

ABSTRACT

Title of Dissertation: SWIRLING & DOUBLE-DIPPING: AN EXAMINATION
OF MULTI-INSTITUTIONAL ATTENDANCE AND
STUDENT ENGAGEMENT

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The swirl phenomenon has become a common practice among today's college students (Brown, 2011; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006), and it describes the movement of students between community colleges and four-year institutions. Transfer literature is rich in individual transfer student content; however, there is a deficiency in literature specific to multi-institutional attendance. Exclusively relying on transfer studies that label transfer students as a monolithic population is problematic because it does not capture the critical roles of two and four-year institutions (Wang, Wickersham, & Sun, 2017). This study concentrated on the relationship between swirling and student engagement. The researcher attempted to identify potential relationships between variables where little empirical research exists (Johnson & Christensen, 2012). As multi-institutional attendance becomes increasingly prevalent for

students who desire to pursue a bachelor's degree (Crisp, 2017), the relationship between multi-institutional attendance and student engagement warrants further research.

The purpose of this quantitative study was to use Kuh et al.'s theory of student engagement (2006) to examine the perceived levels of student engagement for students participating in multi-institutional attendance (swirlers and non-swirlers) as measured by the Community College Survey of Student Engagement (CCSSE). Ex post facto data from the Community College Survey of Student Engagement (CCSSE) 2012, 2013, and 2014 cohorts were used to examine the difference in student engagement for students who swirl and those who do not. The researcher also examined the predictability of student engagement on the number of classes that students took at another institution. The relationship between frequency of use of academic advising/planning and student engagement as well as the five CCSSE benchmarks of effective practice were also investigated.

The results of the study suggest that the *Level of Student Engagement* for swirler students was higher than those of non-swirler students. In addition, the results propose that swirler students' level of *Active and Collaborative Learning* was the highest while non-swirler students' level of *Support for Learners* was the highest. *Level of Student Engagement* was a good predictor of the number of classes presently being taken at other institutions for community college students, including swirlers. The findings also revealed that *Student Effort*, *Academic Challenge*, and *Support for Learners* were good predictors of the

number of classes presently being taken at other institutions for swirlers. Lastly, it was determined that the students' swirler status did not significantly predict the frequency of use of academic advising/planning. These findings provide valuable information about the relationship between student engagement and multi-institutional attendance. Recommendations for professional practice and further research are provided.

SWIRLING & DOUBLE-DIPPING: AN EXAMINATION OF MULTI-
INSTITUTIONAL ATTENDANCE AND STUDENT ENGAGEMENT

by
Kadijat Richmond

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DEDICATION

“Don’t worry about anything; instead, pray about everything. Tell God what you need and thank him for all he has done.” ~Philippians 4:6

I praise God for the work he has completed in me.

Greig Richmond, you have supported me throughout this journey. Thank you for always cheering for me and believing in me. Your encouragement and willingness to takeover domestic chores paid off! Thanks for understanding.

Corinne, I love you. Thanks for being perfect! You were my motivator. Now, you have strong shoulders to stand on. You will be far greater than you can even dare to dream.

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I thank God for a praying cohort! Thank you, cohort 44. A spirit of affirmation permeated our space. Thanks for calling me “Doctor Richmond” relentlessly. I am a product of our persistence and diligence.

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'If you want to go fast, go alone. If you want to go far, go together.'

~ African Proverb

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Table of Contents

	Page
DEDICATION	iii
ACKNOWLEDGMENTS.....	iv
List of Tables	viii
Lists of Figures	ix
CHAPTER I: INTRODUCTION	1
Background.....	1
Theoretical Framework	5
Purpose.....	9
Research Questions	10
Significance of the Study.....	11
Definition of Terms	11
Delimitations	13
Summary	14
CHAPTER II: REVIEW OF THE LITERATURE	15
Academic Advising for Transfer Students	16
Critiques of Academic Advising	19
Strengthening Academic Advisement/Planning.	22
Transfer Trends	24
The Emerging Enrollment Pattern of Multi-Institutional Attendance.....	27
Co-enrollment as a Type of Multi-institutional Attendance.	30
Lateral Transfer as a Type of Multi-institutional Attendance.	32

Multi-institutional Attendance and Swirling	34
Penalties of Swirling	37
Swirling and Community College Student Engagement	40
CHAPTER III: METHODOLOGY	45
Research Design	45
Research Questions	46
Null Hypotheses	47
Setting and Sample of the Study	48
Instrumentation	49
Procedures	50
Data Analysis	51
Summary	52
CHAPTER IV: RESULTS OF THE DATA ANALYSIS	53
Descriptive Statistics	53
Student Engagement of Swirlers and Non-Swirlers	58
Level of Student Engagement	58
The Five CCSSE Benchmarks	59
Student Engagement by the Number of Classes Presently Taking	62
Swirler Student Engagement by the Number of Classes Presently Taking	64
Level of Student Engagement	65
Five CCSSE Benchmarks	66
Swirlers and Non-Swirlers Frequency of Use of Academic	
Advising/Planning	68

Summary	69
Chapter V: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS	72
Introduction	72
Summary of the Study.....	74
Summary of Results and Discussion	75
Research Question 2	76
Research Question 3	77
Research Question 4	78
Student Engagement and Multi-institutional Attendance.....	79
Number of Classes at other Institutions.	80
Frequency of Use of Academic Advising/Planning.	81
Limitations.....	82
Recommendations for Practice.....	82
Recommendations for Future Research	84
References	87
Appendix: Sample of Survey	102

List of Tables

	Page
Table 1. <i>Overview of Data Analysis</i>	52
Table 2. <i>Respondents Demographic Characteristics</i>	55
Table 3. <i>Respondents Academic Characteristics</i>	57
Table 4. <i>Independent Samples t-Tests for Equality of Means Using Student Engagement</i>	59
Table 5. <i>Multivariate Effects of Swirler and Non-Swirler on the Five CCSSE Benchmarks</i>	61
Table 6. <i>Univariate Effects of Swirler and Non-Swirler on the Five CCSSE Benchmarks</i>	62
Table 7. <i>Binary Logistic Regression Results of Sample Population-Level of Student Engagement by the Number of Classes Presently Taking at Other Institutions</i>	64
Table 8. <i>Binary Logistic Regression Results of Swirler Students Level of Student Engagement by the Number of Classes Presently Taking at Other Institutions</i> ..	66
Table 9. <i>Binary Logistic Regression Results of Swirler Students Level of Student Engagement by the Number of Classes Presently Taking at Other Institutions</i> ..	68

Lists of Figures

	Page
<i>Figure 1. Model of Student Success. Kuh, et al. (2006)</i>	8

CHAPTER I: INTRODUCTION

Background

Eighty-one percent of entering community college students indicate that earning a bachelor's degree is a goal (Jenkins & Fink, 2016). Yet, only a third of community college students transfer to a four-year institution within five years. Of those students who successfully transfer, only 14% of the entering community college cohort is successful in obtaining a bachelor's degree within six years (Jenkins & Fink, 2016). Data consistently confirm that while many students enter the community college with the goal of transferring, only a small percentage of students successfully transfer to a four-year institution and complete a bachelor's degree (American Association of Community Colleges, 2016; Jenkins & Fink, 2016).

Attendance at multiple institutions of higher education is a widespread phenomenon that is steadily increasing (Crisp, 2017; Marling, 2013; McCormick, 2003). Researchers have identified nearly one dozen multi-institutional attendance patterns (Crisp, 2013). This behavior of multi-institutional attendance has been dubbed as *swirling* (de los Santos & Wright, 1990). Patterns of attending several institutions have been described by using several different terms. In recent literature, the terms co-enrollment, multi-institutional attendance, double-dipping, and swirling have been prevalent in the literature (Bach et al., 2000; de los Santos & Wright, 1990; Li, 2017; McCormick, 2003; Shapiro, Dundar, Wakhungu, Yuan, & Harrell, 2015).

Enrollment patterns have evolved along with the emergence of new education providers including the expansion of online or distance education. In the fall of 2015, over six million undergraduate students chose to enroll in at least one distance education course (Ginder, Kelly-Reid, & Mann, 2017). The addition of baccalaureate programs at some community colleges has also influenced student attendance patterns and increased both access and ease for students to enroll at more than one institution. Notwithstanding, the most compelling enrollment trend is the students (Bontrager, Clemetsen, & Watts, 2005). The swirl phenomenon has become a common practice among college students (Brown, 2011; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006), and it describes the movement of students between community colleges and four-year institutions. Swirling involves a non-linear pattern of enrollment (de los Santos & Wright, 1990). Similarly, co-enrollment or double-dipping by enrolling at more than one postsecondary institution within a semester has been reported as an emerging attendance trend among U.S. college students (Crisp, 2013; McCormick, 2003). Nontraditional students are the new majority despite the conventional practice of swirling and the identification and definition of this phenomenon, but very little is known about the experience of students in this transfer group (Brown, 2011; Complete College America, 2011; Crisp, 2013; Kuh et al., 2006; Nakano, 2012; Wark, 2015).

Researchers have focused on increasing knowledge about transfer students, yet, the resulting data are often descriptive focusing on characteristics and factors at the individual level (Wang, Wickersham, & Sun, 2017). Much of

the research on transfer students focuses on academic preparation and remediation, many of these focus on socioeconomic status including insufficient finances, competing priorities, lack of internal support systems, and balancing parent, employee, and student responsibilities (Cohen, Brawer, & Kisker, 2014; Duggan & Pickering, 2008; Wang et al., 2017). Additionally, vertical transfer pathways dominate the current literature that discusses student engagement despite the multiple transfer pathways that students present (Taylor & Jain, 2017). Furthermore, many transfer studies have focused on students enrolled in four-year institutions (Crisp, 2013). Prior research has substantially improved the understanding of complex attendance patterns (Hossler et al., 2012; Li, 2017; Shapiro et al., 2015).

Current literature discusses transfer students and their diverse attendance patterns; however, it tends to group transfer students into a single body (Bach et al., 2000; Brown, 2011; Cejda & Kaylor, 2010; Cohen et al., 2014; Gross & Berry, 2016; Hossler et al., 2012; Kuh et al., 2006; Peter & Cataldi, 2005; Shapiro et al., 2015; Simone, 2014). Nearly four decades ago, Donovan and Schaier-Peleg (1988) labeled transfer students as a heterogeneous population. The researchers encouraged others not to pigeonhole transfer students into a single cohort. Remaining aware of the numerous groups within the transfer student population, including swirlers, will aid policymakers and those who influence programming at the college. Furthermore, institutions need to work with faculty to create curriculum and classroom experiences that are responsive to and supportive of students attending multiple institutions (Donovan & Schaier-Peleg,

1988). The aforementioned student engagement factors and their relationship to multi-institutional attendance are nearly absent from the literature on transfers.

Improvement of student engagement initiatives is critical to a transfer student's success (Ivins, Copenhaver, & Koclanes, 2017). Improvements include measures that support high levels of campus, faculty, and peer involvement at the receiving institution. Sending and receiving institutions can commit to preparing potential transfer students with resources and support for success (Ivins et al., 2017; Laanan, Starobin & Eggleston, 2010). Partnerships between institutions along with the educating of academic advisors about the information and services available to transfer students create a smooth transition process for students each time that they transfer. Such partnerships may respond to student stop-out and drop-out rates, persistence, and other measures of student success while increasing the likelihood of obtaining a bachelor's degree for students who swirl.

As multi-institutional attendance becomes increasingly prevalent for students who desire to persist towards a bachelor's degree (Crisp, 2017), the relationship between multi-institutional attendance and student engagement warrants further research. Transfer literature is rich in individual transfer student content, but there is a deficiency in literature specific to multi-institutional attendance. Exclusively relying on transfer studies that label transfer students as a monolithic population is problematic as it does not capture the critical roles of two- and four-year institutions (Wang et al., 2017). The focus of this study was the swirling of community college students and student engagement. The term

swirling describes a non-linear pattern of enrolling in post-secondary institutions (de los Santos & Wright, 1990). Kuh et al.'s (2006) theory of student engagement served as the framework for this study.

Theoretical Framework

The researcher utilized Kuh et al.'s (2006) Theory of Student Engagement. Renowned for his research on the concept of student engagement, Kuh et al.'s (2006) theory is used to explain the educational conditions that lead to student learning and development. The concept of student engagement is widely recognized for its contributions to student success (Kuh et al., 2006; O'Banion, 2013). Kuh et al.'s (2006) definition of student engagement embraces two key components that contribute to student success. The first component involves the amount of time and effort that students commit to their studies and other activities that lead to experiences and outcomes that constitute student success (Kuh, 2009; Kuh et al., 2005; Kuh et al., 2006). The second component encompasses the notion that the ways that institutions allocate resources and organize learning opportunities and services play a role in motivating students to participate in activities. As institutions provide opportunities for students to be engaged in educationally purposeful activities, they promote and facilitate student success.

Kuh et al.'s (2006) theory indicates a shared responsibility between the student and the institution. The researchers associated a high level of student engagement with a positive impact on student learning, persistence, and attainment in college. Kuh et al. (2006) discovered that student behaviors and

institutional conditions contribute to student engagement. As it relates to this study, Kuh et al.'s theory validates that the researcher might expect that a student's mobility and behavior would influence or explain the level of student engagement for different student groups such as students who do and do not swirl because swirling involves a change in institutional conditions.

Student success outcomes have received mounting attention from legislators, community college administrators, and other stakeholders (Boggs & McPhail, 2016). Community colleges consider transfer rates to four-year colleges as a critical measure of both institutional effectiveness and student success. As multi-institutional attendance increases, the success and completion rates of students may become more critical for all sectors of higher education. Student success includes academic achievement, credits and grades earned, persistence, attainment of educational objectives, skills and competencies, and post-college employment rates.

The student engagement model created by Kuh et al. (2006) indicates that student success may be influenced by student engagement. Student engagement exists at the intersection of student behaviors and institutional conditions (Kuh et al., 2006). In order to investigate how student attendance behaviors impacted student level of engagement, the researcher used data from the Community College Survey of Student Engagement (CCSSE). Ex post facto CCSSE data were employed in this study to examine the perceptions of students with multi-institutional attendance and student engagement. The CCSSE

consists of items that measure student engagement activities and multi-institutional attendance.

A high level of student engagement, persistence, and retention may be achieved when students have worthwhile experiences inside and outside of the classroom due to opportunities that allow them to collaborate, feel connected on campus, have faculty interactions, and be exposed to diverse people (Kuh, 2009). Using the model developed by Kuh et al. (2006), student transfer is presented as a goal or success toward the end of the student success process (see Figure 1). The theory of student engagement was used in this study to focus on swirling and its connection to student engagement. The main idea was that the relationship between the engagement of students who swirl and those who do not is influenced by multi-institutional attendance. The researcher for this study investigated whether there was a relationship between multi-institutional attendance and student engagement. The model below implies that students who transfer and who have a higher level of student engagement will be more successful (Kuh et al., 2006). Figure 1 illustrates the model.

