

Walden University ScholarWorks

Walden Dissertations and Doctoral Studies

Walden Dissertations and Doctoral Studies Collection

2017

Integration into a Historically Black University: Transfer and Native Students' Experiences

Zaigham Bokhari *Walden University*

Follow this and additional works at: https://scholarworks.waldenu.edu/dissertations Part of the <u>Educational Psychology Commons</u>, and the <u>Psychology Commons</u>

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

Zaigham Abbas Bokhari

has been found to be complete and satisfactory in all respects, and that any and all revisions required by the review committee have been made.

Review Committee Dr. Mitchell Hicks, Committee Chairperson, Psychology Faculty Dr. Carolyn King, Committee Member, Psychology Faculty Dr. Virginia Salzer, University Reviewer, Psychology Faculty

> Chief Academic Officer Eric Riedel, Ph.D.

> > Walden University 2017

Abstract

Integration into a Historically Black University: Transfer and Native Students'

Experiences

by

Zaigham A. Bokhari

MA, University of Detroit Mercy, 2006

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Educational Psychology

Walden University

September 2017

Abstract

Historically Black Colleges and Universities (HBCUs) receive the highest proportion of transfer students (TS) who encounter unique challenges to academic/social integration such as difficult socioeconomic backgrounds, insufficient support of their families, and limited access to student counseling and career guidance services on campus. The purpose of this study was to improve the understanding of the effects of these challenges on TS. Using the Survey of Native and Transfer Students Integration, the study collected quantitative data on measures of TS academic/social integration and qualitative data on TS personal experiences (n = 150). The results of correlation analyses suggest that (1) academic/social integration is positively correlated with institutional commitment regardless of student's status, but native students exhibit a higher degree of correlation; (2) TS have significantly higher GPAs than native students; (c) no statistically significant differences were found in academic/social integration between native and TS. The results of qualitative content analyses indicate that support by faculty/staff is the most beneficial factor in TS integration. Overall, the results demonstrate that academic/social integration has a positive effect on TS institutional commitments but contradict past findings that TS perform worse academically. The findings have implications for social change. At the individual level, the results will inform student advisors about TS unique challenges, which will benefit TS directly by improving academic/social integration process at HBCUs. At the organizational level, the results will help HBCUs to optimize educational policies, which will increase efficiency in students' academic goals attainment. At the societal level, the results will facilitate increases in graduation rates of TS at HBCUs, which will directly benefit their families and communities.

Integration into a Historically Black University: Transfer and Native Students'

Experiences

by

Zaigham A. Bokhari

MA, University of Detroit Mercy, 2006

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Educational Psychology

Walden University

September 2017

Dedication

I dedicate this dissertation to all members of my family and, in particular, to my beloved parents and grandparents, who always supported me in all my endeavors.

Acknowledgments

This research project was a long and arduous journey. It would have been impossible without enormous support from my dissertation committee members. In particular, I would like to thank Dr. Mitchell Hicks, my dissertation chair, for his conceptual guidance and big patience with which he approached my work. I also would like to extend my gratitude to Dr. Carolyn King, who recommended a number of critically important improvements to this project. Last but not the least, I would like to express my deepest appreciation for Daniel Weber, who provided his constructive critique, always helped me to think outside the box, and approached methodological problems and analytical issues from an efficiency perspective.

Table of Contents

ist of Tablesiv		
ist of Figures		
Chapter 1: Introduction to the Study1		
Introduction to the Problem1		
Problem Statement		
Purpose of the Study		
Rationale and Significance		
Theoretical Framework		
Research Questions11		
Hypotheses11		
Definitions of Key Terms12		
Limitations and Delimitations14		
Summary16		
Chapter 2: Literature Review18		
Introduction18		
Literature Search Strategy18		
Theories of Students' Integration		
Students' Transfer Concept22		
Transfer Adjustment		
Student Characteristics		

	Self-Efficacy	26
	Student Involvement	27
	Faculty and Advisor Interactions	29
	Peer Group Participation	32
	Network Construction	33
	Summary	36
Ch	apter 3: Research Method	38
	Introduction	38
	Methodology	39
	Population and Sample	42
	Instrumentation	44
	Data Collection	47
	Data Analysis	48
	Threats to Validity	50
	Ethical Considerations	51
	Summary	54
Ch	apter 4: Results	55
	Introduction	55
	Data Collection	57
	Student Demographics	58
	Independent Variables	62

Dependent Variables	66
Cronbach's Alpha	68
Hypotheses Testing	68
Summary	72
Chapter 5: Discussion, Conclusions, and Recommendations	74
Introduction	74
Review of the Findings	74
Limitations	
Discussion and Recommendations	81
Implications for Social Change	83
Conclusions	84
References	86
Appendix A: Survey Instrument	110

List of Tables

Table 1. Student Demographics	59
Table 2. Extracurricular Activities	62
Table 3. Peer Group Interactions	63
Table 4. Interactions With Faculty	64
Table 5. Faculty Concern for Student Development	64
Table 6. Academic and Intellectual Development	65
Table 7. Grade Point Average of Students	67
Table 8. Institutional and Goal Commitment	67

List of Figures

Figure 1. Scatterplot of academic/social integration and institutional commitment69

Chapter 1: Introduction to the Study

Introduction to the Problem

For a large and increasing number of Americans, the path to a better life requires a higher education degree. From 1960 to 2000, the United States saw a 40 percent increase in the proportion of jobs requiring some training or a degree beyond high school (Carnevale & Desrochers, 2004). This means that millions of Americans every year turn to postsecondary institutions for their credentials that will help them become part of the educated workforce that the modern economy demands (Baum, Ma, & Payea, 2013). Commensurate with this is the growth and diversification of student bodies (Aud, Fox, & KewalRamani, 2010), and it is ever-more imperative that colleges and universities maintain a comprehensive and consistent approach to all the populations they wish to serve. In this context, a particular need exists for more understanding of transfer students' unique circumstances, as the traditional approach to starting and finishing a degree at one university is no longer the norm (Cheng, Suwanakul, & Wu, 2015).

In almost all higher education institutions, two types of students exist: native and transfer students (Tobolowsky & Cox, 2012). *Native students* are defined as those who enrolled at a college or university at the beginning of their academic careers and remained there for the entire duration of their studies, whereas transfer students are those students who previously completed credit hours at one college or university and later transferred to another 4-year university to complete their degrees (Ginder & Kelly-Reid, 2013). The issues related to transfer students is particularly critical for historically Black

colleges and universities (HBCUs) because they currently receive the highest proportion of transfer students compared with all 4-year institutions (Erastus & Nathan, 2014; Hughes, 2012).

For more than 150 years Historically Black Colleges and Universities (HBCUs) have been at the forefront of providing higher education for African Americans (Montgomery & Montgomery, 2012). However, the average college graduation rate for students of 4-year HBCUs is lower than the national college graduation rate for African Americans in non-HBCUs (National Center for Education Statistics, 2015). One of the main factors responsible for this is that HBCUs have higher percentage of students who are transferring in (Chen, Ingram, Davis, 2014; Erastus & Nathan, 2014). According to some extant research, transfer students at HBCUs encounter unique challenges to a successful academic and social integration (Freeman & Gail, 2002). Although many of these challenges are not completely exclusive to transfer students, the stress associated with the transfer in this specific group of HBCU students is exacerbated by several adverse factors: (a) many HBCU transfer students come from challenging socioeconomic backgrounds (Fall & Robert, 2012), (b) some do not have the full financial and emotional support of their families (Steinberg, Lomborn, Dornbusch & Brown, 2992; Whaley & Noel, 2013), and (c) a significant proportion do not have access or have limited access to student counseling and career guidance services on campus (Aud et al., 2010).

According to some recent statistical data, 57 percent of college students attend more than one institution during their higher education studies, and for HBCUs the percentages are even higher depending on specific institutions and geographic regions (National Center for Education Statistics, 2015). The extant research also suggests that transfer students in general experience a distinct set of academic and social challenges such as grades slippage, transfer shock, difficulties with choosing a major, and general administrative problems (Tobolowsky & Cox, 2012), but these challenges and problems are particularly pronounced at HBCUs (Negga, Applewhite, & Livingston, 2007). The extant literature explains such disparity by an interaction of several key factors, such as variations in students' socioeconomic status (Kao & Thompson, 2003), certain family and cultural beliefs prevalent in some African American communities (Hopps et al., 2002), with the detrimental effects of systemic racism playing the dominant role (Rosenbloom & Way, 2004; Steinberg, Dornbusch & Brown, 1992).

