini, 1978; Tinto, 2000; Wilder, 1981). The current study's findings suggest that students need more than one semester of academic advising. Therefore, determining the difference in the academic achievement of FYFT community college students, based on having received academic advising consistently during their academic experience, will promote positive social change. This knowledge has implications for positively influencing FYFT community college students' GPAs, retention rates, graduation rates, and ultimately, their quality of life as income earners. If colleges are successful in identifying effective advising strategies, this not only has the potential to influence the student's life, but it can potentially affect their family, community, and society.

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Appendix A: Theorists and Theories (Not Related to My Study)

Theory	Theorists
Adult Learning	Knowles (1970); Knowles, Holton, & Swanson
Transformational Learning	(1973); and Mezirow (1981)
Bureaucratic Caring	Ray (1989)
Child Development / Constructivism	Piaget (1948 &1970); Piaget & Cook (1952)
Cognitive Load	Sweller (1988)
Communities of Practice	Lave & Wenger (1991)
Connectivism	Siemens (2005)
Constructivism	Vygotsky (1962); Vygotsky, Cole, John-Steiner, Scribner, & Souberman (1978)
Critical Pedagogy	Freire (1970)
Critical Race Theory	Crenshaw, Gotanda, Pellar, & Thomas (1995); Ladson-Billingss, & William (1995)
Delinquency	Hirschi (1969)
Diffusion of Innovation	Rogers (1962)
Emotional Intelligence	Goleman (1995)
Experiential Learning	Kolb (1984)
Global Awareness	Hanvey (1975)
Human Development	Bronfenbrenner (1979)
Learning Organization / Systems Thinking	Senge (1990)
Moral Development	Kohlberg (1981)
Motivation	Herzberg (1966); Maslow (1943, 1954)
Multiple Intelligences	Gardner (1983, 1993, 1999)
Music Theory	Meyer (1956)
Novice to Exert	Brenner (1984)
Parent Empowerment	Cochran (1992)
Parent Involvement	Hoover-Dempsey & Sandler (1995)
Progressive/Experimental Education	Dewey (1899, 1902, 1916, 1938)
Reasoned Action / Expectancy-Value	Fishbein & Ajzen (1975)
Self-Efficacy	Bandura (1977)
Self-Determination / Motivation	Deci & Ryan (1985)
Service Learning	Stanton, Giles, & Cruz (1995)
Social Cognitive Theory	Bandura (1977, 1986)
Student Attrition	Bean (1983)
Student Retention	Tinto (1987, 2010)
Technology Acceptance	Davis (1989); Davis, Bagozzi, & Warshaw (1989); Venkatesh, Morris, Davis, & Davis (2003)
Technology Readiness	Parasuraman (2000)
Transformative Education	Boyd & Meyers (1988)
Work Engagement	Bakker & Demerouti (2008)

Appendix B: Theorists and Theories (Related to My Study)

Theory	Theorist
Attribution Theory	Heider (1958)
Control Theory	Hirschi (1969, 1977)
Expectancy and Value Theory	Atkinson (1964)
Goal Setting Theory	Locke and Latham (1990)
Goal Theory	Bandura (1997); Shunk's (1990)
Interest Theory	Dewey (1913); Thorndike (1935)
Intrinsic Motivation Theory	Deci, E.L. (1975)
Need for Achievement Theory	McClelland, Atkinson, Clark, & Lowell (1953)
Psychological Learning Theory	Glaser (1976)
Self-Determination Theory	Deci & Ryan (1985)
Self-Efficacy Theory	Bandura (1977)
Self-Worth Theory	Covington & Beery (1976)
Social Awareness Theory	Greenspan (1981); Cooley (1912); Mead (1910)
Social Cognitive Theories of Self-Regulation, Volition, & Motivation	Bandura (1986); Zimmerman (1989); Zimmerman & Schunk (1989)
Time-Based Models of Learning	Bennett (1978); Bloom (1976); Carroll (1963); Cooley & Leinhardt (1975); Harnischfeger & Wiley (1976)
Time Continuum Model	Wlodkowski (1985)