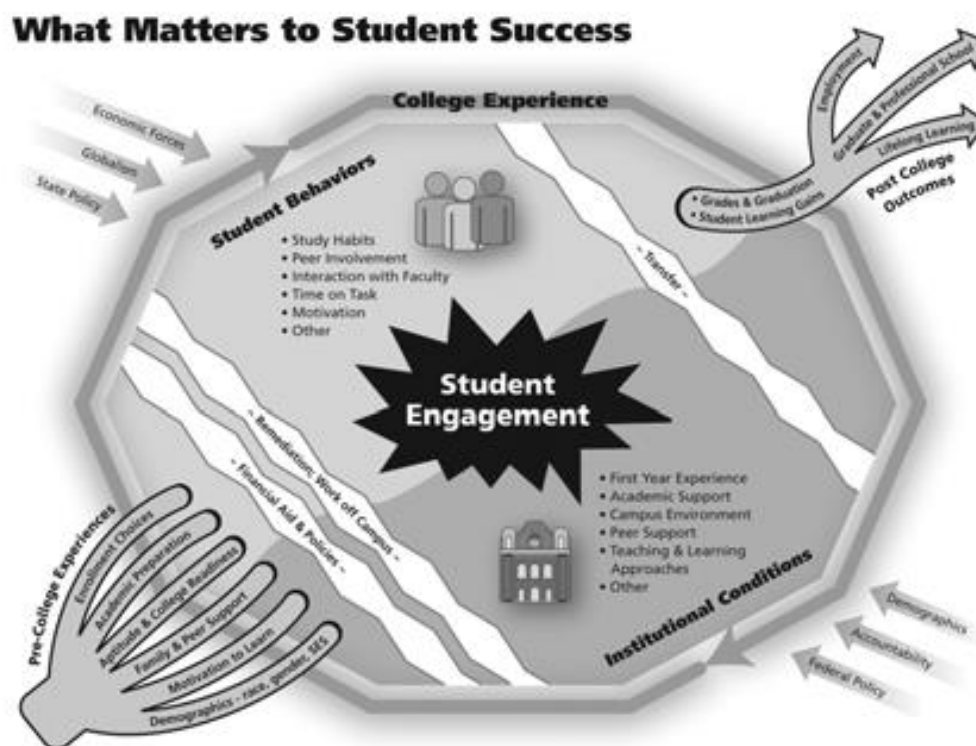


Figure 1. Model of Student Success. Kuh et al. (2006)

No conclusive findings on the effect of multi-institutional attendance on student engagement have been reached (Li, 2017). Past research on swirling focused on showing a relationship between swirl and time-to-degree (Brown, 2011), factors that lead to transfer (Lester, Leonard, & Mathias, 2013), monitoring swirl, collaboration efforts to establish cross-institutional standards and outcome expectations for transfer students, and assimilation programs to engage students (Borden, 2004). Due to the diversity of the transfer population, several researchers have suggested that further research could allow for more appropriate generalization of findings (Borden, 2004; Brown, 2011; Buchwitz, 2015; Lester et al., 2013; McCormick, 2003).

Purpose

The purpose of this quantitative study was to use Kuh et al.'s (2006) student engagement theory to examine the perceived level of student engagement for students participating in multi-institutional attendance (swirlers and non-swirlers) as measured by the Community College Survey of Student Engagement (CCSSE). The independent variable was multi-institutional attendance, including swirlers and non-swirlers. The dependent variable was student engagement as measured by the CCSSE. Although a multitude of studies have been conducted on transfer students, current data show that multi-institutional enrollment is steadily increasing (Brown, 2011; Crisp, 2017; Marling, 2013; McCormick, 2003). Consequently, these changes in enrollment patterns have led to a diversification of college student transfer pathways in the United States.

Differences in enrollment patterns among U.S. college students signify the mounting need to research the relationship between complex attendance patterns and student engagement. The researcher was able to examine the level of engagement for swirlers versus students who do not swirl at community colleges by analyzing data from the CCSSE. Although numerous studies have been published that discussed CCSSE data (Community College Survey of Student Engagement, 2006), few of these studies disaggregated the data by exploring the level of engagement for students attending multiple institutions. This study may provide support for an increase in student success measures and

practices for populations that are underrepresented in the literature and historically underserved by postsecondary institutions.

Research Questions

The following research questions addressed the gap in the literature regarding the relationship between multi-institutional enrollment patterns and student engagement in community colleges:

1. What is the difference between swirlers (students participating in multi-institutional attendance) and non-swirlers (students who do not participate in multi-institutional attendance), and their perceived level of student engagement?
2. For the sample in the current study (N=500), does the level of student engagement predict the number of classes presently taking at other institutions?
3. For swirlers, what is the relationship between their perceived level of student engagement and how many classes they are presently taking at other institutions, as reported in item 25 of the CCSSE?
4. What is the relationship between swirlers (students participating in multi-institutional attendance) and non-swirlers (students who do not participate in multi-institutional attendance), and their frequency of use of academic advising/planning as reported in item 13.1a of the CCSSE?

Significance of the Study

This study was significant because it examined the swirler population on a national level, addressed a gap in the literature, and contributed to the line of research on student engagement while highlighting a growing population within the transfer population. Many student engagement studies focus on the native student experience, and few studies have examined community college swirler students. Previous research has suggested that swirling is not positively related to degree completion (Adelman, 2003; Peter & Cataldi, 2005). This study identified the gap that exists when swirler students are separated and analyzed independent of other types of transfer students.

For community colleges, four-year transfer rates are considered as an important indicator of student success and institutional effectiveness (de los Santos & Wright, 1990; McCormick, 2003; Kuh et al., 2006). As swirl rates continue to increase, it will be essential for all sectors of higher education to understand and adapt to multi-institutional attendance (Kuh et al., 2006). In addition, student success indicators must be broadened so that they are inclusive of different types of students and be proactive in acknowledging different patterns of enrollment by including measures such as the number of credits retained in transfer and post-transfer performance.

Definition of Terms

Co-enrollment: Refers to overlying periods of enrollment at more than one institution in a single semester (de los Santos & Wright, 1990; McCormick, 2003;

Peter & Cataldi, 2005). Also known as double-dipping, concurrent enrollment, overlapping enrollment, and dual enrollment.

Lateral transfer: Transfer between two institutions of the same type (i.e., a transfer from one community college to another community college), also referred to as parallel or horizontal transfer (Bahr, 2012; National Association for College Admission Counseling; 2016).

Student engagement: Student engagement exists at the intersection of student behaviors and institutional conditions (Kuh et al., 2006). It consists of influenceable aspects of student behaviors and institutional performance.

Student success: Includes a multitude of malleable factors including college grades, credits earned, academic achievement, attainment of educational objectives, engagement in educationally purposeful activities, student satisfaction, acquisition of desired knowledge, skills and competencies, persistence, and post-college performance and employment (Kuh et al., 2006).

Swirl: Describes the actual movement of students between community colleges and four-year institutions. Swirl is a non-linear pattern of enrollment (de los Santos & Wright, 1990). Swirling describes this phenomenon.

Transfer: Student movement within postsecondary institutions and the institutional processes supporting students who move with credit applicable to a degree or certificate (National Association for College Admission Counseling, 2016).

Multi-institutional attendance: Enrollment in more than one post-secondary institution within a semester (Bach et al., 2000; de los Santos &

Wright, 1990; McCormick, 2003) including students whose enrollment patterns may alternate between two institutions, overlap, or be sequential (McCormick, 2003; Simone, 2014).

Persistence: Continued enrollment or re-enrollment from one semester to another at any higher education institution including one different from the institution of initial enrollment (National Student Clearinghouse, 2015).

Vertical transfer: Transfer from a two-year institution to a four-year institution (National Association for College Admission Counseling, 2016). This type of transfer is also known as a traditional or 2+2 transfer (Crisp, 2013). Vertical transfers involve beginning coursework at a community college after completing an associate degree transfer to complete a bachelor's degree at a four-year college or university (McCormick, 2003).

Delimitations

This research study was limited to the perceived level of student engagement from students who chose to participate in the Community College Survey of Student Engagement (CCSSE). Not all community colleges administer the CCSSE. Therefore, the scope of the study was limited to community colleges who administered the CCSSE in 2012, 2013, and 2014. Furthermore, only the perceptions of swirlers who are enrolled in a community college during the selected administration periods of the CCSSE were reflected in the data. Many swirlers may have been enrolled in four-year institutions at the time of the survey and therefore were not included in this sample. Furthermore, dually enrolled students at the high school level were omitted from this study. Finally,

the results of this study were not specific to any geographical location or institution type.

Summary

This chapter included an overview of the background of multi-institutional attendance, a proposed theoretical framework, the purpose of the study, research questions, significance of the study, delimitations, and operational definitions. The research model in this study was used to investigate how student transfer status related to the level of student engagement. Based on the theory and research reviewed, this study proposed that transfer status has an impact on student engagement. Not only are there differences in the engagement level of transfers and native students, but there are differences within the transfer population as well. Kuh's (2009) theory of student engagement supports the dissecting of data and analyzing the difference in the level of student engagement for swirler versus non-swirler students.

CHAPTER II: REVIEW OF THE LITERATURE

As the number of students who swirl continues to rise, the phenomenon needs to be investigated further (Brown, 2011; de los Santos & Wright, 1990; Rab, 2004). This is especially true as demands for institutional accountability increase for the community college (Boggs & McPhail, 2016). As community college leaders determine what successful student pathways look like, it is essential that they disaggregate data by paying particular attention to student populations that are historically disenfranchised and overlooked. The transfer population includes these very students. As a significant element in the measurement of institutional accountability, student engagement is a widely accepted indicator of student success (Kuh, 2001; Kuh et al., 2006). Student engagement is regarded as a predictor of student success (Kuh et al., 2006).

While researchers have sought to establish links between transfer students and student engagement, few studies have explicitly focused on swirling students when reviewing student success (Kuh et al., 2006; Lester et al., 2013). Robust information about the effects of swirling on student engagement can aid higher education professionals in creating and modifying targeted intervention methods, student advising and assessment practices, student support services, transfer policies, and institutional programming to impact both institutional and student success (Hu, 2010; Kuh et al., 2005; Kuh, 2009). Due to the nature of student mobility and the common goal of student success for both institutions and students, it seems that efforts to support student engagement are advantageous for both entities (Brown, 2011).

Academic Advising for Transfer Students

It is important to begin with a discussion on academic advising/planning that is available to the transfer student population. Community college students may be married with children, single parents, non-U.S. citizens, veterans, or students with disabilities (American Association of Community Colleges, 2018). Community college students also vary in life stage from the recent high-school graduate to the adult learner (Duggan & Pickering, 2008). Among this population are underprepared students who may benefit from remediation, students who cannot afford high tuition rates, dual-enrollment high school students, and reverse transfer students (Ammon, Bowman, & Mourad, 2008). Community colleges also enroll a growing number of international and English as a Second Language (ESL or ESOL) students. Students require varying academic support to assist them in dealing with challenges unique to their backgrounds and circumstances (Thelin, 2011).

Academic advising is an influential tool that affects student success in multiple areas. Advisors assist students as they make complex decisions in the areas of goal-setting based on transfer or career tracks, developing a plan to reach the goal, and remaining on track until goals are met (Center for Community College Student Engagement, 2018). An advisor's role is to explain each option, offer guidance, and provide resources for additional support so that students make educated and well-thought-out decisions. An advantage of academic advising at the community college level is the individual attention provided, which often exceeds advising sessions in four-year institutions (Davies & Dickmann,

1998). In the case of underserved populations, the personalized and persistent dissemination of information can have compounding beneficial effects. In the 2016 SENSE administration, 67% of first-time college students stated that an advisor was instrumental in academic goal setting and planning (Center for Community College Student Engagement, 2018).

Experts indicate transfer as one primary function of the community college and have accordingly ascribed the responsibility of transfer assistance to the community college (Cohen et al., 2014; Wang, 2009). Reasons for matriculating into two-year colleges include personal enrichment, career goals, and the intent to transfer (Ammon, Bowman, & Mourad, 2008; Dowd, 2010). The role of advisor continues to increase in complexity as the demands necessitate a response to ever-changing societal trends and desires. Students depend on informed and accessible academic advisors to assist them during the transfer process. Community college academic advisors are the first step in the transfer process, the key to valuable information, and necessary for successful and smooth transfer (Laanan et al., 2010).

The guidance received from academic advisors at the community college level plays an intricate role in student persistence so proactive advisement is strongly encouraged (Berger & Malaney, 2003). Students not only need to know about transfer opportunities, but they need to be made aware that those prospects are available to them (Dowd, 2010). Both SENSE and CCSSE data recommend mandatory transfer advising sessions to increase student success (Center for Community College Student Engagement, 2018). According to the

CCCSE (2018), only half of the students who reported transferring as a goal when applying to community college utilized transfer advising services. The students who decide to participate in transfer advising sessions are more engaged and more likely to persist. In addition, those students are more likely to continue to use transfer advising services. The more informed students are, at both the community college and four-year level, the higher the likelihood of persistence and success (Berger & Malaney, 2003; Davies & Dickmann, 1998). Therefore, the accuracy of information disseminated by an academic advisor has a long-lasting impact on student transfer success (Laanan et al., 2010).

The impact that academic advisors make on the transfer process for underserved student populations is compounding. Gard, Paton, and Gosselin (2012) determined that improper or insufficient transfer advisement at the community college level was the primary barrier to successful transfer in the study. Eighty percent of community college students intended to earn a bachelor's degree, but only a quarter of students actually transferred to four-year institutions within five years (American Association of Community Colleges, 2016). Both timeliness and accuracy are paramount in student advising (Laanan et al., 2010). Additionally, data collected on the efficacy of transfer student academic advisement sessions showed that students preferred to meet with advisors early during the transfer process (Davies & Dickmann, 1998).

The American community college is a democratizing institution because many of its students are products of historically underrepresented groups among four-year degree holders (i.e., low income, ethnic minority, first-generation), and

community colleges are the gateway to the baccalaureate degree (Goldrick-Rab, 2010). Despite the many competing priorities of transfer students like work, childcare, and the reality of high advisor-to-student ratios, advisors are expected to have a broad skill set to serve varying student populations (Center for Community College Student Engagement, 2018). Some students intend to earn an associate degree or certificate at the community college while others are non-credit or transfer students. Community college advisors must be aware of students' academic and career goals to offer appropriate assistance and pathways. Likewise, advisors must be intrusive, innovative, equitable, and holistic during the advising process (Center for Community College Student Engagement, 2018).