Some research on HBCUs transfer students suggests that they are, on average, 37 percent more likely to drop out, and the dropout rates for male transfer students are even higher, at 42 percent (Hughes, 2012). Furthermore, transfer students at HBCUs take on average additional two semesters to graduate, which costs them more money in tuition and frequently increases the debt burden of educational loans by at least 30 percent (Chen, Ingram, & Davis, 2014). Due to adjustment stress, transfer students at HBCUs, tend to choose academic majors that do not allow them to maximize their earning potential on graduation (Erastus & Nathan, 2014).

In other words, transfer students at HBCUs may be disproportionally affected by the cumulative negative effects of both the transfer itself and by other concomitant adverse factors. This puts them at a significant disadvantage compared to native students at HBCUs and leads to longer duration of studies, lower retention and graduation rates, higher stress levels, and other significant psychological adjustment problems. Although the problem has been promptly identified and described in the extant studies (Chen et al., 2014), the scope and scale of challenges faced by HBCU transfer students remain largely unexplored and this gap in knowledge merits further in-depth exploration. If more is known about the extent and the unique nature of HBCU transfer students' challenges to successful academic and social integration, the existing problems with graduation rates at HBCUs can be addressed by effectively and directly addressing one of its most important contributing factors.

Tinto's model and African American students. Since the 1970s, researchers have gained greater understanding of the positive relationship between academic and social integration and persistence at institutions of higher learning. These developments can be traced to Tinto, whose model of academic and social integration has served as a conceptual framework for many studies on attrition in institutions of higher education (Tinto, 1975, 1980, 1982, 1986). Tinto's model has evolved with time, but its basic assumption remains: colleges and universities exist within larger societies as unique collections of communities and function-oriented subcommunities (Tinto, 1975). Students attempt to integrate themselves into these communities through interacting with faculty, staff, and other students (academic and social integration), their success in that process strongly influences their commitment to the institution and their likelihood to

persist there (Tinto, 1980). Tinto further concluded that both academic and social integration are vital to student persistence and without these, students are more likely to drop out (Tinto, 1982). Tinto later updated his model to better account for students' external commitments (Tinto, 1997).

The least studied group within the context of Tinto's model has been African American students (Hausmann, Ye, Schofield, & Woods, 2009). To address this important deficiency, Tinto modified his original model to encompass the needs of students of color by stating this population may be retained at an institution of higher education through support in campus communities and by providing inclusive university environments (Tinto, 1982). Since the publication of his original theories, Tinto (2007) and others (Karp, Hughes, & O'Gara, 2010; Lee & Donlan, 2011) have suggested involvement of other factors that can affect student persistence at HBCUs, aside from academic and social integration, and called for further exploration of those factors.

Problem Statement

Transfer students at HBCUs may be disproportionally affected by the aggregate negative effects of both the transfer shock and by other related adverse factors. This puts them at a substantial disadvantage compared with native students at HBCUs, and it leads to longer duration of studies, lower retention and graduation rates, higher stress levels and other significant psychological adjustment problems. Although the problem has been promptly identified and described in the extant literature, the scope and scale of challenges faced by the HBCU transfer students remain largely unexplored and this gap in knowledge demands further in-depth exploration. If more is known about the extent and the unique nature of HBCU transfer students' challenges to successful academic and social integration, this would allow to address the existing problems with graduation rates at HBCUs by effectively and directly addressing one of its most important contributing factors.

Furthermore, a need exists to explore the multifaceted problems faced by transfer students at HBCUs such as institutional procedures, orientation, integration into the new environment, interaction amongst other students and faculty, extracurricular activities, and other individual and organizational behaviors that can be grouped into either academic or social constructs. Students who transfer to an HBCU face hurdles that are unique to HBCUs. Therefore, the intent of this study will be to explore academic and social integration differences between native and transfer students at an HBCU.

Purpose of the Study

The purpose of this study was to improve the understanding of the unique challenges to successful academic and social integration of transfer students at 4-year HBCUs. To address the current gap in knowledge, I used a mixed-methods correlational research design in which the quantitative data on HBCU transfer students' experiences with academic and social integration were complemented and contextualized by relevant qualitative data on transfer students' personal experiences. Thus, I examined challenges to successful academic and social integration, as means of avoidance of transfer-

associated problems, through the lens of both transfer and native students at a small, publicly funded HBCU.

Rationale and Significance

The rationale for the study was that, although research has shown a positive correlation between degree attainment and career success (Baum et al., 2013; U.S. Census Bureau, 2002) and a number of studies have found that social and academic integration are good predictors for degree completion (Welsh, Brake, & Choi, 2005), relatively few studies have directly examined HBCU transfer students' challenges to successful academic and social integration. HBCUs are essential in providing a supporting and nurturing environment for African American students and for students from other racial and ethnic minority groups, regardless of their academic and social circumstances (Montgomery & Montgomery, 2012). In addition, HBCUs have been known to provide the most conducive academic and social environment that many African Americans need for surviving and persisting through college (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007).

In view of these issues, I compared transfer and native students on their perceived success in integrating into the HBCU academic environment. Data analyses that I performed in this study may assist HBCUs in developing data-driven educational policies to help all students achieve their academic goals, persist to graduation, and improve HBCUs retention rates, thus contributing to a solution to a vital societal problem.

Theoretical Framework

The unique challenges to successful academic and social integration faced by HBCU transfer students by their nature are complex and have several conceptual and practical dimensions. However, despite recent academic research on the topic, the scale and scope of the challenges to academic and social integration have not been fully explored and explained. Past studies (Erastus & Nathan, 2014; Freeman & Gail, 2002; Hughes, 2012) offered several plausible but not completely exhaustive explanations.

In view of the conceptual complexity of the research problem and the likelihood that several factors may be interacting to cause the problem, I relied on a theoretical framework that would allow analytical flexibility while providing consistent, comprehensive, and theoretically rigorous explanations. To satisfy the latter condition, I relied on the theoretical framework that combined two extant theories directly relevant to the research problem: Tinto's theory of academic and social integration, and Astin's theory of involvement.

The theory of academic and social integration. The theory of academic and social integration (Tinto, 1997) includes three key facets. First, Tinto (1997) underlined the significance of peer learning groups. Students reported that groups provided support in making the transition to college and provided meaningful friendships that encouraged integration within the community of learning. Tinto (1997) also emphasized the importance of linking learning experiences from class to class. Students reported that linking learning from class to class provided relevance and significance to classes.

Students were given more input in the learning process. Their input led to student ownership in the construction of learning (Tinto, 1997). Through these experiences, students were encouraged to examine their thinking and engage in learning through discussion with peers and instructors. Students reported empowerment and increased satisfaction from their involvement in the constructs of the learning experiences.

Theory of involvement. The second theory guiding the current study postulated that student success and persistence are ultimately determined by student involvement. Astin's (1999) conclusions were based on a longitudinal study that led to the development of the theory of involvement. It is based on the findings of student involvement in several areas. Astin reported that students who (a) lived on campus, (b) were part of the honors program, (c) were more involved in their academic studies, (d) frequently interacted with faculty and staff, (e) were involved in athletics, and (f) were involved in student government were significantly more likely to persist. The findings supported the belief that increased persistence was significantly linked to student involvement (Astin, 1999).

Conceptual synthesis. Whereas Tinto (1997) concluded by emphasizing the importance of developing encompassing experiences that link learning both socially and academically, Astin (1999) surmised that student engagement academically and socially leads to increased scholastic persistence. Fused together, the theory of academic and social integration (Tinto, 1997) and the theory of involvement (Astin, 1999) provide a

flexible and reliable framework based on which one can explore the unique challenges to successful academic and social integration faced by HBCU transfer students.

Both theories posited the importance of developing and linking academic and social experiences that connect students with their institution and link learning socially and academically. Academic and social integration and involvement are critical to fostering student persistence in college (Astin, 1999; Tinto, 1997). A significant body of extant research on the topic shows that once students start college, a key aspect to whether they will thrive in college is the level to which students take part in educationally effective activities (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007).

In this context, the theoretical framework on the one hand served as an instrument for the comprehensive review of academic literature of the topic of this research, and on the other it guided the analysis of data and the interpretation of research findings. Because HBCU transfer students experience unique challenges posed by both academic and social issues they encounter after transferring, the Tinto's theory of social and academic integration served as an explanatory tool that allowed properly classifying and describing these unique challenges, whereas the Austin's theory of involvement was a normative tool to identify and classify successful integration practices and institutional policies that can be emulated elsewhere.

Research Questions

I aimed to explore the differences in academic and social integration between native and transfer students at an HBCU. I specifically addressed the following research questions based on the self-reported, cross-sectional data collected at the time when I administered the research instrument:

RQ₁:What is the relationship between academic/social integration and institutional commitment among transfer and native students at an HBCU?

RQ₂: Do the GPAs of transfer and native students at an HBCU differ?

RQ₃: Is there a difference in academic/social integration between transfer and native students?

RQ₄: What are the factors that influence transfer students' integration into an HBCU?

Hypotheses

The four hypotheses in the current study are based on Tinto's model of student attrition and reflect modifications of his model by Pascarella and Terenzini. I examined all hypotheses in the context of an HBCU using self-reported cross-sectional data collected at a single point when the research instrument is administered. The first three hypotheses were quantitative and were statistically tested based on the quantitative data collected in Q_1 - Q_{49} of the research instrument, whereas the fourth qualitative hypothesis was addressed based on the analysis of qualitative data collected in Q_{50} of the research instrument.

- H_1 : There is a correlation between academic/social integration and institutional commitment regardless of student's transfer status.
- H_{01} : There is no correlation between academic/social integration and institutional commitment regardless of student's transfer status.
- H_2 : There is a difference in GPA between native and transfer students.
- H_{02} : There is a no difference in GPA between native and transfer students.
- $H_{3:}$ There is a difference in academic/social integration between transfer and native students.
- H_{03} : There is no difference in academic/social integration between transfer and native students.
- H_4 : Support by faculty and staff is the most important factor that influences transfer students' integration into an HBCU.

Definitions of Key Terms

Academic adjustment: The change to the academic standards, including rigor of classes, grades, and others.

Academic integration: Behaviors that students can engage in on an academic level, such as meeting with faculty and advisors, following academic procedures inside and outside the classroom, use of college resources such as the library, etcetera, all of which increase the probability that a student will be successful in a course designed at his or her level.

Grade Point Average (GPA): A number representing the average value of the accumulated final grades earned in courses over time.

Historically Black college or university (HBCU): A college or university that was originally founded to educate students of African American descent.

International transfers: Students who transfer from a foreign institution.

Lateral transfers: Students who move from one community college to another.

Nontraditional student: A student who does not enroll into college immediately after high school graduation, but attends a much later date, typically after the age of 24 years.

Posttransfer experiences: Experiences that take place at a university after transferring from another institution of higher learning.

Social integration: Behaviors that increase interaction amongst students and may come in the form of student orientation, cultural and social campus events, informal interactions with faculty and other students, extracurricular activities, and others.

Support by faculty and staff: Various administrative, extracurricular and extramural services that are provided by employees of an institution of higher learning to students, and intended to facilitate students' successful studies.

Traditional horizontal transfer: Students who move from one four year college to another.

Traditional student: A student who enrolls into a 4-year college immediately after high school graduation went the goal of matriculating until graduation from the college.

Transfer: The movement of students from one higher education institution to another and the process by which academic credits are accepted or not accepted by a receiving institution.

Vocational transfers: Students who move to a senior institution as a career/occupational degree candidate.

Limitations and Delimitations

Limitations

The study had four limitations. First, the study was limited in terms of its generalizability to the total population of transfer students, especially to those attending non-HBCUs. Although the study's findings were about students' experiences with successful academic and social integration at a specific HBCU (for example, the location of the study) these findings may be extrapolated to other HBCUs as their populations are essentially similar. However, some cultural and social experiences of the research participants may not be completely generalizable to the entire U.S. student population of transfer students.

A second limitation of the study was its research instrument. It measured research participants' perceptions about their personal experiences with successful or unsuccessful academic and social integration, not the experiences per se. In essence, the study did not address cultural and social experiences directly, rather it explored and interpreted the effective experiential values that research participants attached to these experiences. The third limitation stemmed from reliability and validity of the research instrument because it, in fact, may have limitations in measuring what it purports to measure. Furthermore, this study was implemented in a natural setting and therefore, it may be problematic to replicate its context completely and extrapolate all its details.

Finally, the correlation method, although normally a robust and reliable research approach, which is extensively used in educational and psychological research (Aneshensel, 2013), is not a perfect research design in itself, and too suffers from a number of limitations. The main being limitation is that the correlation method allows the researcher to examine the constructs under investigation, but it would not allow inferring the cause and effect directly—that is, correlational design does not allow tests of strong causal inference (Aronson, Wilson, & Akert, 2012).

Another limitation of correlational studies is that they typically assume that the variables are linearly related to each other, when in reality they may not be (Agresi & Finlay, 2011). In cases when the variables under analysis are not linearly related, correlational methods will yield smaller strength of the relationship. To address this limitation, I the researcher examined all collected data to determine that (a) variables are in fact linearly related, and (b) any outliers are accounted for (Osborne, 2013).

Delimitations

The study had several delimitations. First, this study was delimited to transfer and native students at a 4-year HBCU from the southeastern U.S. pursuing a bachelor's degree in arts, humanities, and science. Second, the conclusions of this study were

delimited to traditional college students. Third, I focused on students who transferred to an HBCU and on native student population at an HBCU and, therefore, the experiences of students attending other institutions may be different. Finally, the study was delimited by the choice of specific research questions, the explicit and implicit constructs, which were investigated, the conceptual and analytical flexibility of the theoretical framework that guided this research and some flexibility in the selection of research participants.

Summary

More Americans are becoming attracted to higher education, perceiving postsecondary credentials as critical to staying competitive in the modern economy. There has been enrollment growth across both 2- and 4-year institutions. This is despite, and even because of, the recent economic downtown as Americans try to train and retrain themselves to find their niche in a crowded and competitive labor market.

In this environment, many students take nontraditional trajectories to higher education by starting at one institution of higher learning and then transferring to another. This group of students are known as transfer students. HBCUs have higher proportion of transfer students and these students may be disproportionally affected by the cumulative negative effects of both the transfer itself and by other adverse factors. This puts them at a significant disadvantage compared to native students at HBCUs, and it leads to longer duration of studies, lower retention and graduation rates, higher stress levels, and other significant psychological adjustment problems. Although some extant studies have HBCUs, the scope and scale of challenges faced by the HBCU transfer students remain largely unexplored and this gap in knowledge merits further in-depth exploration.

In Chapter 1, I introduced the background of the problem, rationale for the study, and its significance, and I presented the theoretical framework for the study, defined its research questions and hypotheses, and discussed the limitations and the delimitations of the study. In Chapter 2, I summarize the literature on student transfer across academic fields, and I detail major aspects of student involvement during pursuit of a postsecondary degree. These aspects include transfer adjustment, academic involvement, faculty relationships, and participation in peer activities. I also study students' selfefficacy, and its effect on students' ability to establish and pursue educational goals.

Chapter 2: Literature Review

Introduction

In this study, I explored the unique challenges to successful academic and social integration of transfer students at 4-year HBCUs. In particular, I explored the factors associated with the success of transfer compared to native students at an HBCU in North Carolina so that student advisors would be able use this knowledge to improve counseling and effectively facilitate transfer students' integration. In this chapter, I present the results of the literature review on the topic of the study. I also describe the literature search strategy, discuss the theoretical framework of the study, and presents the main themes in the extant literature on the topic of successful academic and social integration of transfer students in general and at HBCUs in particular.