Critiques of Academic Advising. While the benefits of academic advising are well documented, critiques of the role academic advising plays in the transfer process exist as well. Jacob, Lauren, Miller, and Nadler (2004) contended that the transfer student population was the “forgotten” group in comparison to the efforts made to attract freshman students as well as the resources provided to them. Researchers have found that transfer students are subject to inadequate academic advising/planning and are often unaware of available services (Center for Community College Student Engagement, 2018; Davies & Dickmann, 1998; Gard et al., 2012). Student complaints received during the study conducted by Davies and Dickmann (1998) indicated that transfer information, policy, and processes disseminated to students in the community college were insufficient and not readily available. During the

qualitative study conducted by Gard et al. (2012), students labeled transfer advisement from their community college “incompetent” and “inefficient.” In the 2018 Center for Community College Student Engagement (CCCSE) study, 22% of students reported not ever meeting with an advisor. Similarly, during a Townsend (1995) study, some students responded that they received no support during the transfer process.

Further critique of academic advisement in the community college stems from the phenomenon known as the *cooling out* process. The process of ‘gradual disengagement’ richly describes how Clark (1980) illustrated advisor-to-student interactions within the community college. Clark stated that students were discouraged over time from pursuing their professed academic goals and instead were encouraged to pursue less significant avenues of achievement which were declared to be more suitable with their preparation, skills, and abilities. Clark (1980) accused advisors of targeting cooling out efforts toward academically underprepared students. The scholar argued that community college advisors do students a disservice by steering them into vocational and professional certificate programs rather than supporting student goals of transferring to a four-year institution (Clark, 1980).

Clark’s (1980) description of cooling out blamed the academic advisor for discouraging underprepared students and labeling their higher education goals as overambitious. However, Bahr (2008) completed a study that contradicted with the research performed by Clark. Bahr (2008) found that academic advising was beneficial for students and it led to higher instances of success especially for

students who face academic deficiencies. Moreover, the race of the student appeared to have little influence on academic advising. Bahr (2008) found no evidence to support direct or active counselor driven cooling out of transfer-seeking community college students. The study conducted by Bahr (2008) was unable to conclude that academically underprepared student populations were targeted in cooling out efforts. If community college attendance is cooling out transfer hopefuls, it does not appear to be directly associated with a student's participation in academic advising.

Additional critique comes from Leigh and Gill (2003) who argued that community colleges function as a diversion for students from a low socioeconomic status who are eligible to attend more selective four-year institutions but do not because of lack of appropriate guidance. This phenomenon is referred to as the *diversion effect* (Leigh & Gill, 2003) or *undermatching* (Smith, Pender, & Howell, 2013). Researchers believe that undermatching is an increasingly common phenomenon affecting low-income, urban, and first-generation college students. Significant implications for academic advising arise when researchers analyze how the lack of guidance influences students. The Smith et al. (2013) study demonstrated that first-generation status, high school GPA, high school coursework completed, race/ethnicity, income level, and socioeconomic status were associated with both the likelihood of undermatching and a lower likelihood of degree attainment.

Another implication for students who attend multiple institutions with or without the use of academic advising/planning is the loss of credits which results in students having to repeat courses (Crosta, 2013; Radford, Berkner, Wheelless, & Shepherd, 2010). Students become lost in a maze (Bailey, Jaggars, & Jenkins, 2015) as a result of taking courses that do not count towards their major and accumulating an excess of credits with some of them not being transferrable. It is not uncommon for degrees to take longer than two or four years to earn because of the lack of advising, which results in high dropout rates. As an additional penalty, students pay more than necessary when they attempt to navigate the college process alone. Thus, academic advising and financial aid are impacted by multi-institutional attendance.

Each of the critiques against academic advising implicates academic advisors in the success of transfer students. Nonetheless, students need resources and guidance as they navigate the complex and diverse world of higher education.

Strengthening Academic Advisement/Planning. Overall, the American community college has made post-secondary education a more accessible and affordable alternative or bridge to four-year universities (Monaghan & Attewell, 2015). Today's community colleges provide postsecondary educational services and programming that meet the needs of an ever-changing and growing student population. Unfortunately, the very design that allows the community college to be regarded as an agency of enhancing equal opportunities can make it ill-equipped at offering high-quality services like academic advising and financial

resources which are needed to properly facilitate completion (Jenkins, 2014). Due to the increase in student mobility, community colleges need to respond appropriately to the diverse needs of students.

In the 1990s, the multi-institutional attendance rate was estimated at 60% of undergraduate students (Adelman, 1999). Adelman noted, “The increasing complexity of attendance patterns is one of the most significant developments in higher education of our time, one that poses grave challenges to system-wide planning, quality assurance, and student advisement” (Adelman, 1999, p. 38). Students also differ in the number of credits they transfer. While some only transfer a few credits, others transfer entire associate degrees (Duggan & Pickering, 2008). Addressing the change in student mobility is necessary for the improvement and sustainability of academic advising/planning. Maintaining and improving academic advising/planning for transfer students is critical to student success (Ivins et al., 2017). Transfer students need high levels of campus, faculty, and peer involvement at the receiving institution. The onus is on both the student and institution (Ivins et al., 2017; Kuh, 2009). Both the sending and receiving institutions can commit to preparing potential transfer students with resources and support (Ivins et al., 2017; Laanan et al., 2010). Partnerships between institutions along with the educating of academic advisors about the information and services available to transfer students create a smooth transition process for students each time that they transfer.

Transfer Trends

Current data on student transfer reflect a shift in community college student attendance patterns to include multi-institutional attendance (Bach et al., 2000; Hossler et al., 2012; Kuh et al., 2006; National Center on Educational Statistics, 1997; National Center on Educational Statistics, 2003; Shapiro et al., 2015; Simone, 2014). Student enrollment patterns have become one of the most compelling transfer trends which have led to a diversification of college student transfer pathways in the United States (Bontrager, Clemetsen, & Watts, 2005). Differences in enrollment patterns among U.S. college students signified the mounting need to research the relationship between complex attendance patterns and student engagement. Such research would provide insight on how to properly support community college students in their efforts to complete their education. Studies of this nature may also uncover challenges that the community college student population faces and lead to best practices.

Data from 2008 detailed that 59% of all undergraduates attended at least two institutions and over 20% have attended three or more (Thurmond, Taylor, Foster, & Williams, 2008). One-third of first-time undergraduate students transfer or co-enroll at multiple institutions at least once within six years of entering postsecondary education (Simone, 2014). Among the students who transferred or were simultaneously enrolled at multiple institutions, 68% did so only once, 24% of students attended three institutions, and another 9% transferred or swirled between four or more institutions. These data may assist researchers in

linking specific student support services to students who attend multiple institutions to improve persistence and completion rates.

The most heavily researched attendance pattern is vertical or a 2+2 transfer which is also referred to as one-way transfer (Crisp, 2013). Students who transfer vertically begin by completing coursework at a community college, completing an associate degree, and then transferring to complete a bachelor's degree at a four-year college or university (McCormick, 2003). Many community colleges design their curricula and student support programs with the assumption that students will transfer to a four-year institution in the 2+2 format (Taylor & Jain, 2017). Although students no longer subscribe to the linear 2+2 path as frequently as they have in the past (Cejda & Kaylor, 2010), community colleges continue to create transfer plans that support vertical transfers and advise students to complete a substantial number of credits while enrolled in the community college. Interestingly, the 2+2 pattern has shifted to include movement between institutions prior to earning 60 credits or a degree even for those pursuing an associate or certificate (Crisp, 2013).

While research has been conducted on the mobility of community college transfer students, a large amount of the research focused on vertical transfer as an ideal pathway from an administrative and organizational perspective. Much of the remaining literature focused on attendance at a single institution thereby failing to account for the increasing number of students who engage in multi-institutional attendance (Taylor & Jain, 2017). In the 1990s, the multi-institutional attendance rate was estimated as 60% of undergraduate students (Adelman,

1999). Adelman noted, “The increasing complexity of attendance patterns is one of the most significant developments in higher education... one that poses grave challenges to system-wide planning, quality assurance, and student advisement,” (Adelman, 1999, p. 38). Nonetheless, research on college attendance conducted within the past three decades has primarily focused on enrollment, persistence, and completion on both an institutional and a national level with the majority of the literature concentrating on students in the four-year college environment (Lam, 2007).

Research highlighted a shift in community college student demographics and attendance patterns that can be attributed to multiple dynamics, including: academic preparation, costs, shifts in financial aid funding, increased institutional choice and access, new course delivery modes, course availability, risk factors for stopping or dropping out, and populations choosing to participate in higher education (Bach et al., 2000; Hossler et al., 2012; Kuh et al., 2006; National Center for Education Statistics, 1997; National Center for Education Statistics, 2003; Shapiro et al., 2015; Simone, 2014). Community colleges serve as a starting point, stepping stone, and pit-stop for an increasing number of students who swirl between multiple institutions and later complete their studies at a four-year institution (Cohen et al., 2014; Handel, 2013; Luo, Williams, & Vieweg, 2007). Reasons for matriculating into two-year colleges include personal enrichment, career goals, and the intent to transfer (Ammon et al., 2008; Dowd, 2010). As complicated enrollment patterns become more prevalent, the role that community colleges play in the transfer process must increase (Brown, 2011;

Cohen et al., 2014; Crisp, 2013; Kuh et al., 2006; McCormick, 2003). Experts have accordingly assigned the responsibility of creating smooth transfer pathways to the community college (Cohen et al., 2014; Wang, 2009). This information indicates the need for research studies that examine improving success outcomes, including the completion of a bachelor's degree for transfer student populations.

Traditionally, transfer involves students who transition from community colleges after obtaining an associate degree to four-year institutions with the goal of completing a bachelor's degree (Cejda & Kaylor, 2010). Bach et al. (2000) found considerable evidence that the traditional two-year to four-year transfer pattern is not as normative as it was in the past. Several trends in transfer patterns have emerged, including multi-institutional attendance, double-dipping, swirling, lateral transfer, reverse transfer, and vertical transfer (Bach et al., 2000; de los Santos & Wright, 1990; McCormick, 2003). Enrollment patterns can be complicated, and students may fall into several attendance pattern designations (McCormick, 2003; Simone, 2014). Transfer trends illustrate a multi-faceted and complex web of enrollment patterns.

The Emerging Enrollment Pattern of Multi-Institutional Attendance

Studies related to transfer frequently focus on measures of persistence and retention (Goldrick-Rab, 2006). These studies gather statistics to measure post-transfer academic performance or student perceptions regarding the transfer process (Cejda & Kaylor, 2010) which are useful in identifying factors that assist students in remaining on track with their higher education programs.

However, these concepts tend to limit the researcher's ability to address concerns associated with student mobility patterns (Goldrick-Rab, 2006).

Attendance at multiple institutions has become more prevalent for undergraduate students who pursue a bachelor's degree. Many students no longer attend postsecondary institutions sequentially or in a vertical format and instead choose to enroll in multiple institutions at once (McCormick, 2003; Simone, 2014). Enrollment patterns may alternate between two institutions, overlap, or be sequential (McCormick, 2003). Under labels such as swirling, dual-enrollment, co-enrollment, and reverse transfer these students enroll in the community college and four-year institutions with the goal of degree completion and the expectation of being guided on their respective paths (American Association of Collegiate Registrars and Admissions Officers, 2018).

Students choose multi-institutional attendance for various reasons. Perhaps the most compelling reason for multi-institutional attendance is to accelerate time-to-degree. Other reasons include: testing the feasibility of a future transfer, taking courses not offered or available at the home institution, saving money, enrolling in two different degree programs at two institutions simultaneously, smaller classes, more evening and weekend classes, and employment-related reasons (Simone, 2014). Financially dependent students were found to be more likely to attend multiple institutions (Gross & Berry, 2016; Peter & Cataldi, 2005). Many of these students also engaged in co-enrollment before and after transferring to another institution. Multi-institutional attendance patterns are also increasingly common for students who reside in urban areas

and those who attend college online (Borden, 2004; Crisp, 2013; McCormick, 2003).

Changing attendance patterns are supported by data from the National Center for Education Statistics (NCES), which is a report that followed students who began postsecondary education in 1989-1990. By 1994, nearly half of the students had enrolled in more than one institution, and 12% of the students attended three or more institutions (National Center for Education Statistics, 1997). In a later report, the NCES (2003) noted a clear trend in multi-institutional attendance by stating that numbers had progressively increased since 1972. Finally, in the NCES 2014 report, one-third of first-time undergraduate students transferred or simultaneously enrolled at multiple institutions at least once within six years of entering postsecondary education (Simone, 2014). Only 68% of the students who transferred or were simultaneously enrolled at multiple institutions did so only once. Twenty-four percent of students attended three institutions, and another 9% transferred or swirled at four or more institutions.

Studies continue to find that multi-institutional attendance is on the rise. A study by the National Student Clearinghouse examined a cohort of first-time fall 2006 students and found that nearly 900,000 students (33%) transferred institutions at least once during the five-year study (Hossler et al., 2012). Only 29% of those students transferred vertically from a two to a four-year institution (Hossler et al., 2012). The remaining 71% of students transferred from a two-year to another two-year college (19%), a four-year to another four-year college (26%) or participated in a reverse transfer from a four-year to two-year college

(26%) (Hossler et al., 2012). The reality is that more students engaged in multi-institutional enrollment than vertical transfer (Hossler et al, 2012). Furthermore, multi-institutional transfer trends are increasingly complex and diverse.

Nearly 60% of graduating high school students from the class of 1992 who earned a bachelor's degree attended more than one institution (Kuh et al., 2006). Of the same group, more than one-third (35%) attended more than two colleges or universities. In the class of 2000, the number of students who attended more than two colleges or universities with or without transferring increased to 47% (Kuh et al., 2006). National Student Clearinghouse data from 2016 reported that over one-third of the 3.6 million students who began postsecondary education in 2008 transferred at least once in six years (Shapiro et al., 2015). Given the data from the National Student Clearinghouse study, it has been over two decades since transferring was exclusive to 2+2 pathways. Attendance at multiple institutions of higher education is a widespread phenomenon which is steadily increasing (McCormick, 2003).

Co-enrollment as a Type of Multi-institutional Attendance. Co-enrollment is a pattern of multi-institutional attendance that involves simultaneous enrollment at two or more community colleges or both a community college and four-year institution within the same semester (Crisp, 2013). Various names have been given to this type of multi-institutional attendance, including “co-enrollment,” “double-dipping,” “concurrent enrollment,” “overlapping enrollment,” and “dual enrollment” (de los Santos & Wright, 1990; McCormick, 2003; Peter & Cataldi, 2005). For the purpose of this study, co-enrollment refers to overlying

periods of enrollment at more than one higher education institution in a single semester (de los Santos & Wright, 1990; McCormick, 2003; Peter & Cataldi, 2005). Students engaged in dual-enrollment programs but still enrolled in high school were not included in this study. An example of co-enrollment is a student who takes three classes at a community college and enrolls in the fourth class at a four-year institution during a single semester. An increasing number of formalized programs and agreements have been created to promote co-enrollment (Crisp, 2013).