Literature Search Strategy

I examined the body of extant research on transfer students' success patterns in 4year institutions as compared with native students' success patterns, and I focused on studies that examined these issues in relation to HBCUs. I reviewed the historical background of transfer and native students, transfer trends, transfer factors, their reasons and unique circumstances, comparisons between native and transfer students, additional considerations on student success with academic and social integration, and related theory development from 1992 to 2016.

I used the thematic approach to the literature (Booth, Papaioannou, & Sutton, 2013). In my search for extant literature, I used stratified multiple terms internet syntax

query for digital peer-reviewed publications available both in open- and user-access using key search words (e.g., academic integration, social integration, transfer students, native students, HBCUs, North Carolina, transfer rates, degree completion, bachelor's degree, native vs. transfer students at HBCU, student persistence, transfer to a 4-year institution, credit transfer, time to degree, persistence, Tinto's theory of academic and social integration, Astin's theory of involvement).

In my search process, I used the following academic databases: (a) ERIC, (b) Education Research Complete, (c) Education: a SAGE full-text database, (d) ProQuest Central, (e) SocINDEX, (f) Academic Search and (g) PubMed, and (g) Google Scholar. Then, I used selection criteria (Booth et al., 2013) of (a) relative recency, (b) relevance to the topic of the study, and (c) presence of specific explanations of the phenomenon. I excluded the majority of initial search results only 107 remained in the final review. I also included a number of seminal works on students' academic and social integration. In the subsequent sections, I present the main themes that emerged as a result of this literature review.

Theories of Students' Integration

According to Welsh et al. (2005), students have a higher likelihood of completing their degrees within a standard amount of time through active student participation and transfer credit success. The theoretical framework for this study is grounded in Tinto's theory of academic and social integration (1975, 1980, 1982, 1997, 1998) and Astin's theory of involvement (1984, 1985, 1999).

Tinto's theory of academic and social integration. According to Tinto, the theory of academic and social integration rests on three interrelated components: (a) the significance of peer learning groups, (b) the importance of linking learning experience from class to class, and (c) input in the learning process (Tinto, 1980; 2012). Tinto (1997, 1993, 1994) further revealed that students reported that groups provide support in making the transition to college and provide meaningful friendships that encourage integration within the community of learning. Students reported that linking learning from class to class provided more meaning and relevance to classes, which led to student ownership in the construction of learning. The experiences described by Tinto (1997, 1998) encouraged students to examine their thinking and to become actively engaged in the learning process through discussion with peers and instructors. Involvement within the constructs of their learning environment resulted in students reporting feelings of empowerment and increased satisfaction of their college education.

Astin's theory of involvement. The theory of involvement developed by Astin (1984, 1985, 1999) is the second theory utilized by this study. In particular, Astin (1984, 1999) posits that student involvement is the ultimate predictor of student success and persistence. Astin's conclusions by are based on the results of a longitudinal study that focused on student persistence. Astin's theory of involvement is based on the findings in several key areas. Astin reported that students who (a) live on campus, (b) are part of the honors program, (c) are more involved in their academic studies, (d) frequently interact with faculty and staff, (e) are involved in athletics, and (f) are involved in student

government are significantly more likely to persist (Astin, 1985; 1999). The findings of this study revealed that increased student persistence is significantly linked to student involvement. The findings from this longitudinal study support the belief that in order to increase student persistence it is important to enhance and expand student involvement (Astin, 1999).

Theoretical synthesis. Academic and social experiences are often linked by developing encompassing experiences, and are important, as emphasized by Tinto (1975, 1980, 1982, 1993, 1997). In turn, Astin (1984, 1985, 1999) surmised that student engagement academically and socially leads to increased persistence. Taken together, the theory of academic and social integration (Tinto, 1997, 1998) and the theory of involvement (Astin, 1999) may form a reliable theoretical framework for studying successful integration at any institution of higher learning, including successful academic and social integration at an HBCU. The two theories highlight the importance and the need for consistent and meaningful linking of academic and social experiences of students, and especially transfer students, and developing strategies that closely connect students with their academic institution in an effective way. Academic and social integration and involvement are critical to fostering student persistence in college (Astin, 1999; Tinto, 1997). A considerable amount of extant research on this topic demonstrates that once students begin their studies at college, a key aspect to the probability of their academic success is the level to which students participate in educationally effective activities (Kuh et al., 2007).

Students' Transfer Concept

Community colleges represent the main source of students, who transfer to HBCUs (Chen et al., 2014; Erastus & Nathan, 2014; Cheng et al., 2015). These educational institutions have successfully combated low retention rates and have opened more fields of study to underrepresented racial groups within those academic disciplines that differ by gender, ethnicity, and/or socioeconomic status (Fall & Robert, 2012). Nettles and Millett (2008) found both part-time and full-time student attendance at community colleges has grown faster than attendance at 4-year institutions over the last 20 years. Glass and Harrington (2002) discovered that students who transfer with associate degrees from community colleges to 4-year institutions, and especially to HBCUs are more likely to matriculate to completion of their bachelor's. Research by Tsapogas (2004) found 44 percent of students who had earned a bachelor's or master's degree in science or engineering at HBCUs were vertical transfers from a community college. In turn, Starobin and Laanan (2008) found that community colleges provide a unique learning experience for female students majoring in engineering. Community colleges have been perceived historically as unconventional paths to degrees involving the physical sciences. Malcolm (2010) found a significant proportion of Latina/o students using community colleges as their paths to degrees involving the physical sciences, despite this perception. This serves as an indication that community colleges: (1) have an overall positive effect of helping minority students overcome barriers to educational

achievement in those fields, and (2) may be associated with easier academic and social integration of transfer students at HBCUs (Freeman & Gail, 2002; Aud et al., 2010).

Transfer Adjustment

The transition from a small community college setting to larger university environment such as, for example an HBCU, can be a daunting task to some students. Transfer shock, as outlined by Hills (1965) and Nolan and Hall (1978), develops when transfer students grades decline as an apparent result of their transition into a new college or university setting. The transfer process, according to Laanan (2001) is a complex, and frequently requires students to readjust both psychologically and academically in their new surroundings. Failure to address or ameliorate transfer shock can worsen students' educational outcomes, and may result in students dropping out or withdrawing from the college or university. The latter is especially true for the transfer students at HBCUs (Steinberg, Dornbusch, & Brown, 1992; Whaley & Noel, 2013).

Ensuring a smooth transition for transfer students requires HBCUs to be capable of recognizing transfer shock and potential stressors students bring with it upon entry into the new collegiate setting. Several factors may contribute to transfer shock and can have a profound adverse effect on transfer adjustment at an HBCU: student's socioeconomic background, (Tobolowsky & Cox, 2012), as well as gender, race, ethnicity, and culture (Eggleston & Laanan, 2001; Jackson, 2010). In this regard, Jackson (2010) highlighted important considerations in transfer adjustment, amongst them being students' aptitudes, career aspirations, and values.

Student Characteristics

Socioeconomic status, which positively correlates with college access and success (Adelman, 2005), can and often does present challenges to transfer students' adjustment, especially at HBCUs (Negga, Applewhite, & Livingston, 2007). Many students choose community colleges before transferring to a 4-year institution because the latter may be unaffordable, and also because some students may have only completed high school curriculum that might have been less academically rigorous as that of their middle- and upper-class peers (King, 2002). Some scholars assert that community college students are less academically prepared for, and less likely to transfer to 4-year institutions (Brint & Karabel, 1998). However, one study found that community college transfer students and direct enrollees into 4-year institutions were equivalent in their academic adjustments and did not differ in bachelor's degree attainment or graduate school entry (Lee, Mackie & Marks, 1993).

In case of racial minorities, such students often also come from families of limited means and limited educational attainment, and their parents may profoundly influence their educational choices and outcomes (Hopps et al., 2002; Kao & Thompson, 2003; Rosenbloom & Way, 2004). Rayman and Brett (1995) discovered that a child's decision to enroll in college is determined by support from both parents. Parents may pay a significant role in student's focus, as parents who exhibit certain gender-stereotypical views may influence which academic disciplines students pursue – women being discouraged from partaking in male-dominated fields, such as the physical sciences (Shashaani, 1994). Furthermore, some studies found that students who do not have college-educated parents are more likely to be disoriented and confused over social and academic decisions while in college (Pascarella, Pierson, Wolniak & Terenzini, 2004). Therefore, community colleges seem uniquely suited to mitigate this confusion.

Malcolm (2010) found parental education is an important contextual factor for the institutional pathways used by minorities who hold science-related bachelor's degrees. The finding suggests students whose parents are unfamiliar with the postsecondary process are more likely to venture toward community colleges than students whose parents hold at least a bachelor's degree. In addition, students may also find it difficult to reconcile their education with familial and community obligations. Some students feel compelled to provide financial support to their families. Ong, Wright, Espinosa and Orfield (2011) concluded these familial and community pressures deter women away from the sciences, and affect students' academic choices.

Institutions of higher education must also grasp how a student's educational background and previous experiences affect classroom performance. Students' precollege experiences and prior academic achievement influence their college experiences and affect which degrees they pursue (Crisp, Nora & Taggart, 2009). Students entering college with a poor prior academic performance upon entry may carry low self-concepts, especially if they are focused on an inability to compete with other students and not their own individualized learning (Laanan, 2007). This challenges their ability to adjust academically, and logically, it follows that early preparation for college is essential to dispel any negative perceptions they may have acquired from prior performance. As a demonstration of this concept, Tyson, Lee, Borman and Hansen (2007) found pre-college preparation helped facilitate minority students' interest in sciences.

Self-Efficacy

HBCUs with intentions to prevent transfer shock must address transfer students' self-perceptions. Indeed, students' self-perceptions are a powerful indicator of their educational choices, persistence, and success. Pajares (1996, 2004) affirmed that "self-efficacy" positively or negatively influences people's behavior in accordance with their perceptions of their abilities to perform certain tasks. It is important to note that Pajares distinguishes self-efficacy from self-confidence. While confidence concerns the strength of a belief in one's abilities, efficacy is based on a specific level of attainment and the strength of one's belief that such level of attainment can be achieved. Thus, if people believe they are capable of doing something, they will more likely choose it, put more effort into achieving it, and will persists despite failures or setbacks.

The type of careers that interest students is strongly predicted by their selfefficacy in mathematics and overall academic proficiency (Mau, 2003). Further, Pajares and Britner (2006) found self-efficacy played an especially important role in students pursuing degrees in STEM (science, technology, engineering and mathematics) fields. They discovered that self-efficacy played a significant role in students enrolled in STEM courses. Students with high self-efficacy performed significantly better and persisted longer in STEM disciplines than those with low self-efficacy. Thus, self-efficacy is a significant predictor for STEM student grades.

HBCUs can better serve students by helping them gain an understanding of their background and perceptions that influence their success (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007). HBCUs can do so by cultivating frequent interactions between students and their peers (Montgomery & Montgomery, 2012). This can also occur when cultivating interactions between students and faculty who have recognized as being responsive to individual students' life experiences, and who will amplify students' selfefficacies – both inside and outside of the classroom. In exploring the literature on those interactions, special attention was given to studies on how to positively engage HBCU students in STEM fields, where they are traditionally underrepresented.

Student Involvement

Light (2001) concluded, "Students who are able to integrate the in-class and outside-of-class parts of their lives can reap great benefits," (p.9). For students involved in university-sponsored leadership or service activities, these benefits include higher grade-point averages and higher retention rates than those not so involved (Gallini & Moely, 2003); such student leaders are also more likely to connect to their local communities and stay there (Simon & Cleary, 2005). Terenzini and Pascarella (1997) state that students participating in extracurricular activities will be more likely to show academic growth, and they predict that students actively involved in campus life will be more psychologically and socially developed than their less-engaged peers. Cooper, Healy, and Simpson (1994) also found students were more satisfied with their undergraduate experiences and positive about their undergraduate institutions when they became involved in extracurricular activities early on in their time on a campus – speaking to the importance of not allowing transfer anxieties and low self-concepts a chance to fester. According to Jackson (2010), an important determinant for successful academic and social integration in 4-year institutions is an understanding of transfer students' level of collegiate socialization and may be an essential determinant for their successful academic and social integration at 4-year institutions (Jackson, 2010).

Astin (1984) defined *student involvement* as "the amount of physical and psychological energy that a student devotes to the academic experience" (p. 518); and broke it into three interrelated components: (a) academic involvement, (b) student-faculty interaction, and (c) participation in peer group activities. Academic involvement is the basis of student achievement, and students' choices can have a tremendous positive effect on their overall success in college (Anderson & Kim, 2006). Academic involvement includes allowing students to decide how many and which courses to take, the level of hours they commit to studying, group participation, and the scope and nature of their involvement with faculty (Anderson & Kim, 2006). A number of studies suggest that students who are more academically engaged in their learning are more likely to

complete their degrees, and finish faster (Svanum & Bigatti, 2009). This may be most beneficial to science students, who generally show the highest levels of academic involvement through academic activities that focus on studying, homework completion, and coursework-relevant internet usage (Nicholls, Wolfe, Westerfield-Sacre, Shuman & Larpkiattaworn, 2007).

Faculty and Advisor Interactions

Interactions between students, faculty, and advisors are highly beneficial to all students (Erastus & Nathan, 2014; Welsh et al., 2005), especially beneficial to transfer students (Freeman & Gail, 2002) and particularly beneficial to transfer students at HBCUs (Hughes, 2012). Pascarella (1991) and Terenzini (2005) state that instructors' effectiveness and accessibility positively influence students' academic performance and overall institutional satisfaction, and found that students' GPA correlates positively with studying as well as with faculty support. Faculty can be key to students' persistence, with Starobin and Laanan (2008) finding faculty and program coordinators as determining factors in students continuing their engineering studies at 4-year institutions. Students may be akin to a perceived lack of interest from instructors and may even switch fields, as revealed from a study on students enrolled in STEM courses that were dissatisfied with their faculty interactions (Seymour & Hewitt, 1994).

Two-way communication in and outside of the classroom between faculty and students is important. Professors who stimulate classroom discussions help students learn

more and assist in their acclimation to collegiate settings (Karp, O'Gara & Hughes, 2010). Laanan, Starobin and Eggleston (2010) concur with these findings by claiming that closer interactions with faculty, in part facilitated by smaller class sizes, will benefit students. Positive student-faculty relationships outside the classroom are likely to help students adapt to college life and these relationships persist to graduation (Hernandez & Lopez, 2004). Conversely, students have responded poorly to professors who merely focus on relaying their expertise as compared to professors who build rapport and make connections with students (Johnson, 2007). As shown by Semour (2000), faculty gain significantly from these interactions and see an improvement in their own learning outcomes improved.

Faculty interaction with students might benefit female students in ways distinct from male students, and these interactions may reflect factors that predict persistence at 4-year institutions (Nora, Cabrera, Hagedorn & Pascarella, 1996). Positive faculty interactions can cultivate female students' leadership abilities (Kezar & Moriarty, 2000) and reinforce their self-efficacy in their fields of study, particularly in the sciences.

Student-faculty relationships are a pathway to science careers for women (Ellington, 2006, and Whitten et al., 2004), and faculty advice is a contributing factor to females persisting in such careers (Rayman & Brett, 1995). Women of color have also described themselves as acutely aware of differences in institutional culture between community colleges and universities, and placed great value on faculty interactions that better prepared them for transferring (Reyes, 2011). In part, this may be due to women feeling vulnerable and having the desire to withdraw from situations with an unbalanced gender ratio (Murphy, Steel & Gross, 2007); therefore, additional faculty support may help to boost students' confidence and may be crucial to women's persistence in fields where women are underrepresented such as science. A study from Campbell (1990) lends credence to this conclusion; in this study, a significant proportion of women attributed academic success to their teachers, faculty, and peers but internalized unsuccessful events. In contrast, male students attributed success to their own performance and attributed unsuccessful occurrences to external forces.