Formalized paths to engage in co-enrollment provide students with many benefits. Crisp (2013) found that co-enrollment promoted access to higher education by providing multiple points of entry. Descriptive data from the study showed that co-enrollees were nearly twice as likely to transfer as native community college students (Crisp, 2013). Co-enrollment also provides students with the opportunity to connect and engage on a four-year campus before making a permanent transition (Crisp, 2013). Facilitating the ease of transferring for students can help to eliminate transfer shock and align students with proper resources early in the transfer process. Co-enrollment has a positive influence on measures of student success (Crisp, 2013; Herzog, 2005). Furthermore, co-enrollment is recognized for its benefit of allowing flexibility during the educational journey. According to the 2005 Annual Report by National Survey of Student Engagement (NSSE), there are many reasons for concurrent enrollment:

- Completing degree requirements sooner
- Financial resources

- Better course schedule
- Taking easier courses to fulfill academic requirements
- Trying a major or program not available at the current school
- Taking courses at a branch campus, through study abroad, or a college consortium
- Taking extra, unrelated, courses
- Preparing to transfer

Co-enrollment also allows students to take courses in locations and at times that best accommodate their work and family schedules (Crisp, 2013; National Survey of Student Engagement, 2005). Moreover, co-enrollment is consistent with distance education as it accommodates the needs of students (Crisp, 2013).

Herzog (2005) also identified co-enrollment as having a positive impact on college students. Herzog (2005) found that co-enrollment significantly reduced the odds of student attrition and transfer-out risk during the first year of college. Peter and Cataldi (2005) examined the relationship between co-enrollment and persistence, degree attainment, and time to degree. The data from the study conducted by Peter and Cataldi (2005) indicated that co-enrollees were more likely to persist to the sixth year of college and were more likely to earn a degree than students who did not co-enroll (Peter & Cataldi, 2005). Findings from the research described the student population that engaged in co-enrollment as young, dependent, full-time students, who did not delay enrollment in college.

Lateral Transfer as a Type of Multi-institutional Attendance. The term *lateral transfer* is defined as transfer between two institutions of the same

classification such as from one community college to another community college and is also referred to as parallel or horizontal transfer (Bahr, 2012). Bahr (2012) confirmed that a lateral transfer between community colleges is a common occurrence among students. Bahr's (2012) research claimed that lateral transfer was a strategic decision. It has not been indicated in the literature if a lateral transfer is efficient or effective. Although it is known that students are more likely to transfer laterally early in their enrollment, it is difficult to isolate lateral transfer due to the complex transfer paths students take during their higher education journey.

On a national level, Peter and Cataldi's (2005) research found that 13% of community college students transferred laterally within six years. In a state study of California's community college system, 27% of first-time students transferred laterally between community colleges within six years of initial enrollment (Bahr, 2009). Bahr (2012) investigated the idea of a lateral transfer to determine if it was a product of co-enrollment. He found that 13% of the cases of lateral transfers were actually considered as co-enrollment. Lateral transfer is so common that it is often missed, leading to undercounts in rates of degree completion when measured from the standpoint of a single community college (Gross & Berry, 2016). Simultaneous enrollment was found to be the second strongest predictor of the risk of lateral transfer according to the research conducted by Bahr (2012).

Lateral transfer moves are purposefully made (Bahr, 2012). The majority of students who engage in lateral transfer do so early in their academic career.

Rates of lateral transfer decline as students approach the number of credits required for an associate degree or the specific credits recommended prior to transferring to a four-year university (Bahr, 2012). Earning credits in the prescribed courses towards a specific program of study is sensible as students would risk being subjected to additional or differing requirements by transferring to another community college. Finally, Bahr (2012) found that lateral transfers related to both race and grant aid. Black students were more likely to transfer laterally than white students. Furthermore, increased grant aid was associated with a decrease in the likelihood of lateral transfer. It can be considered that students who engage in lateral transfers do so for financial reasons (Bahr, 2012).

Multi-institutional Attendance and Swirling. Swirling is a non-linear pattern of enrollment (de los Santos & Wright, 1990). Swirling refers to students who weave through multiple higher education institutions and participate in multiple transfer patterns between institutions, regardless of the school's classification (de los Santos & Wright, 1990; McCormick, 2003; Rab, 2004; Renn & Reason, 2013). Nomenclature for this group includes: "multiple-transfer," "swirlers," "expeditors," and "double-dippers" (de los Santos & Wright, 1990; McCormick, 2003). There is no distinct pattern when considering the occurrence of swirling (Borden, 2004; McCormick, 2003; Renn & Reason, 2013). Coined by de los Santos and Wright (1990), the term swirling describes the movement of students between community colleges and four-year institutions. In reference to the present study, co-enrolled students were included in the swirler population because the Community College Survey of Student Engagement did not

separate these two attendance patterns within its sample, and research shows that there is an overlap between the two groups.

Swirling is used to characterize students whose college journey involves attending multiple institutions in their academic career. Swirlers may also be defined as students who are concurrently enrolled at two institutions or more (Bahr, 2012). Kearney, Townsend, and Kearney (1995) identified four pathways for swirling:

1. from a four-year to a two-year college and then back to a four-year college,
2. from a two-year college to a two-year college then to a four-year college,
3. from a four-year college to a four-year college to yet another four-year college, and
4. from a two-year college to a four-year college and then to another four-year college.

Community college swirling happens as frequently as swirling at a four-year college, and over a third of students who begin at a community college enroll in more than two colleges (Shapiro et al., 2015; Peter & Cataldi, 2005). Studies found that swirl negatively impacted bachelor's degree completion rates (Kuh et al., 2006; Rab, 2004). Swirlers had a significantly lower completion rate than non-swirlers. Conversely, Bach et al. (2000) established that swirlers do persist to degree completion. Swirling in the summer semesters is becoming increasingly common. Summer swirlers enroll at four-year colleges or

universities during the fall and spring semester and enroll in two-year community colleges during the summer semester. This specific transfer pattern had a 77.5% bachelor's degree completion rate which was much higher than other types of transfer patterns (Hossler et al., 2012; Shapiro et al., 2015).

Accommodating swirling patterns has multiple implications. Borden (2004) suggested that tracking and monitoring swirling across institutions should be implemented by establishing and increasing collaboration efforts between institutions. McCormick (2003) urged policy officials to consider swirling when developing policies and practices for financial aid, academic advising, and curriculum planning. One program that can support swirling is formally articulated memorandums of understanding between institutions. Research on swirler student populations has provided limited insight into issues facing this ever-growing population (Bach, Banks, Kinnick, Ricks, Stoering, & Walleri, 2000; Brown, 2011; Kearney et al., 1995; Simone, 2014; Taylor & Jain, 2017).

While researchers have acknowledged an increase in the numbers of students engaged in swirling, a consensus has yet to be reached on the relationship between swirling and degree completion (Rab, 2004). Research on multi-institutional attendance, however, has led many to hypothesize that there is an adverse effect of swirling on degree completion. This hypothesis was not testable using the current dataset, since it lacked measures of many potentially relevant factors, such as student/institutional fit, number of credits retained in transfer, financial aid, and employment status. Thus, the findings presented in

this study should be viewed as a step toward a better understanding of the influence of swirl and student engagement on degree completion.

Penalties of Swirling

Research on swirlers has focused on showing a relationship between swirling and time-to-degree (Brown, 2011), factors that lead to transfer (Lester, Leonard, & Mathias, 2013), monitoring swirl, collaboration efforts to establish cross-institutional standards and outcome expectations for transfer students, and assimilation programs to engage students (Borden, 2004). The most prominent consequences of swirling according to research are difficulty with transferring credits between institutions (Bach et al., 2000), pathways setup based on the assumption of vertical transfer (Taylor & Jain, 2017), and delayed time-to-degree (Brown, 2011; Kearney et al., 1995).

The most common penalty for swirling is difficulty with transferring credits between institutions (Bach et al., 2000). Controversy regarding the transfer process includes the number of credits lost in transfer between institutions. Often students accumulate non-transferable credits (Bach et al., 2000). Bach et al.(2000) found that nearly 85% of the students who transferred had some credits that were not accepted, and 66% of students who transferred between open admissions institutions did not transfer any credits (Simone, 2014). Students transferring to open admission institutions from selective colleges did not fare any better. Sixty-seven percent of students from minimally selective institutions and selective institutions transferred to open admissions colleges without any credits (Simone, 2014). Equally as challenging, students transferring to

institutions with higher selectivity levels had a lower likelihood of transferring credits compared to students from open-admission to other open-admission institutions. In these cases, 21% to 40% of students transfer without credits. These findings challenge the assumption that when a student transfers from an open admission institution, the time-to-degree is shortened which assists students in degree completion. The lack of credit transferability is particularly detrimental for swirlers because these students transfer to several institutions and may lose more credits than the traditional transfer students who transfer only once.

The transfer process is complex, and when moving between multiple institutions, the process can become convoluted and overwhelming (American Association of Collegiate Registrars and Admissions Officers, 2017). Unfortunately, low-income students are least likely to prepare for transfer (Pusser & Turner, 2004). For students who attempt to prepare, they may be easily overloaded with information which can lead to frustration with the process, lack of planning, loss of credit, or not transferring at all (American Association of Collegiate Registrars and Admissions Officers, 2017). Institutions are under increasing pressure to simplify the transfer process (Boggs & McPhail, 2016), and they are being asked to be more flexible with transfer credits so that students do not delay degree completion or exhaust financial aid.

The traditional function of the American community college, which was to serve as the first two years of college for students (Cohen, Brawer, & Kisker, 2014; Taylor & Jain, 2017), can be detrimental to swirlers. This vertical pathway

is commonly referred to as 2+2. A vertical transfer student moves directly from the community college to a four-year college or university to earn a bachelor's degree. However, students no longer subscribe to the linear 2+2 path as frequently (Cejda & Kaylor, 2010). Nonetheless, community colleges continue to create transfer plans that solely support vertical transfers and advise students to complete a substantial number of credits at community colleges.

Brown (2011) identified the delay in time-to-degree as another barrier for swirler students. Six prevalent themes emerged in the qualitative study conducted by Brown (2011) which can be used to understand why students swirl. The themes include the following:

- a) Search for Perspective
- b) Moved/Relocated
- c) Academic Issues
- d) Completion
- e) Health Concerns
- f) Financial Difficulty

Despite the reasons students may have for choosing to swirl, Peter and Cataldi (2005) explained that multi-institutional attendance was negatively related to time-to-degree potentially due to credit transferability. Similarly, Gross and Berry (2016) found that regardless of the form of mobility, it was negatively related to degree completion. Kearney et al. (1995) identified that students had to complete several credits at the degree-granting-institution as a barrier that delayed time-to-degree and persistence for swirlers. Likewise, Adelman (1999)

found that while 66% of traditional transfer students earned a bachelor's degree, only 52% percent of swirlers earned bachelor's degrees.

On the contrary, research conducted by Bach et al. (2000) reinforced the idea that swirlers were likely to complete a bachelor's degree. Likewise, Kearney et al. (1995) acknowledged that swirlers do persist towards degree completion. Research regarding swirl focuses on measures of persistence and retention (Goldrick-Rab, 2006) or bachelor's degree completion (Gross & Berry, 2016). Alternatively, the current study addressed swirling and its relationship to student engagement.

Current transfer trends have led to some unanticipated and damaging consequences. Multi-institutional attendance has been negatively linked with degree completion. Qualitative research has identified reasons for this negative association that include lack of credit transferability, increased time-to-degree, and double-dipping penalties, to name a few (Bach et al., 2000; Brown, 2011; Kearney et al., 1995; Taylor & Jain, 2017). These studies provide limited insight into issues facing the ever-growing population of swirlers. Based on these studies, and what we know about the impact of student engagement on student success, a gap exists in the literature where it does not discuss the relationship between swirl and student engagement.

Swirling and Community College Student Engagement

A central component of the college experience is student engagement. According to Kuh et al. (2006), both student behaviors and institutional conditions

contribute to student engagement. Kuh (2009) associated a high level of student engagement with a positive impact on post-college outcome including student learning goals, graduation and grades, graduate and professional school, employment, and lifelong learning. The major premise is that a high level of student engagement may affect a student's likelihood of success. Figure 1 depicts transfer as a significant influencer of student success outcomes. However, researchers have admitted that very little is known about the experiences of students who swirl (Kuh et al., 2006), even though the majority of students who earn a bachelor's degree engage in the practice. Kuh et al. (2006) recommended that further research be conducted on institutional attendance patterns and their effects on student success. As such, the researcher for the current study examined the relationship between swirling and engagement as measured by self-reported scores on the Community College Survey of Student Engagement.

A review of the literature revealed that much of the research on multi-institutional attendance focused on those who made a permanent transition from one institution to another (McCormick, 2003) including vertical transfers, which is defined as a student starting at a community college then transferring to a four-year institution within five years. Research on multi-institutional attendance has also confirmed that race and the number of required developmental courses are linked to the decision to transfer within the first six years of enrollment (Kuh et al., 2006). Both Adelman (2006) and Peter and Cataldi (2005) found that swirling was not positively related to degree completion. Perhaps most applicable to this

study, while transfer is positively related to degree completion, swirling is not (Adelman, 2006; Peter and Cataldi, 2005). In addition, swirling appears to dampen student engagement (Kuh et al., 2006). For students enrolled at a four-year institution, NSSE (2005) data suggested that transfer students interacted less with faculty, participated in fewer educationally enriching activities, viewed the campus as less supportive, gained less during college, and were less satisfied overall with college when compared with seniors who started and persisted at their current institution (Kuh et al., 2006). Kuh et al. (2006) determined that transfer students were generally less engaged.

Johnson and Muse (2012) proposed that the effect of multi-institutional attendance differed by college type and that the effects of four-year out-of-state institution attendance were the most pronounced. The researchers found that the positive effects of swirl were limited to lower overall tuition cost and attendance at a higher selectivity institution than possible based on a student's high school performance alone. The list of adverse effects of swirling included more substantial student debt, longer time-to-degree, and more financial aid spent on duplicate courses. Institutions of higher education are negatively impacted by swirling (Johnson & Muse, 2012). From an institutional perspective, swirling is also associated with low retention and losses of tuition. Since the attrition of non-resident students leads to even higher losses in tuition revenues, this can have a severe impact on revenue for colleges that enroll large populations of out-of-state students. In Johnson and Muse's (2012) study of one

large research institution, co-enrollment was found to have a statistically negative effect on persistence.