Similar to faculty relationships, relationships with academic advisors can also provide significant benefits to students. Transfer students have to sustain progress towards getting their bachelor's degree and orientation, advising, and mentoring programs can be of great benefit (Townsend & Wilson, 2006). Support from professors and advisors has been suggested as a major factor that affects student perseverance, as described by Packard, Gagnon, Labelle, Jeffers and Lynn (2011). Advisors, like faculty, affect student performance and students expect two-way communication with advisors. Good advisors, according to Concannon and Barrow (2010), must be good listeners and able to relate to student experiences if they are to motivate students to persist and succeed in their college education.

Peer Group Participation

While productive relationships with faculty and advisors are important, students must be able to integrate into peer groups if they are to be successful. Nora, Cabrera, Hagedown and Pascarella (1996) found students' interactions with peers and the development of close personal relationships with other students were related to persistence for both males and females. Peer support groups enhance student success (Larose, Robinson, Roy, & Legault, 1998) in their coursework and the broader collegiate experience. In addition, students who perceive themselves as part of a larger learning network spend more time together inside and outside the classroom (Tinto, Goodsell & Russo, 1993, Matthews, 1996). A positive correlation exists between student participation in small group work. The extent to which students report group work was shown to positively affects their own engagement, enjoyment, motivation, satisfaction, and understanding" (Zastavker, Ong & Page, 2006, p. 3).

Reyes (2011) reinforced this finding and argued that students are more likely to remain at a university if they feel a sense of belonging to the institution rather than a perceived sense of isolation. A number of other studies also affirmed that peer support, faculty support, and extracurricular involvement, bolstered minority student retention (Gloria, Castellanos, Lopez & Rosales, 2005, Hernandez, 2000, Hernandez & Lopez, 2004). They serve to motivate students, build confidence, bolster student interests, and affect educational outcomes. According to Toutkoushian and Smart (2001), interactions beyond the college and university life does not have similar effects. In their study, they concluded that students who invested more time in school versus employment were more likely to see gains in learning, illustrating that peer interactions may be a key part of information networks and is supportive of college success. These interactions reinforce or instill positive selfconcepts.

Network Construction

Students become more attached to an institution and find it easier to thrive when they are a part of a robust network at their college or university (Karp, O'Gara & Hughes, 2010). These authors report the belief that the people at the college want them to succeed and will help them do so. These networks can greatly influence students' self-efficacy and their likelihood to succeed, as students may vicariously base their self-efficacy beliefs on peers' experiences while attempting similar tasks (Hutchison, Follman, Sumpter & Bodner, 2006). Such is often the case when students attempt tasks previously unfamiliar to them but are aware of similar attempts by others.

Minority students in STEM fields have demonstrated the importance and challenges of participation in college networks (Kao & Thompson, 2003). They frequently feel discouraged from entering the sciences and are less likely to pursue them (Aud et al., 2010). For example, according to research conducted by Williams and Montgomery (1995), minorities who pursued the sciences had lower self-concepts and did not perform as well. If these minorities continually pursued this major and other nontraditional majors, it likely coincided with more support and encouragement from a network that included peers (especially male), faculty, advisors, and support from parents (Fitzpatrick & Silverman, 1989, Sax, 1994).

Gwilliam and Betz (2001) echoed these points in their study on African American women. They found a strong relationship between the self-efficacy of African American women majoring in science and their choice of major. Similarly, Shain (2002) found selfconfidence was an important factor in the academic success of African-American women majoring in engineering.

Various researchers have clarified that how closely knitted support networks that emphasize collaboration over competition played a key role in minority students' ability to overcome social and mental impediments to success in the sciences. For example, Seymour and Hewitt (1997) asserted that minorities value teamwork over individual success. A preference for collaboration over competition may drive students to forge peer networks with students outside of their fields of study but within their racial or ethnic community. Women of color have found it particularly challenging to find other students with similar academic experiences and backgrounds within their majors (Ong, Wright, Espinoza & Orfield, 2011). These findings should strongly encourage HBCUs to foster a collaborative, group-oriented environment through their faculty, advisors and students in leadership positions. Doing so would clearly benefit transfer students and coincide with the expectations of minority and female students who may struggle with low selfconcepts.

In a study on minority women, Espinoza (2008), found the women who took part in the study placed significant importance on working on group projects in their classes and tutoring other students while simultaneously setting high academic goals for themselves. Furthermore, students of color may find that diversity contributes to their self-confidence and aspirations (Antonio, 2004). These findings support a concept that a heterogeneous student body taught to work together and forge an extensive informational and social network will be better poised for educational success while at the same time, offering an inclusive culture that facilitates transfer adjustment.

Ensuring successful academic and social integration of transfer students requires that HBCUs take into account the size of their institution, as transferring to a larger 4year institution can prove intimidating to students, especially if they are transferring from smaller community colleges (Gonzales, 2012; Juszkiewicz, 2015). To illustrate, Townsend and Wilson (2006) found that students struggled more with making friends at 4-year institutions than at community colleges. However, contrary to the findings by Townsend and Wilson, Titus (2004) found that larger 4-year institutions could strongly improve student persistence and attributed this to more opportunities for social engagements. An interesting point to derive from this study is that regardless of institutional size, HBCUs must ensure transfer students understand how to successfully integrate into a new institution, meaning the orientation process must clearly highlight effective points of entry into academic and social networks.

Summary

The review of the literature on successful academic and social integration of transfer students' at HBCUs does not provide the blueprints for positive and effective social structures and interactions in such collegiate settings. Designing and refining such structures require direct input from students, faculty, advisors, and many other relevant HBCU stakeholders. In addition, what works for one HBCU may be less effective, or even ineffective at another institution.

Concerning student academic success in a college or university setting, this review has highlighted basic considerations for which scholars are in consensus and these considerations should be a part of an HBCU environment. This may foster retention and encourage student involvement with their academic surroundings. HBCUs could benefit from this realization and can strengthen themselves and their student body as a whole by improving the integration of all transfer students into their institutions. This would require an understanding that transfer students possess widely differing self-concepts, and are influenced, often detrimentally, by socioeconomic status, race, ethnicity, gender, and prior academic performance.

HBCUs must correctly identify those settings in which demographic and socioeconomic factors hinder or even arrest student achievement, and develop effective structures and strategies that efficiently and consistently address them. As previously noted, these differences can become strengths if students are encouraged to take advantages of the opportunities that are available to them based on these factors. This includes encouraging faculty, advisors, transfer students' peers, and the broader campus community to seek inclusive and collaborative interactions versus closed and competitive ones, all the while underscoring that the institution is committed to each student's success as an extension of its own. Doing so may decrease, if not eliminate altogether, transfer shock and thereby, HBCUs can fulfill their mission of offering educational attainment and opportunity to diverse array of potential students, including transfer students.

Chapter 3 focuses on the methodology and the research design this study utilized. It includes the description of the methodological approach and the justification of the specific research design, discussion on the study population, sampling approach, data sources, and data analysis procedures. Chapter 3 discusses the ethical considerations of the study and the validity and reliability considerations.

Chapter 3: Research Method

Introduction

Transfer students at HBCUs encounter a unique set of challenges to a successful integration (Freeman & Gail, 2002). Many of these challenges are not completely exclusive to transfer students. Native students at HBCUs are also affected by these challenges. However, the stress associated with transferring schools in this specific group of students is exacerbated by a number of extant adverse factors: (a) many transfer students at HBCUs come from adverse socioeconomic backgrounds (Fall & Robert, 2012), (b) some transfer students may not have the full financial and emotional support of their families (Steinberg et al., 1992; Whaley & Noel, 2013), and (c) a significant proportion of HBCU students may not have access or have limited access to student counseling and career guidance services on campus (Aud, Fox, & KewalRamani, 2010), and (d) HBCUs also have a higher proportion of transfer students compared to other higher education institutions (Chen et al., 2014; Erastus & Nathan, 2014). All these factors suggest that transfer students at HBCUs may be negatively affected by the cumulative effects of both the transfer from one institution to another and by other concomitant factors more than the native students. The combination of the two sets of adverse effects may be impeding their successful integration.