Rab (2004) conducted studies using national longitudinal postsecondary transcript data which demonstrated that students from lower socioeconomic (SES) backgrounds are more likely to swirl than economically advantaged students. Swirling is negatively associated with timely bachelor's degree completion (Rab, 2004; Goldrick-Rab, 2006). According to Rab (2004), swirling represents a less successful route toward degree completion (involving less selective, less elite institutions), and lower SES students are disproportionately likely to follow it. Rab (2004) discussed that swirling helps to perpetuate the lower degree completion rates of disadvantaged college students, assists in the continuation of class inequalities, and helps to create new forms of stratification within higher education. Rab (2004) urged future researchers to untangle the complex reasons why disadvantaged students swirl and to uncover how multi-institutional attendance may negatively affect students' chances of timely degree completion.

Limited research exists that describes the relationship between swirling and student engagement, but the literature that is available utilized qualitative methodology to expound on the adverse effects of swirling. Nonetheless, data confirm that students will continue to swirl among institutions as they seek to access higher education in a way that best fits their personal and financial circumstances (Bontrager, Clemetsen, & Watts, 2005). Grounded in the evidence of swirling, Borden (2004) suggested ways of working with, rather than

against this phenomenon. Borden (2004) suggested four ways to accommodate swirl, which include: student tracking and research, assimilation programs that quickly engage students in campus academic and student culture, cross-institutional efforts to establish common outcomes collaboratively, and competency-based assessment for placement. Since most students in higher education engage in swirling, it is imperative that researchers study this population and the possible implications of multi-institutional attendance in terms of student success (Nakano, 2012).

CHAPTER III: METHODOLOGY

The purpose of this study was to use the theory of student engagement that was developed by Kuh et al. (2006) to examine the perceived level of student engagement for students participating in multi-institutional attendance (swirlers and non-swirlers) as measured by the Community College Survey of Student Engagement (CCSSE). The independent variable was multi-institutional attendance, which included swirlers and non-swirlers. The researcher used ex post facto data provided by the Center for Community College Student Engagement. This chapter includes the research design, four research questions, the sample, the instrumentation, the procedures, and the plan for data analysis.

Research Design

For this comparative study, the researcher employed a quantitative research design by using ex post facto data. This methodological approach included the application of research questions and data collection procedures to safeguard the research findings from the influence of personal biases and provide the ability to generalize and replicate the findings (Bryman, 2016; Creswell, 2014). Moreover, the use of ex post facto data allowed the researcher to avoid the labor-intensive activity of collecting data from a sample of students and instead focus solely on interpretation and analysis of data (Bryman, 2016).

A quantitative research methodology was selected for this study. Quantitative methodology is the best fit to examine relationships among variables (Creswell, 2014). Since the researcher used a national dataset from the

Community College Survey of Student Engagement (CCSSE), selecting a quantitative approach was appropriate. Babbie (2008) recommended the use of a quantitative design for studies utilizing cross-sectional data from a questionnaire administered to individuals. Furthermore, it is appropriate to use the quantitative methodology to identify potential relationships between variables when little empirical research exists on a topic (Johnson & Christensen, 2012). A review of the literature demonstrated that while an abundance of studies exists that analyzed transfer students and student engagement, there is a scarcity of research on multi-institutional attendance and student engagement. In this quantitative survey study, the researcher examined the level of student engagement as measured by the national dataset of community college students who participated in the 2012, 2013, and 2014 administration of the CCSSE.

Research Questions

The study was guided by the following research questions:

1. What is the difference between swirlers (students participating in multi-institutional attendance) and non-swirlers (students who do not participate in multi-institutional attendance), and their perceived level of student engagement?
2. For the sample in the current study (N=500), does the level of student engagement predict the number of classes presently being taken at other institutions?
3. For swirlers (students participating in multi-institutional attendance), what is the relationship between their perceived level of student

engagement and how many classes they are presently taking at other institutions, as reported in item 25 of the CCSSE?

4. What is the relationship between swirlers (students participating in multi-institutional attendance) and non-swirlers (students who do not participate in multi-institutional attendance), and their frequency of use of academic advising/planning as reported in item 13.1a of the CCSSE?

Null Hypotheses

The following null hypotheses was tested at the .05 level of significance:

1. There is no difference between swirlers (students participating in multi-institutional attendance) and non-swirlers (students who do not participate in multi-institutional attendance), and their perceived level of student engagement.
2. For the current sample, the level of student engagement is not a predictor of the number of classes they are presently taking at other institutions.
3. For swirlers, there is no relationship between perceived level of student engagement and how many classes they are presently taking at other institutions.
4. There is no relationship between swirlers (students participating in multi-institutional attendance) and non-swirlers (students who do not participate in multi-institutional attendance), and their frequency of use of academic advising/planning.

Setting and Sample of the Study

The setting for the study consisted of community colleges across the United States who administered the Community College Survey of Student Engagement (CCSSE) in 2012, 2013, and 2014. The institutions varied in size, region, and student population or demographics. The sample for the study was determined by the Center for Community College Student Engagement. The sample consisted of community college students who were enrolled in 2012, 2013, and 2014 at institutions that administered the CCSSE. The researcher used a free dataset that included responses within the aforementioned timeframes from the Center for Community College Student Engagement (CCCSE) at the University of Texas at Austin.

Responses to individual CCSSE survey items from the entire sample were used to investigate the relationship between multi-institutional attendance and student engagement. Swirlers were defined using item 19. The researcher's goal was to isolate students who participated in swirl. Responses from students were compared when examining the difference between students who swirl and those who did not, non-swirlers, and their level of student engagement. Item 19 asked, "Since high school, which of the following types of schools have you attended other than the one you are now attending?" Respondents who selected any response other than "none" were defined as swirlers. These responses included: proprietary (private) school or training program, public vocational-technical school, another community college or technical college, and 4-year college or university. The researcher analyzed data from the group of students

who reported previous attendance at any other type of school since high school to explore whether a predictive relationship existed between multi-institutional attendance and the five CCSSE benchmarks and student engagement.

Instrumentation

The researcher analyzed ex post facto, self-reported survey, data from the Community College Survey of Student Engagement (CCSSE). Developed in 2001 by the Community College Leadership Program at the University of Texas at Austin, the CCSSE is a tool used by higher education institutions to assess student engagement regarding college quality and performance (Community College Survey of Student Engagement, 2018a; Marti, 2008). The CCSSE is a national survey that contains 38 questions and focuses on student behaviors and institutional practices that promote student engagement (McClenney, Marti, & Adkins, 2006). Utilized as a benchmarking instrument, the CCSSE contains items about college experiences that could determine positive educational practices that influence retention and measures of student success (Community College Survey of Student Engagement, 2018b).

The CCSSE provides access to a tool, known as the Community College Student Report (see Appendix), for institutions to assess new and ongoing initiatives and measure progress towards established goals (Community College Survey of Student Engagement, 2018a). Student engagement information is collected via student responses to items tied to specific benchmarks:

1. Active and Collaborative Learning
2. Academic Challenge
3. Student Effort
4. Student-Faculty Interaction
5. Support for Learners

Each of the benchmarks is a set of conceptually linked survey items that relate to institutional practices and student behaviors that support student engagement (Community College Survey of Student Engagement, 2018c). The instrument contains a four-point Likert Scale that includes “very often,” “often,” “sometimes,” and “never” as options for the responses. The CCSSE has been confirmed as both reliable and valid (Marti, 2008; McClenney et al., 2006).

Procedures

For the proposed study, approval was obtained from the Morgan State University Institutional Review Board (IRB). The IRB requires the submission of an application that contains procedures and information about participants which will allow the reviewer to determine the degree of risk that participants might be exposed to by being a part of the study. Upon approval of the IRB application, the researcher used ex post facto data from the 2012, 2013, and 2014 administration of the CCSSE, from the Center for Community College Student Engagement.

Data Analysis

The researcher analyzed the ex post facto data obtained from the Center for Community College Student Engagement by using the Statistical Package for the Social Science (SPSS) software. The independent variable was multi-institutional attendance (item 24 on the CCSSE) including swirlers and students who do not swirl. The dependent variables were the five CCSSE benchmarks and overall level of student engagement. An alpha level of .05 was used to test the null hypotheses. Descriptive statistics were used to summarize the means, standard deviations, and range of scores for the dependent variables and the demographic characteristics of the respondents. Creswell (2014) encouraged descriptive statistics for use in determining trends, distributing data, and describing responses to questions. Inferential statistics, including *t*-test, multivariate analysis of variances, binary logistic regression, and multinomial logistic regression was used to analyze the data and reach conclusions about the level of student engagement on each benchmark. Inferential statistics assisted the researcher in making inferences, drawing conclusions, and proposing generalizations about the population of participants. Table 1 depicts an overview of the data analysis procedures that will be applied to each research question.

Table 1.

Overview of Data Analysis

Research Question	Independent Variable	Dependent Variable	Statistical Procedure
1	Community College Students: • Swirlers • Non-swirlers	Student Engagement The Five Benchmarks	T-test MANOVA
2	Student Engagement	Number of classes presently taking at other institutions • No classes • One or more classes	Binary Logistic Regression
3	Student Engagement The Five Benchmarks	Number of classes presently taking at other institutions • No classes • One or more classes	Binary Logistic Regression
4	Community College Students: • Swirlers • Non-swirlers	Frequency of use of academic advising/planning	Multinomial Logistic Regression

Summary

The researcher examined the relationship between multi-institutional attendance and level of student engagement. The researcher used quantitative data and provided a numeric description of trends, opinions, or attitudes of a population by studying a sample of the population of interest (Creswell, 2009). Quantitative methods were used to analyze the ex post facto data using descriptive and inferential statistics. The researcher attempted to elaborate on existing research on the topic of multi-institutional attendance.

CHAPTER IV: RESULTS OF THE DATA ANALYSIS

This chapter presents the results of the study by presenting the data analysis and answering the four research questions. The purpose of this quantitative study was to use the theory of student engagement that was developed by Kuh et al. (2006) to examine the perceived level of student engagement for students participating in multi-institutional attendance (swirlers and non-swirlers) as measured by the Community College Survey of Student Engagement (CCSSE).

Chapter IV summarizes the researcher's findings on the relationship between multi-institutional attendance and level of student engagement. Descriptive statistics were used to classify and summarize community college swirler and non-swirler student characteristics. Inferential statistics were then used to answer the three research questions.

Descriptive Statistics

The researcher used ex post facto data collected from the Community College Survey of Student Engagement (CCSSE) for years 2012, 2013, and 2014. The population for this study consisted of a random sample of 500 community college students from which 47% (233) were swirlers and 53% (267) were non-swirlers. Most respondents in this study were White females enrolled as part-time students (see Table 2 and 3). Of the 500 respondents, 63% of swirlers were female, while 59% of non-swirlers were female. The race/ethnicity of the respondents was primarily White (Swirlers, 45%; Non-Swirlers, 57%). The remaining respondents identified themselves as Black/African-American

(Swirlers, 22%; Non-Swirlers, 16%), Hispanic (Swirlers, 17%; Non-Swirlers, 19%), Asian (Swirlers, 10%; Non-Swirlers, 3%), Native American (Swirlers, 3%; Non-Swirlers, 2%), Native Hawaiian (Swirlers, 1%; Non-Swirlers, 0.4%), or Other (Swirlers, 3%; Non-Swirlers, 3%). Thirty-one percent of the swirler students were ages 30 and 39 years old. The remaining swirler students were between the ages of 25 and 29 (17%), 22 and 24 (16%), 18 and 19 (10%), 20 and 21 (8%), and 40 and older (18%). Most of the non-swirlers (85%) were ages 18 and 19 years old. The remaining non-swirlers students were 20 and 21 (4%); 22 and 24 (3%) and 25 and older (8%). Finally, the majority of the students in this study were not married (Swirlers, 67%; Non-Swirlers, 95%) and had no dependents (Swirler, 58%; Non-Swirler, 79%). Table 2 presents the demographic characteristics of the respondents.

Table 2.

Respondents Demographic Characteristics

Description	Non-Swirlers		Swirlers	
	Frequency	%	Frequency	%
Population	267	53.4	233	46.6
Gender				
Male	110	41.2	87	37.3
Female	157	58.8	146	62.7
Race/Ethnicity				
Native American	4	1.5	6	2.6
Asian	9	3.4	27	10.3
Native Hawaiian	1	0.4	2	1.3
Black/African American	42	15.7	53	21.5
White	152	56.9	94	45.1
Hispanic	50	18.7	44	16.7
Other	9	3.4	7	2.6
Age				
18-19	250	85.4	32	10.3
20-21	10	3.7	19	8.2
22-24	7	2.6	37	15.9
25-29	7	2.6	40	17.2
30-39	4	1.5	71	30.5
40-49	7	2.6	24	10.3
50-64	4	1.5	18	7.7
65+	0	0.0	0	0.0
Married				
Yes	13	4.9	78	33.5
No	254	95.1	155	66.5
Dependents				
Yes	55	20.6	97	41.6
No	212	79.4	136	58.4

In terms of academic characteristics, the enrollment status of the respondents was primarily part-time. Of the swirler students, 86% were enrolled as part-time students and 14% were enrolled full time (see Table 3). Of the non-swirler respondents, 90% were enrolled part-time and 10% were enrolled full time. Only a few of the students in this study were first-generation (Swirlers, 39%; Non-Swirlers, 35%). Many of the respondents reported having a grade point average (GPA) of A- to B+ (Swirlers, 39%; Non-Swirlers, 29%). Most respondents reported earning 1 to 14 credits (Swirlers, 33%; Non-Swirlers, 59%). Finally, the majority of the swirler respondents (92%) were taking one or more classes at another institution at the time of the survey, while only (7%) of the non-swirlers were taking one or more classes at another institution at the time of the survey. Table 3 presents the respondents' academic characteristics.

Table 3.

Respondents Academic Characteristics

Description	Non-Swirlers		Swirlers	
	Frequency	%	Frequency	%
First Generation				
Yes	93	34.8	91	39.1
No	174	65.2	142	60.9
Enrollment				
Part-Time	241	90.3	201	86.3
Full-time	26	9.7	32	13.7
Number of Classes Presently Taking at Other Institutions				
0 classes	248	92.9	32	13.7
1 Classes	14	5.2	48	20.6
2 Classes	1	0.4	83	35.6
3 Classes	2	0.7	42	18.0
4 Classes	2	0.7	28	12.0
Credits Earned				
None	28	11.8	18	7.7
1-14 credits	140	59.1	77	33.0
15-29 credits	40	16.9	40	17.2
30-44 credits	19	8.0	21	9.0
45-60 credits	5	2.1	56	24.0
Over 60 credits	5	2.1	21	9.0
GPA				
A	19	7.1	52	23.3
A- to B+	78	29.2	90	38.6
B	73	27.3	33	14.2
B- to C+	67	25.1	36	15.5
C	22	8.2	16	6.9
C or lower	8	3.0	6	2.6

Student Engagement of Swirlers and Non-Swirlers

RQ1: What is the difference between swirlers (students participating in multi-institutional attendance) and non-swirlers (students who do not participate in multi-institutional attendance), and their perceived level of student engagement?

The first research question sought to determine whether differences existed in the level of student engagement between community college students who swirl and those who did not. An independent sample *t*-test was conducted to assess whether there was a difference in the level of student engagement for swirler and non-swirler students. The use of an independent sample *t*-test is appropriate when comparing the means of two groups to determine if there is a significant difference between the two (Hinkle, Wiersma, & Jurs, 2003). A *t*-test was conducted to measure the effects of the independent variables (multi-institutional attendance: swirl and non-swirl) on respondents' reported level of student engagement.

The researcher also conducted a Multivariate Analysis of Variance (MANOVA) to assess differences between swirler and non-swirler students in terms of the five CCSSE benchmarks. MANOVA is used to compare the main effect of the independent variable with two or more groups on multiple dependent variables.

Level of Student Engagement. There was a significant difference in the mean scores between the level of student engagement for swirlers ($M = 2.70$, $SD = .685$) and non-swirlers ($M = 2.56$, $SD = .625$); $t(497) = -2.519$, $p < .05$, (95% *CI*, -

.26301 to -.03251). These results suggest that swirler students' *Level of Student Engagement* were higher than that of non-swirlers thereby signifying that non-swirlers are less engaged. Thus, the null hypothesis was rejected. Table 4 presents the findings.

Table 4.

Independent Samples t-Tests for Equality of Means Using Student Engagement

Dependent Variable	Swirlers	M	SD	<i>t</i>	df	<i>p</i>
Level of Student Engagement	Yes	2.70	.685	-2.519	497	.012
	No	2.56	.625			

The Five CCSSE Benchmarks. MANOVA was used to examine the significant differences between the independent variable, student attendance pattern ((non-swirlers [0] and swirlers [1]) on the dependent variables, the five benchmarks (Active and Collaborative Learning, Student Effort, Academic Challenge, Student-Faculty Interaction, and Support for Learners). Box's *M* tests and Levene's *F* tests of equality of error variance were conducted to test the assumptions of the homogeneity of covariance matrices.

A Wilks' Lambda (λ) was interpreted for significance to verify that the assumptions of variance-covariance were met. Pillai's Trace (*V*) was interpreted for significance to verify assumptions that were not met. The effect size was calculated using partial eta squared (ηp^2) with suggested effect sizes of small (.0099), medium (.0588), and large ([.1379] Richardson, 2011). The partial eta squared (ηp^2) is an estimate of the amount of the effect size attributable to

between-group differences in the level of the independent variables (Richardson, 2011).

Box's M tests and Levene's F tests of equality of error variance were conducted to test the assumptions of the homogeneity of covariance matrices. Box M's tests if two or more covariance matrices are homogenous or equal. For research question one, the Box's M test ($p = .005$) indicated that the homogeneity of covariance assumptions was not met. In this instance, the significance of the Pillai's Trace (V) was used since the homogeneity of covariance assumptions was not met. Levene's F tests revealed that the assumption of the homogeneity of covariance was justifiable for *Active Collaborative Learning* (.070), *Academic Challenge* (.888), *Student-Faculty Interaction* (.249) and *Support for Learners* (.490). The assumption of the homogeneity of covariance was not met for *Student Effort* (.006).

A one-way MANOVA revealed a significant multivariate main effect by swirler, $F(5, 493) = 4.253$, *Pillai's Trace* (V) = .041, $p < .01$, $\eta p^2 = .041$, power = .962). The multivariate effect size was estimated at .041, which suggested that 4% of the variance in the dependent variables were accounted for by the independent variable. Power to detect the effect was .962. Thus, the null hypothesis was rejected. The results suggest that there was a significant difference in the five CCSSE benchmarks for swirlers and non-swirlers. The significant results are highlighted in Table 5.

Table 5.

*Multivariate Effects of Swirler and Non-Swirler on the Five CCSSE**Benchmarks*

Variable	<i>Pillai's Trace (V)</i>	<i>F</i>	<i>df</i>	<i>Error df</i>	<i>p</i>	<i>ηp^2</i>	<i>Observed Power</i>
Swirler	.041	4.253	5	493	.001	.041	.962

Given the significance of the overall test, the univariate main effects were examined. Significant univariate main effects of swirler status were obtained for *Active and Collaborative Learning*, $F(1, 497) = 15.136$, $p < .001$, $\eta p^2 = .030$, $power = .973$). The effect size was .030 which suggested that 3% of the variance in the dependent variables were accounted for by the independent variable. Power to detect the effect was .973. Significant univariate main effects of swirler status was also obtained for *Support for Learners*, $F(1, 497) = 7.009$, $p < .01$, $\eta p^2 = .014$, $power = .752$). The effect size was estimated at .001, which suggested that 4% of the variance in the dependent variables were accounted for by the independent variable. Power to detect the effect was .752. The mean scores for the importance of *Active and Collaborative Learning* for swirler students ($M = .44$, $SD = .196$) were greater than those of non-swirler students ($M = .38$, $SD = .170$). Additionally, the mean scores for the importance of *Support for Learners* for swirler students ($M = .51$, $SD = .226$) were lower than those of non-swirler students ($M = .52$, $SD = .215$).

Overall, the results suggest that swirler students had a higher level of *Active and Collaborative Learning*, while non-swirler students had a higher level of *Support for Learners*. Conversely, there was no difference between swirlers

and non-swirlers in terms of *Student Effort*, *Academic Challenge*, and *Student-Faculty Interaction*. The results are presented in Table 6.

Table 6.

Univariate Effects of Swirler and Non-Swirler on the Five CCSSE Benchmarks

Independent Variable: <i>Swirler Status</i>							
Dependent Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	ηp^2	<i>Observed Power</i>
Active and Collaborative Learning	.502	1	.502	15.136	.000	.030	.973
Student Effort	.073	1	.073	3.449	.064	.007	.458
Academic Challenge	.077	1	.077	2.842	.092	.006	.391
Student-Faculty Interaction	.260	1	.260	7.009	.008	.014	.752
Support for Learners	.014	1	.014	.297	.586	.001	.085

Student Engagement by the Number of Classes Presently Taking

RQ2: For the sample in the current study ($N=500$), does the level of student engagement predict the number of classes presently taking at other institutions?

Binary logistic regression was conducted for research question two to determine if the *Level of Student Engagement* is a potential predictor of the number of classes that a student was presently taking at other institutions. In the analysis, one or more classes is compared to the reference category of no classes. A statistical significance measure of .05 was used.

The binary logistic regression model was statistically significant, $\chi^2(1) = 12.308$, $p = .000$, Nagelkerke $R^2 = .033$. The model explained 3% (Nagelkerke R^2) of the variance in the number of classes that were presently taken at other institutions and correctly classified 57.7% of cases. The Walden criterion demonstrated that the level of student engagement ($p = .001$) made a significant contribution to the prediction. The results showed that the level of student engagement ($OR = 1.628$, (95 CI, 1.235 to 2.147), $p < .01$) was a significant predictor of the number of classes that a student was presently taking at other institutions. Each single-point increase in the *Level of Student Engagement* is associated with a 1.628 increase in the odds of students taking one or more classes at other institutions. Specifically, as student engagement increases, so does the chance of students taking one or more classes at other institutions (1:0.488).

In summary, the results suggest that as the level of student engagement increases, so does the likelihood that community college students take one or more classes at other institutions. Thus, the null hypothesis was rejected. The results are shown in Table 7.

Table 7.

Binary Logistic Regression Results of Sample Population-Level of Student Engagement by the Number of Classes Presently Taking at Other Institutions

								95% CI for Exp(B)	
			Std.					Lower	Upper
Classes	Taking	B	Error	Wald	df	<i>p</i>	Exp(B)	Bound	Bound
One or more class	Level of Student Engagement	.488	.141	11.960	1	.001	1.628	1.235	2.147

Note: The reference category: No classes.

Swirler Student Engagement by the Number of Classes Presently Taking

RQ3: For swirlers (students participating in multi-institutional attendance), what is the relationship between their perceived level of student engagement and how many classes they are presently taking at other institutions, as reported in item 25 of the CCSSE?

Research question three used binary logistic regression to independently determine if the level of student engagement or the five CCSSE benchmarks (*Active and Collaborative Learning [ACL]*, *Student Effort [SE]*, *Academic Challenge [AC]*, *Student-Faculty Interaction [SFI]*, and *Support for Learners [SFL]*) were potential predictors of the number of classes a student was presently taking at other institutions. In the analyses, one or more classes were compared to the reference category of no classes for the level of student engagement, while no classes were compared to the reference category of one or more classes. A statistical significance measure of .05 was used.

Level of Student Engagement. In regards to the *Level of Student Engagement*, the binary logistic regression model was statistically significant, $\chi^2(1) = 9.984$, $p = .002$, Nagelkerke $R^2 = .076$. The model explained that 8% (Nagelkerke R^2) of the variance in the number of classes swirlers were presently taking at other institutions and correctly classified 86.2% of cases. The Walden criterion demonstrated that the *Level of Student Engagement* ($p = .004$) made a significant contribution to the prediction. The results showed that the *Level of Student Engagement* ($OR = 2.751$, (95 CI, 1.388 to 5.455), $p < .01$) was a significant predictor of the number of classes that were presently being taken at other institutions. Each single-point increase in the *Level of Student Engagement* was associated with a 2.751 increase in the odds of swirlers taking one or more classes at other institutions versus taking no classes. Specifically, the chances of swirlers taking one or more classes at other institutions (1:1.012) than the chances of them taking no classes increased as their *Level of Student Engagement* increased.

Overall, the results suggest that if the *Level of Student Engagement* increases, the likelihood of swirlers taking one or more classes at other institutions is greater than the likelihood of them taking no classes. Thus, the null hypothesis was rejected. The results are shown in Table 8.

Table 8.

Binary Logistic Regression Results of Swirler Students Level of Student Engagement by the Number of Classes Presently Taking at Other Institutions

								95% CI for	
								Exp(B)	
Classes Taking		B	Std. Error	Wald	df	p	Exp(B)	Lower Bound	Upper Bound
One or more classes	Level of Student Engagement	1.012	.349	8.399	1	.004	2.751	1.388	5.455

Note: The reference category: No classes.

Five CCSSE Benchmarks. In regards to the five CCSSE benchmarks, the binary logistic regression model was statistically significant, $\chi^2(1) = 95.095$, $p = .000$, Nagelkerke $R^2 = .609$. The model explained that 61% (Nagelkerke R^2) of the variance in the number of classes that were presently taken at other institutions and correctly classified 91.8% of cases. The Walden criterion demonstrated that *Student Effort* ($p = .000$), *Academic Challenge* ($p = .000$), and *Support for Learners* ($p = .015$) made a significant contribution to the prediction. The results showed that *Student Effort* ($OR = .000$, (95 CI, .000 to .000), $p < .001$), *Academic Challenge* ($OR = 752.866$, (95 CI, 10.739 to 52780.154), $p < .01$), and *Support for Learners* ($OR = .039$, (95 CI, .035 to .676), $p < .05$) were significant predictors of the number of classes that swirlers were presently taking at other institutions.

Each single-point increase in the benchmark, *Academic Challenge*, is associated with a 752.866 increase in the odds of swirlers taking one or more classes at other institutions than not taking any classes. The likelihood that a

swirler student would take one or more classes at other institutions versus the likelihood of them taking no classes increased as their *Academic Challenge* (1:6.624) increased. Conversely, each single-point of increase in *Student Effort* and *Support for Learners* is associated with a .000 and a .039 decrease in the odds of swirler students taking one or more classes at other institutions versus not taking any classes. Accordingly, the chances of swirler students taking one or more classes at other institutions versus the chances of them taking no classes decreased as their *Student Effort* (1:17.909) and *Support for Learners* (1:3.239) increased.

The results suggest that if *Academic Challenge* increases, the likelihood of swirlers taking one or more classes at other institutions is greater than the likelihood of them taking no classes. However, as *Student Effort* and *Support for Learners* increased, the likelihood of swirler students taking one or more classes at other institutions decreased. Thus, the null hypothesis was rejected for these three benchmarks. Conversely, *Active and Collaborative Learning* ($p = .351$) and *Student-Faculty Interaction* ($p = .710$) were not good predictors of the number of classes swirlers take at other institutions. The null hypothesis was retained for *Active and Collaborative Learning* and *Student-Faculty Interaction*. The results are shown in Table 9.

Table 9.

Binary Logistic Regression Results of Swirler Students Level of Student Engagement by the Number of Classes Presently Taking at Other Institutions

Classes Taking		B	Std. Error	Wald	df	p	Exp(B)	95% CI for Exp(B)	
								Lower Bound	Upper Bound
One or more Classes	ACL	1.823	1.955	.869	1	.351	6.189	.134	285.722
	SE	-17.909	3.041	34.687	1	.000	.000	.000	.000
	AC	6.624	2.168	9.331	1	.002	752.866	10.739	52780.154
	SFI	.786	2.115	.138	1	.710	2.194	.035	138.638
	SFL	-3.239	1.453	4.970	1	.026	.039	.002	.676

Note: The reference category: One or more classes

Swirlers and Non-Swirlers Frequency of Use of Academic

Advising/Planning

RQ4: What is the relationship between swirlers (students participating in multi-institutional attendance) and non-swirlers (students who do not participate in multi-institutional attendance), and their frequency of use of academic advising/planning as reported in item 13.1a of the CCSSE?

For this research question, the researcher aimed to determine whether there was a relationship between multi-institutional attendance and how often students reported using academic advising/planning at the community college. Multinomial logistic regression was conducted to model the relationship between the predictor variable, swirlers (non-swirler [0], swirlers [1]) and the dependent variable, the frequency of use of academic advising/planning (don't know, rarely/never, sometimes, often). In this analysis, the reference category for the predictor variable was swirler.

The multinomial logistic regression indicated that the overall model was not statistically significant [$\chi^2(3, 497) = 5.158$, Nagelkerke $R^2 = .011$, $p = .161$] and not more effective than the null model (intercept only). Since there was no significance and due to the lack of explanatory power, the remaining multinomial logistic regression analysis tests, such as likelihood ratio tests and parameter estimates were not conducted. The null hypothesis was retained. No tables were generated for the multinomial logistic regression analysis.