According to some research, transfer students experience a distinct set of academic and social challenges: grades slippage, transfer shock, difficulties with choosing a major, and general administrative problems (Hausmann et al., 2009; Tobolowsky & Cox, 2012), but these challenges and problems are particularly pronounced at HBCUs (Negga et al., 2007). The literature explains such disparity by an interaction of several factors, such as variations in socioeconomic status (Kao & Thompson, 2003) and certain family and cultural beliefs prevalent at least in some African American communities (Hopps, Christler, & Christian, 2002), with the detrimental effects of systemic racism playing the dominant role (Rosenbloom & Way, 2004; Steinberg et al., 1992).

In this context, I explored academic and social integration differences between native and transfer students at an HBCU. In this chapter, I discuss the research methodology, design and rationale, research sample, data collection and analytic strategy, validity threats, and ethics of the study.

Methodology

According to Roberts (2010), a research design depends on the nature of the study and its purpose. Creswell (2013) suggested that models in the human and social sciences aide us in our understanding of events and further describes a qualitative research design. Qualitative research allows researchers to relate the events that occur in the environment with meanings. In this context, I made no attempt to manipulate the environment. Alternatively, a study can be designed to explore quantitative data only. Quantitative research uses models that examine theory and hypotheses that are within the context of natural phenomena (Creswell, 2013). Owing to the nature of the research topic and the type of data that were collected, relying on either quantitative or qualitative approach was inappropriate.

In view of these considerations, the study employed a mixed methods approach. However, heavy emphasis of the study was placed on quantitative data analysis. I performed quantitative and qualitative analyses separately (Hanson et al., 2005), and the results of qualitative analysis contextualized and supplemented the results of quantitative analysis. Mixed-method research approaches yield more comprehensive data (Creswell, 2013; Tashakkori & Teddlie, 2003) and were appropriate for trying to understand the complexity between transfer and native students' academic and social integration into an HBCU. Giving students the opportunity to explain in their own words whether, and how, they socially and academically integrated into an HBCU has the potential to advance the existing literature on student success, and this type of mixed-methods approach will provide a more complete analysis (Tashakkori & Teddlie, 1998).

I designed this study to advance knowledge about factors that affect integration into an HBCU. I modified Tinto's model. For example, a study that examined the relationship between GPA and persistence found that GPA was the most critical determinant of persistent in a population of Native-American students (Brown & Robinson, 1995). Tinto's model pinpointed institutional performance as a factor that is significantly associated with persistence (1975).

African American students, like Native-American students, face challenges that are uniquely their own. A review of the literature revealed that very little data exist on African Americans in the context of applying elements of Tinto's model to this subpopulation. Watkins (1996) proposed future research on Tinto's model should incorporate cultural integration in any existing constructs. Watkins found that Black students at majority Black colleges received greater benefit from student involvement than Whites at Black colleges and Blacks at other colleges. This study illustrated the importance of including cultural integration in Tinto's model or modifications thereof. The authors did not examine differences that may occur between native and transfer students. A growing number of African Americans are not graduating from college (Keller, 2001; Pascarella & Terenzini, 1998), highlighting the need to delineate the causative factors. Tinto's model is one of the first models that specifically address student persistence.

Although many models have to bring forth from Tinto's original theories, empirical research is lacking on modified models of Tinto's theories that examine educational success while focusing on certain ethnic groups, and which also examine differences between native students and transfer students. Tinto has previously shown that academic integration has a direct effect on student persistence (Tinto, 1975). By designing a study using constructs from Tinto's model in the context of an HBCU, the first hypothesis in this study sought to reveal novel information in this area.

Transfer students may experience trouble integrating into a new college community because they lack established contacts (Townsend & Wilson, 2006). Established contacts would be higher for a student who started off as a freshman at an institution of higher education, than for a transfer student by the junior or senior collegiate year. Establishing contacts can be construed as a form of social integration (peer group interactions and interactions with faculty). Students' commitment beyond the end of the first year of college (subsequent institutional commitment) strongly predicts student persistence. Braxton and McClendon have previously demonstrated the need to explore social integration as a contributing factor to subsequent institutional commitment. The current study collected data from juniors and seniors, and therefore met the criteria for the college level that would have been required to examine subsequent institutional commitment. The link between subsequent institutional commitment and academic integration has been examined (Tinto, 1998). The second and third hypotheses examined how well transfer and native students integrated into an HBCU by examining the relationship between academic/social integration and institutional commitment, and if differences exists in academic and social integration and GPA amongst transfer and native students

Population and Sample

The population of this study was native and transfer students attending a publically funded HBCU located in the Eastern United States. The majority of students attending this institution were from 16 counties surrounding the university's geographic location. The sample of this study was drawn using purposive nonprobability sampling strategy (Aneshensel, 2013). Criteria for purposeful nonprobability selection of

participants included: (1) students should be juniors or seniors at the HBCU, (2) should have at least 60 earned credit hours, (3) should be enrolled full-time, and (4) should be studying humanities and sciences, and (5) should be enrolled in either 300 or 400 level university courses at the time of data collection. Students were defined as native students if they were accepted to the HBCU after they received a high school diploma. Students were defined as transfer students if they were enrolled and took courses at another institution before acceptance to this HBCU.

The size of the required sample was determined by the power analyses that were performed using IBM SPSS Statistics 24.0. The results of the power analyses indicated that for an independent groups two-tailed t-test with an effect size 0.5, significance level $\alpha = 0.05$ and the statistical power 0.8, the total number of research participants required is at least 138 (69 in each group). Since other statistical tests (Pearson's correlation and Mann-Whitney U test) were employed in this study, power analyses on those tests were also performed but they yielded lower requirements for the total sample size given the same parameters, therefore, the highest requirement for the sample size was selected and to account for possible attrition, it was rounded up to 150 research participants or 75 in each group.

The primary data were derived from the students' responses to the 50-item Survey of Native and Transfer Students Integration into an HBCU. The Survey is based on the Institutional Integration Scale (IIS) originally developed by Tinto (Tinto, 1975), and later enhanced by Pascarella and Terenzini (1980) (Appendix A). The survey was administered by the researcher directly to all students during the same day and time. The collected quantitative data after proper cleaning and data quality checks were input into IBM SPSS Statistics 24.0 software for data analysis.

Instrumentation

Survey instrument. The Survey of Native and Transfer Students Integration was the research instrument in this study (Appendix A). The Survey was not modified in any way for the purposes of this study, and was used in its most current version. The Survey of Native and Transfer Students Integration into an HBCU is based on the Institutional Integration Scale (IIS) proposed by Tinto (Tinto, 1975), and subsequently improved and further operationalized for use in education psychology research by Pascarella and Terenzini (1980). The instrument developed by Tinto was a Likert survey measuring several constructs of academic and social integration: peer-group interactions, interactions with faculty, faculty concern for student development and teaching, academic and intellectual development, and institutional and goal commitments, and extracurricular activities (Pascarella & Terenzini, 1980; Tinto, 1975, 1993). In turn, peer group interactions and interactions with faculty were the components that formed a construct of academic integration (Pascarella & Terenzini, 1980; Tinto, 1975, 1993).

The reliability and validity of the current version of the Survey of Native and Transfer Students Integration was comprehensively assessed (using studies which utilized the instrument) and confirmed by French and Oakes (2004). Furthermore, this survey instrument was extensively used in a number of recent studies that investigated similar topics and problems (Baker et al., 2007; Breidenbach & French, 2010; Torres-Campos et al., 2009). In particular, in two studies, Terenzini, Lorange, & Pascarella (1981) and Terenzini & Pascarella (1985) reported alpha coefficient values ranged from .71 to .84. Similarly, Fox (1984) reported alpha coefficients ranging from .72 to .82, while Mannan (2001) concluded reasonable construct validity for academic/social integration construct for this instrument. Others have created a revised IIS in order to improve its internal consistency and reliability (French & Oakes, 2004), and reported an alpha score of .83 on the 50-item scale on two samples of first-year undergraduate students. This suggested that the constructs of this instrument were suitable for the current study, and had been previously shown to be appealing to college students and the instrument will take relatively little time to complete (French & Oakes, 2004).