Summary

In this chapter, the researcher examined the relationship between multi-institutional attendance and level of student engagement. The findings of the analyses (independent t -test, MANOVA, binary logistic regression, and multinomial logistic regression), presented in this chapter answered the four research questions outlined in the study. Descriptive statistics were used to describe the demographic and academic characteristics of swirlers and non-swirlers. Inferential statistics were employed to determine if relationships existed between the five benchmarks of student engagement and the student institutional profile. T -test and MANOVA were used to examine the differences between the independent variables and the dependent variables. Box's M tests and Levene's F tests of equality of error variance tested the assumptions of the homogeneity of covariance matrices. In instances where the assumption of variance-covariance was met, Wilks' Lambda (λ) was interpreted for significance. The effect size was calculated using partial eta squared (ηp^2) and omega squared (ω^2). Finally,

logistic regression was calculated to assess if the independent variables were good predictors of the dependent variables.

For research question one, independent *t*-test results indicated that a difference existed among community college students who swirl (swirlers) and those who do not (non-swirlers) in terms of their overall student engagement. The results suggested that swirler students' *Level of Student Engagement* was higher than those of non-swirler students. In addition, the results from the MANOVA analysis indicated that a significant difference existed in terms of the five CCSSE benchmarks for swirlers versus non-swirlers. The MANOVA results suggested that the level of *Active and Collaborative Learning* for swirlers was highest while non-swirler students' level of *Support for Learners* was highest. Furthermore, the levels of *Student Effort*, *Academic Challenge*, and *Student-Faculty Interaction* for non-swirler and swirler students had no significant difference.

For research question two, binary logistic regression results revealed that the *Level of Student Engagement* was a good predictor of the number of classes that were presently being taken at other institutions for community college students. The results suggested that the likelihood of community college students taking one or more classes at other institutions is greater than the likelihood of them taking no classes as their level of student engagement increases.

For research question three, binary logistic regression results indicated that the *Level of Student Engagement* was a good predictor of the number of

classes presently being taken at other institutions for swirlers. The results suggested that the likelihood of swirlers taking one or more classes at other institutions was greater than the likelihood of them taking no classes as their level of student engagement increased. In terms of the five CCSSE benchmarks, the results also revealed that *Student Effort*, *Academic Challenge*, and *Support for Learners* were good predictors of the number of classes that were presently being taken at other institutions for swirlers. These results suggested that the likelihood of swirlers taking one or more classes at other institutions was greater than the likelihood of them taking no classes at other institutions as *Academic Challenge* increased. The chances of swirler students taking one or more classes at other institutions versus the chances of them taking no classes decreased as their *Student Effort* (1:17.909) and *Support for Learners* (1:3.239) increased.

Finally, multinomial logistic regression results for research question four found that a student's swirler status did not significantly predict the frequency of use of academic advising/planning. Chapter 5 will present a discussion on the findings as they relate to the literature, the limitations of the study, and recommendations for best practice and future research.

Chapter V: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Chapter 5 provides a synopsis of the study which further explains the data analysis and results presented in Chapter 4. The five sections in this chapter include the Introduction, Summary of the Study, Summary of Results and Discussion, Limitations, and Recommendations. The limitations of this study were the characteristics of the design that affected or had an influence on the interpretation of the findings. The recommendations offer a set of suggestions for future explorations based on the results of this study.

Introduction

Student utilization of complex enrollment patterns such as swirling, double-dipping, and non-linear patterns of enrollment at different institutions have become common practice in postsecondary institutions within the United States (de los Santos & Wright, 1990; McCormick, 2003; Peter & Cataldi, 2005). Multi-institutional attendance has become increasingly prevalent for students who desire to persist towards a bachelor's degree (Crisp, 2017; McCormick, 2003; Nakano, 2012; Wark, 2015). Researchers have admitted that student mobility is better documented than it is understood (Pusser & Turner, 2004). Literature on the links between transfer and student engagement is thin, and even fewer studies have explicitly focused on swirlers when reviewing student engagement (Kuh et al., 2006; Lester et al., 2013). As a significant element in the measurement of institutional accountability, student engagement is a widely accepted indicator and predictor of student success (Kuh, 2001; Kuh et al., 2006).

This study concentrated on the relationship between swirling and student engagement. The researcher identified potential relationships between variables where little empirical research exists (Johnson & Christensen, 2012). Data from the Community College Survey of Student Engagement (CCSSE) were utilized by examining how student responses to items tied to specific benchmarks. The benchmarks included *Active and Collaborative Learning*, *Academic Challenge*, *Student Effort*, *Student-Faculty Interaction*, and *Support for Learners*.

The survey explicitly asked students to report the number of classes they were presently taking at another institution and their frequency of use of academic advising/planning. Item 25 addresses the use of academic advisors to support students as they make decisions in the areas of goal setting and planning and remaining on track until goals are met (Center for Community College Student Engagement, 2018). Students depend on informed and accessible academic advisors to assist them during the transfer process. Since the majority of students begin postsecondary studies at a community college, advising in the first two-years is critical. In this regard, community college academic advisors are the first step in the transfer process and the key to important information which is necessary for a successful and smooth transfer (Laanan et al., 2010).

The theory of student engagement which was created by Kuh et al. (2006) framed this study. The theory embraces two key components that contribute to student success. The first component is that the amount of time and effort that students commit to their studies, and other activities, lead to the experiences and

outcomes that constitute student success (Kuh, 2009; Kuh et al., 2005; Kuh et al., 2006). The second component is that institutional conditions such as the ways institutions allocate resources and organize learning opportunities and services motivate students to participate in and benefit from activities provided by the college (Kuh, 2009; Kuh et al., 2005; Kuh et al., 2006). The framework includes transfer as a factor that influences student engagement and success. Thus, it was reasonable to expect that the amount of time students commit to a given institution, how many classes they take at multiple institutions, and the students' frequency of use of academic advising/planning may affect levels of engagement.

This study focused on the relationship between swirling and student engagement. After examining the relationship between swirling and student engagement, the researcher examined the difference between the number of classes that swirlers were taking at other institutions and their perceived level of student engagement. The researcher sought to determine whether the number of classes taken at another institution influenced the swirler's level of engagement. The strength of the relationship between the two variables was also measured. Finally, the researcher sought to observe whether the frequency of use of academic advising/planning differed for swirlers and non-swirlers.

Summary of the Study

Despite what is known about multi-institutional attendance, the literature review revealed a paucity of evidence regarding student engagement factors and their relationship to swirling for community college students. The limited

information available revealed that while transfer is positively related to degree completion, swirling was not (Adelman, 2006; Peter & Cataldi, 2005). In addition, swirling appeared to dampen student engagement (Kuh et al., 2006). Still, there is a paucity in the literature regarding multi-institutional attendance as it relates to student success and student engagement in community college students.

The purpose of this quantitative study was to use the theory of student engagement developed by Kuh et al. (2006) to examine the perceived level of student engagement for students participating in multi-institutional attendance (swirlers and non-swirlers) as measured by the Community College Survey of Student Engagement (CCSSE). For this comparative study, the researcher employed a quantitative research design using ex post facto data. A random sample ($N=500$) was drawn from ex post facto data collected from 2012, 2013, and 2014 administrations of the CCSSE, and the researcher then examined the level of student engagement. Four research questions were addressed using descriptive and inferential statistics. The following section presents a summary of the findings and related discussion for each of the four research questions.

Summary of Results and Discussion

Student Engagement of Swirlers and Non-Swirlers. RQ1: What is the difference between swirlers and non-swirlers and their perceived level of student engagement?

The first research question was posed to determine whether differences existed in the level of student engagement for swirlers and non-swirlers. A comparison of the means of student engagement scores for both groups shows

that community college students perceived their level of engagement differently. Students who swirled reported significantly higher levels of engagement than those who did not. The effects of swirling were also assessed against each of the five CCSSE engagement benchmarks (Active and Collaborative Learning, Student Effort, Academic Challenge, Student-Faculty Interaction, and Support for Learners). The results suggested that there was a significant difference in the five CCSSE benchmarks for swirlers versus non-swirlers.

Research Question 2

Student Engagement by the Number of Classes Presently Taking.

RQ2: For the sample in the current study ($N=500$), does the level of student engagement predict the number of classes presently being taken at other institutions?

In the second question, the researcher examined the predictability of student engagement on the number of classes students took at other institutions. The model demonstrated that there was a level of predictability between the two variables as it correctly classified over half of the cases. *Level of Student Engagement* was a significant predictor of the number of classes that were presently being taken at other institutions. Each single-point increase in the level of student engagement was associated with a 1.628 increase in the odds of students taking one or more classes at other institutions. The results suggested that the likelihood of community college students taking one or more classes at other institutions is greater than the likelihood of them taking no classes as their level of student engagement increases.

Research Question 3

Swirler Student Engagement by the Number of Classes Presently

Taking. RQ 3: For swirlers, what is the relationship between their perceived level of student engagement and how many classes they are presently taking at other institutions, as reported in item 25 of the CCSSE?

The third research question focused on whether predictability could be established between student engagement and the likelihood of a swirler to take classes at other institutions. The findings of this research question revealed that the *Level of Student Engagement* was a good predictor of the number of classes that were presently being taken at other institutions for swirlers. The results suggested that the likelihood of swirlers taking one or more classes at other institutions was greater than the likelihood of them taking no classes as their level of student engagement increased. In terms of the five CCSSE benchmarks, the results also revealed that *Student Effort*, *Academic Challenge*, and *Support for Learners* were good predictors of the number of classes presently being taken at other institutions for swirlers. These results proposed that the likelihood of swirlers taking one or more classes at other institutions was greater as *Academic Challenge* increased. However, the likelihood of swirler students taking one or more classes at other institutions is less likely than the likelihood of them taking no classes as *Student Effort*, and *Support for Learners* increased.

The research performed by Crisp (2013) supports these findings because students who engaged in patterns of multi-institutional attendance had higher levels of engagement. However, the results of research question two

contradicted findings that determined that transfer students were less engaged than their native student counterparts (Kuh et al., 2006). Perhaps, because swirlers are intentional in their transfer patterns by choosing to swirl for its benefits they experience a high level of student engagement. According to Simone (2014) students choose multi-institutional attendance for various reasons, including: accelerating time-to-degree, testing the feasibility of a future transfer, taking courses not offered or available at the home institution, saving money, enrolling in two different degree programs at two institutions simultaneously, smaller classes, more evening and weekend classes, and employment-related reasons. In addition, Gross and Berry (2016) and Peter and Cataldi (2005) found that young and financially dependent students were more likely to attend multiple institutions. In this study, all but 98 of the respondents were under the age of 30.

Research Question 4

Swirlers and Non-Swirlers Frequency of Use of Academic

Advising/Planning. RQ 4: What is the relationship between swirlers and non-swirlers and their frequency of use of academic advising/planning as reported in item 13.1a of the CCSSE?

The fourth research question focused on determining the relationship between multi-institutional attendance and the frequency in which a student utilized academic advising/planning. The inferential statistical test used to evaluate the data was multinomial logistic regression. Multinomial logistic regression was used because the dependent variable (frequency of use of

academic advising/planning) is categorical. Since multinomial logistic regression does not assume normality, linearity, or homoscedasticity, it is an attractive method of analysis (Starkweather & Moske, 2011). No relationship was identified between the independent and dependent variables.

Student Engagement and Multi-institutional Attendance. This study found that swirlers reported significantly higher levels of engagement than non-swirlers. The results affirm the theory of student engagement generated by Kuh et al.'s (2006) model showing that transfer impacts student engagement. However, the results are in opposition to Kuh et al.'s assertion that swirling dampens student engagement. The NSSE (2005) data suggested that transfer students interacted less with faculty, participated in fewer educationally enriching activities, viewed the campus as less supportive, gained less during college, and were less satisfied overall with college when compared with seniors who started and persisted at their current institution (Kuh et al., 2006). This study that evaluated community college students yielded conflicting results.

Furthermore, the results suggested that there was a significant difference in the five CCSSE benchmarks for swirlers versus non-swirlers. Swirler students had a higher level of *Active and Collaborative Learning*, while non-swirler students had a higher level of *Support for Learners*. A comparison of the mean scores for the five CCSSE benchmarks provides clarity on which benchmark swirlers perceived a higher level of engagement. *Active and Collaborative Learning* measures the degree to which students take part in class, collaborate with peers, and apply academic lessons beyond the classroom (CCSSE, 2017).

The *Active and Collaborative Learning* benchmark consistently predicts student success suggesting that the benchmark is infused throughout the college experience (McClenney et al., 2006). *Active and Collaborative Learning* means were the highest for swirlers which seems intuitive since multi-institutional attendance patterns are increasingly common for students who reside in urban areas and those who attend college online (Borden, 2004; Crisp, 2013; McCormick, 2003). Literature found that in the fall of 2015, over six million undergraduate students chose to enroll in at least one distance education course (Ginder, Kelly-Reid, & Mann, 2017). The mean scores also implied that *Support for Learners* could be strengthened or improved for swirlers. Overall, the findings related to student engagement may represent a new connection between swirling and its effect on student engagement. The findings also affirmed the relationship between multi-institutional attendance and student engagement.

Number of Classes at other Institutions. The results from research questions 2 and 3 demonstrated that the level of student engagement was a significant predictor of the number of classes taken at other institutions. Specifically, as student engagement increased, so did the occurrences that students took one or more classes at other institutions. An implication of these findings was to investigate partnerships and alignment of student support services on each campus. Community college swirler students enrolled in a partner four-year institution may have had a curriculum that aligned and could have been in a cohort group. If the alignment of the curriculum did not currently exist, these data support such an initiative. These cohorts would focus on

wholistic student supports, mapped out sequencing of courses, guaranteed transfer, and priority advising. An investigation by practitioners may find that students reporting high levels of engagement are participating in such programs and those who are not could benefit from participation.

Frequency of Use of Academic Advising/Planning. The findings from this research question revealed that there was no relationship between swirlers and non-swirlers and their frequency of use of academic advising/planning. The researcher found it noteworthy that although non-swirlers reported higher levels of engagement in the *Support for Learners* area (RQ1), the null hypothesis could not be rejected for this research question. Nonetheless, all students reported use of academic advising/planning. The CCSSE does not measure student satisfaction with academic advising/planning services provided, but the findings from such information could prove helpful to practitioners looking to make improvements to academic advising/planning.

The theory of student engagement proposes that the onus is on both the student and institution (Ivins et al., 2017; Kuh, 2009). If students are reporting a high level of engagement, then institutions should reflect on what can be done within their control. Swirlers need high levels of campus, faculty, and peer involvement at both the receiving and sending institutions; therefore, both institutions should commit to preparing students with resources and support (Ivins et al., 2017; Laanan et al., 2010). Partnerships between institutions along with the educating of academic advisors about the information and services

available to transfer students may create a smooth transition process for students each time that they transfer.

Limitations

The scope and design of the current study were subjected to limitations. First, although a national data set was accessed, the researcher only analyzed responses from a random sample of 500 students. In addition, this study did not distinguish results by regional, state, or institutional specific results. Due to state articulation policies, student utilization of academic advising/planning may vary. Second, this study was conducted using self-reported, ex post facto data. Third, the study was limited with regards to the type of transfer student and a representation of the student's voice. This study did not include the engagement of students attending multiple institutions and who were currently enrolled in a four-year institution or high school, nor did it include student narratives.

Recommendations for Practice

The results of this study contribute to the literature on swirlers and student engagement. The recommendations presented will assist institutions and practitioners in determining effective engagement practices and providing aids that strengthen advising services for swirlers. As demands for institutional accountability increase for the community college (Boggs & McPhail, 2016), it is crucial for institutions to disaggregate data and offer targeted interventions for specific student populations. Also, as community college leaders strive to increase student retention and completion, they must consider swirlers and develop strategies for success for this student population.

The results of the current study have prompted the researcher to develop the following recommendations for practical application:

1. Examine the types of non-academic student support services that contribute to swirler student engagement. The findings of this study revealed no relationship between swirlers and their use of academic advising/planning. However, it was revealed that swirlers reported higher levels of engagement in the *Support for Learners* area than non-swirlers. Focus on high-quality interactions.
2. Sending and receiving institutions can commit to preparing potential transfer students with resources and support for success (Ivins et al., 2017; Laanan et al., 2010). To create a smooth transition process for students each time that they transfer partnerships between institutions along with the educating of academic advisors about the information and services available to transfer students are recommended. Such partnerships may respond to student stop-out and drop-out rates, persistence, and other measures of student success while increasing the likelihood of obtaining a bachelor's degree for students who swirl.
3. Investigate programs at institutions that have been created for swirlers and measure their impact on student engagement as a measure of student success.
4. Multi-institutional attendance poses challenges for colleges as they help students to enter and complete programs of study. Community

colleges may want to explore how advisors assist swirlers in planning for a transfer. Specifically, community colleges could explore methods for supporting students on course-taking, benefits/necessity of earning a degree prior to transfer, earning community college credits, when and how to transfer, information system usage, and monitoring of student progress for students who intend to transfer (Borden, 2004; Crosta, 2013).

5. The results showed that the level of student engagement was a significant predictor of the number of classes that were presently being taken at other institutions. Specifically, as the level of student engagement increased, so did the chance that students took one or more classes at other institutions. Practitioners may find it useful to consult with top transfer destinations and form co-enrollment agreements. In such cases, it would be beneficial for similar support services to be offered to students on each campus.

Recommendations for Future Research

The following recommendations for further research were derived from the results of this study:

1. An analysis of multi-institutional attendance and student engagement for community college students could be expanded to include more in-depth statistical analysis using regression to examine the influence of the numerous academic and demographic variables that were available for this rich data set.

2. A qualitative investigation of student satisfaction with academic advising/planning services may help to identify current best practices. The researcher found studies addressing the penalties of swirl but did not locate a study on student satisfaction with academic advising/planning.
3. An analysis of swirler student transcripts could be conducted to identify the relationship between student engagement and change of major, loss of credit in transfer, and other factors.
4. The effects of swirl on time-to-degree could be conducted by performing a longitudinal study on the same population of students. Such a study would expand the knowledge we have about swirler student success.
5. This study could be expanded to include swirlers who successfully graduate. The results of a study using the two sets of students will provide a clearer picture of multi-institutional attendance and student engagement of community college students.
6. The researcher suggests that an examination is performed to determine how structured pathways or transfer agreements, particularly those created at the program level, affect swirler student outcomes.

Swirling continues to be on the rise and shows no signs of decreasing.

Whether students choose to swirl for its multiple benefits or do so inadvertently, it is essential that community colleges position themselves to respond to this pattern of attendance. By providing increased opportunities for student academic advising/planning, reviewing and improving transfer agreements, and positioning stakeholders to take a proactive approach to address swirler student needs,

institutions can positively influence the level of student engagement for swirlers. The review of the literature regarding swirler students and community college student engagement has focused on the adverse effects of swirl from a qualitative lens or has concentrated on transfer students as a homogeneous population.

This study was conducted to test the theory of student engagement set forth by Kuh et al. (2006) as it relates swirl to student engagement. Kuh et al.'s theory ascertained that student behaviors and institutional conditions contribute to student engagement. Findings from this study advocate for increased swirler specific initiatives from institutions for a segment of students whose levels of student engagement were purportedly lower than their non-swirling counterparts. This study found that swirlers reported a higher level of engagement. The results suggested that it is essential that the community college improves institutional conditions to influence factors of student success. There was no difference in the frequency of use of academic advising/planning for swirlers and non-swirlers. Nonetheless, the literature encourages improved advising services and opportunities for students, especially those looking to transfer (Borden, 2004; Crosta, 2013). The results of this study affirm that swirling influenced student engagement.

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Appendix: Sample of Survey

The Community College Student Report

Instructions: It is essential that you use a No. 2 pencil to complete this survey. Mark your answers as shown in the following example:  Correct Mark  Incorrect Marks

1. Did you begin college at this college or elsewhere? ☐ Started here ☐ Started elsewhere 2. Thinking about this current academic term, how would you characterize your enrollment at this college? ☐ Full-time ☐ Less than full-time 3. Have you taken this survey in another class this term? ☐ Yes ☐ No 4. In your experiences <u>at this college</u> during the current school year, about how often have you done each of the following? <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%;">Very often</th> <th style="width: 10%;">Often</th> <th style="width: 10%;">Some-times</th> <th style="width: 10%;">Never</th> </tr> </thead> <tbody> <tr><td>a. Asked questions in class or contributed to class discussions</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>b. Made a class presentation</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>c. Prepared two or more drafts of a paper or assignment before turning it in</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>d. Worked on a paper or project that required integrating ideas or information from various sources</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>e. Come to class without completing readings or assignments</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>f. Worked with other students on projects during class</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>g. Worked with classmates outside of class to prepare class assignments</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>h. Tutored or taught other students (paid or voluntary)</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>i. Participated in a community-based project as a part of a regular course</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>j. 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Worked with instructors on activities other than coursework</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>r. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>s. Had serious conversations with students of a different race or ethnicity other than your own</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>t. Had serious conversations with students who differ from you in terms of their religious beliefs, political opinions, or personal values</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>u. Skipped class</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> </tbody> </table> 5. During the current school year, how much has your coursework <u>at this college</u> emphasized the following mental activities? <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%;">Very much</th> <th style="width: 10%;">Quite a bit</th> <th style="width: 10%;">Some</th> <th style="width: 10%;">Very little</th> </tr> </thead> <tbody> <tr><td>a. Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>b. Analyzing the basic elements of an idea, experience, or theory</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>c. Synthesizing and organizing ideas, information, or experiences in new ways</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>d. 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Tutored or taught other students (paid or voluntary)	☐	☐	☐	☐	i. Participated in a community-based project as a part of a regular course	☐	☐	☐	☐	j. Used the Internet or instant messaging to work on an assignment	☐	☐	☐	☐	k. Used e-mail to communicate with an instructor	☐	☐	☐	☐	l. Discussed grades or assignments with an instructor	☐	☐	☐	☐	m. Talked about career plans with an instructor or advisor	☐	☐	☐	☐	n. Discussed ideas from your readings or classes with instructors outside of class	☐	☐	☐	☐	o. Received prompt feedback (written or oral) from instructors on your performance	☐	☐	☐	☐	p. Worked harder than you thought you could to meet an instructor's standards or expectations	☐	☐	☐	☐	q. Worked with instructors on activities other than coursework	☐	☐	☐	☐	r. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	☐	☐	☐	☐	s. Had serious conversations with students of a different race or ethnicity other than your own	☐	☐	☐	☐	t. 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6. During the current school year, about how much reading and writing have you done at this college?

	None	1 to 4	5 to 10	11 to 20	More than 20
a. Number of assigned textbooks, manuals, books, or book-length packs of course readings	☐	☐	☐	☐	☐
b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment	☐	☐	☐	☐	☐
c. Number of written papers or reports of any length	☐	☐	☐	☐	☐

7. Mark the response that best represents the extent to which your examinations during the current school year have challenged you to do your best work at this college.

Extremely challenging 1 2 3 4 5 6 7 Extremely easy

8. Which of the following have you done, are you doing, or do you plan to do while attending this college?

	I have done	I plan to do	I have not done nor plan to do
a. Internship, field experience, co-op experience, or clinical assignment	☐	☐	☐
b. English as a second language course	☐	☐	☐
c. Developmental/remedial reading course	☐	☐	☐
d. Developmental/remedial writing course	☐	☐	☐
e. Developmental/remedial math course	☐	☐	☐
f. Study skills course	☐	☐	☐
g. Honors course	☐	☐	☐
h. College orientation program or course	☐	☐	☐
i. Organized learning communities (linked courses/study groups led by faculty or counselors)	☐	☐	☐

9. How much does this college emphasize each of the following?

	Very much	Quite a bit	Some	Very little
a. Encouraging you to spend significant amounts of time studying	☐	☐	☐	☐
b. Providing the support you need to help you succeed at this college	☐	☐	☐	☐
c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	☐	☐	☐	☐
d. Helping you cope with your non-academic responsibilities (work, family, etc.)	☐	☐	☐	☐
e. Providing the support you need to thrive socially	☐	☐	☐	☐
f. Providing the financial support you need to afford your education	☐	☐	☐	☐
g. Using computers in academic work	☐	☐	☐	☐

10. About how many hours do you spend in a typical 7-day week doing each of the following?

	None	1 - 5	6 - 10	11 - 20	21 - 30	More than 30
a. Preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to your program)	☐	☐	☐	☐	☐	☐
b. Working for pay	☐	☐	☐	☐	☐	☐
c. Participating in college-sponsored activities (organizations, campus publications, student government, intercollegiate or intramural sports, etc.)	☐	☐	☐	☐	☐	☐
d. Providing care for dependents living with you (parents, children, spouse, etc.)	☐	☐	☐	☐	☐	☐
e. Commuting to and from classes	☐	☐	☐	☐	☐	☐

11. Mark the number that best represents the quality of your relationships with people at this college.

Your relationship with:

a. Other Students

Friendly, supportive, sense of belonging 1 2 3 4 5 6 7 Unfriendly, unsupportive, sense of alienation

b. Instructors

Available, helpful, sympathetic 1 2 3 4 5 6 7 Unavailable, unhelpful, unsympathetic

c. Administrative Personnel & Offices

Helpful, considerate, flexible 1 2 3 4 5 6 7 Unhelpful, inconsiderate, rigid

12. How much has YOUR EXPERIENCE AT THIS COLLEGE contributed to your knowledge, skills, and personal development in the following areas?

	Very much	Quite a bit	Some	Very little
a. Acquiring a broad general education	☐	☐	☐	☐
b. Acquiring job or work-related knowledge and skills	☐	☐	☐	☐
c. Writing clearly and effectively	☐	☐	☐	☐
d. Speaking clearly and effectively	☐	☐	☐	☐
e. Thinking critically and analytically	☐	☐	☐	☐
f. Solving numerical problems	☐	☐	☐	☐
g. Using computing and information technology	☐	☐	☐	☐
h. Working effectively with others	☐	☐	☐	☐
i. Learning effectively on your own	☐	☐	☐	☐
j. Understanding yourself	☐	☐	☐	☐
k. Understanding people of other racial and ethnic backgrounds	☐	☐	☐	☐
l. Developing a personal code of values and ethics	☐	☐	☐	☐
m. Contributing to the welfare of your community	☐	☐	☐	☐
n. Developing clearer career goals	☐	☐	☐	☐
o. Gaining information about career opportunities	☐	☐	☐	☐

24. At what other types of institutions are you taking classes this term? (Please mark all that apply)

- ☐ None
- ☐ High school
- ☐ Vocational/technical school
- ☐ Another community or technical college
- ☐ 4-year college/university
- ☐ Other

25. How many classes are you *presently* taking at OTHER institutions?

- ☐ None
- ☐ 1 class
- ☐ 2 classes
- ☐ 3 classes
- ☐ 4 classes or more

26. Would you recommend this college to a friend or family member?

- ☐ Yes
- ☐ No

27. How would you evaluate your entire educational experience at this college?

- ☐ Excellent
- ☐ Good
- ☐ Fair
- ☐ Poor

28. Do you have children who live with you?

- ☐ Yes
- ☐ No

29. Mark your age group.

- ☐ Under 18
- ☐ 18 to 19
- ☐ 20 to 21
- ☐ 22 to 24
- ☐ 25 to 29
- ☐ 30 to 39
- ☐ 40 to 49
- ☐ 50 to 64
- ☐ 65+

30. Your sex:

- ☐ Male
- ☐ Female

31. Are you married?

- ☐ Yes
- ☐ No

32. Is English your native (first) language?

- ☐ Yes
- ☐ No

33. Are you an international student or foreign national?

- ☐ Yes ☐ No

34. What is your racial identification?(Mark only one)

- ☐ American Indian or other Native American
☐ Asian, Asian American or Pacific Islander
☐ Native Hawaiian
☐ Black or African American, Non-Hispanic
☐ White, Non-Hispanic
☐ Hispanic, Latino, Spanish
☐ Other

35. What is the highest academic credential you have earned?

- ☐ None
☐ High school diploma or GED
☐ Vocational/technical certificate
☐ Associate degree
☐ Bachelor's degree
☐ Master's/doctoral/professional degree

36. What is the highest level of education obtained by your:

	Father	Mother
a. Not a high school graduate	☐	☐
b. High school diploma or GED	☐	☐
c. Some college, did not complete degree	☐	☐
d. Associate degree	☐	☐
e. Bachelor's degree	☐	☐
f. Master's degree/1st professional	☐	☐
g. Doctorate degree	☐	☐
h. Unknown	☐	☐

37. Using the list provided, please fill in the bubbles that correspond to the code indicating your program or major. Using the first column, indicate the first number in the program code, using the second column, indicate the second number in the program code.

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

38. Please provide your student Identification number by filling in the corresponding bubbles. For example, in the first column, indicate the first number or letter in your student ID number, and so forth. (OPTIONAL)

-(Please begin here)

[illegible]

Your responses will remain confidential and individual responses will not be reported.

Thank you for sharing your views.

Additional Items (Please respond to these items if requested)

1.	A	B	C	D	E
2.	A	B	C	D	E
3.	A	B	C	D	E
4.	A	B	C	D	E
5.	A	B	C	D	E
6.	A	B	C	D	E
7.	A	B	C	D	E
8.	A	B	C	D	E
9.	A	B	C	D	E
10.	A	B	C	D	E
11.	A	B	C	D	E
12.	A	B	C	D	E
13.	A	B	C	D	E
14.	A	B	C	D	E
15.	A	B	C	D	E
16.	A	B	C	D	E
17.	A	B	C	D	E
18.	A	B	C	D	E
19.	A	B	C	D	E
20.	A	B	C	D	E