The Survey of Native and Transfer Students Integration into an HBCU collected: (1) basic socio-demographic data on the research participants, and (2) data on students' involvement in on-campus social organizations and clubs, (3) data on students' interactions with their respective peer group, (4) data on interactions with university faculty and staff, (5) students' perceptions of the faculty concerns about their development and academic performance, (6) students' own views on their academic and intellectual development, and attitudes regarding institutional goals and commitments. In the last item, (Q_{50}), the survey asked students: (a) to reflect in a narrative form on whether they fit the institution of their choice, and (b) requested students to elaborate on the factors that had an influence on their successful academic and social integration. The study had several constructs: peer-group interactions, interactions with faculty, faculty concern for student development and teaching, academic and intellectual development, institutional and goal commitments, and extracurricular activities. These constructs were derived directly from the constructs used in the research instrument.

Procedure. Research participants were contacted by randomly selecting (8) eight 300 or 400 level undergraduate courses scheduled during the same academic semester period at a small publicly funded HBCU. Selecting classes from a single time period enabled the researcher to avoid duplicate selection of students. The researcher explained the purpose of the study and invited students to participate, and explained the types of data to be collected and emphasized complete confidentiality of participation. Participation in the study was strictly voluntary. I provided all research participants with a consent form before they agreed to participate in the current study. Research participants were asked to read the informed consent form, sign it and return the form to the researcher. Participants had an option decline to answer any question or discontinue participation at any time. The survey was administered directly by the researcher, and took no more than 30 minutes for the students to complete (Appendix A). At least 250 students were expected to respond to the invitation to participate in the study and take the survey. Then, based on the purposive sampling criteria, responses of only 150 respondents were retained for further data analyses, while the responses of nonparticipants were discarded. All data collected from research participants were in an

anonymous form as the survey did not contain any items that allowed personal identification.

Data Collection

Quantitative data. The quantitative data for the study were collected through Q_1 - Q_{49} of the research instrument. Research participants' quantitative responses were checked for consistency and completeness, coded for inputting into the statistical software, and combined into a single database. Then all collected quantitative data were analyzed using statistical tests.

Qualitative data. The qualitative data for the study were collected through Q_{50} of the research instrument. In Q_{50} the research participants: (a) answered whether they felt that they fit at the HBCU, and (b) provided details on what had helped or had not help them to integrate into the new institution. The research participants were encouraged to provide as much detail as possible. The qualitative data supplemented and contextualized the quantitative data of the study and helped to explain the results of statistical tests. As past research (Berger & Malaney, 2003; Hausmann, Schofield, & Woods, 2009; Strage, 1999) showed, the successful integration of transfer students is influenced by a number of factors, but these effects cannot be fully evaluated without exploring personal experiences of transfer students. Their personal experiences may vary and cannot be fully quantified. Thus, the research question of the study warranted the collection and evaluation of qualitative data.

Data Analysis

Quantitative analysis. This study used *IBM SPSS Statistics* 24.0 software to perform descriptive and inferential statistical analyses for the study. Quantitative data collected with the survey instrument were coded into SPSS, cleaned, and examined for missing values and errors. Students who had not completed the survey in its entirety were not included in the study. Some items on the survey were reverse-coded due to the nature of the question. Three hypotheses were tested using quantitative data. H_1 had tested whether a correlation exists between academic/social integration and institutional commitment. The independent variable in this test was academic/social integration, the dependent variable was institutional commitment. H₁ was tested using a Pearson's correlation test. H₂ had tested whether a difference in GPA between native and transfer students does exist. The independent variable in this test was student status (native vs. transfer), while GPA was the dependent variable. The Mann-Whitney U test was used to test H₂ by comparing differences in GPA between native and transfer students. Although GPA may be regarded a continuous variable, it assumes values only within a specific, relatively narrow interval (0.00 - 4.00) with strong tendency for biased clustering around certain values. As a result, unlike a percentile grade, for instance, a grade A- in the most frequently used 4.0 system can only assume the value of 3.7 within the interval. Under such circumstances, it is problematic to maintain the normality assumption required, for example, for an independent samples t-test, and therefore the Mann-Whitney U test is a more appropriate analytical solution in this case. H₃ had tested whether there is a

difference in academic/social integration between transfer and native students. The independent variable in this test was student status (native *vs*. transfer), while academic/social integration was the dependent variable. An independent groups two-tailed t-test was used to test H₃.

Qualitative analysis. The analysis of qualitative data is the systematic process of examining, organizing, and transforming the collected qualitative evidence into a form appropriate for interpretation of the studied personal experiences of research subjects (Wolcott, 1994). All qualitative data collected in Q_{50} were compiled into a single database. Then all answers were sorted out through the coding process performed by the researcher. The directed coding technique was used to single out common themes in the responses of the research participants (Saldaña, 2012). The codes in this technique were derived from the theoretical framework of the study. During directed coding stage the data collected were inspected for commonalities that could signal major themes in the communicated experiences of research participants. As a result of the directed coding process all raw qualitative data were reduced to a smaller and more manageable set of descriptive categories and dominant themes (Wolcott, 1994) that were used by the research participants in their textual answers to describe personal experiences with academic and social integration at an HBCU.

The emergent themes were interpreted through qualitative content analysis (Hsieh & Shannon, 2005). Alongside with ethnography, grounded theory, phenomenology and historical research, qualitative content analysis is the qualitative research method that is

used to analyze large amounts of textual data (Schreier, 2012). Qualitative context analysis extends beyond simply counting words to closely examining specific characteristics of communicated qualitative data with particular attention to exact meanings assigned by the research participants (Schreiber, 2012). The goal of content analysis is "to provide knowledge and understanding of the phenomenon under study" (Downe-Wamboldt, 1992, p. 317).

Directed content analysis was the specific form of content analysis used in this study. The goal of a directed approach was to validate or extend conceptually a specific theory, in this case the Tinto's theory of academic and social integration (Tinto, 1997). Tinto's theory helped focus the qualitative data analysis and provided insights about the relationships among the variables of the study. The results of the directed content analysis addressed H₄, supplemented the outcomes of quantitative analysis and helped to paint a more nuanced picture of academic and social integration of transfer students.

Threats to Validity

Sample attrition. The survey started with approximately 250 students having the opportunity to complete the survey. 150 students were retained in the final research sample after satisfaction of all purposive sampling requirements. This posed a threat to internal validity of the study due to sampling bias. However, the researcher addressed this threat by properly balancing the sample through objective representation of native and transfer students, gender, and declared majors in humanities and sciences.

Instrumentation. Tinto's original model examined academic and social integration as two separate constructs. In the current study, academic and social integration were examined together as one construct by combining measures (items) of the two factors, using a variable that was referred to in this study as academic/social integration. This presented a threat to the internal validity of the study. However, very similar adaptations have been done before by other researchers without major negative effects on internal validity of studies (French & Oakes, 2004), and therefore such modification should not have negative effects on the internal validity of this study.

Reactive effects of experimental arrangements. The generalizability of this study to the entire population of transfer students presented a threat to external validity since the study was conducted among students who were demographically biased toward one race – students attending a HBCU. This is a paradox but nevertheless it was selected as a method of refining Tinto's model to a subgroup of the population.

Ethical Considerations

Ethics of research. Any study involving human subjects requires that the research process should substantively and procedurally conform to the principles of respect for persons, beneficence, and justice (HHS, 2009; Sieber & Tolich, 2013). Respect for persons requires that the researcher and the process of research should protect the participants' autonomy or the right to self-determination (HHS, 2009). The researcher should not only ensure no harm to the research participants but also maximize the

benefits while minimizing the possibility of harm (HHS, 2009). Moreover, there should be mutual beneficence, i.e. equitable distribution of the burden and the benefits of the research between researcher and the participants (HHS, 2009).

To comply with all these principles, this research fully satisfied all ethical requirements throughout the entire duration of the study. Such ethical approach had assured impartiality in the selection of the research participants, and alleviated research participants' exposure to different types of risk. In addition, the research participants were selected with equal opportunity to participate, regardless of sex, gender, race, ethnicity, sexual orientation or socio-economic background.

Informed consent. As a part of the data collection, all research participants had received a consent form before they agreed to be included in the current study. The consent form described all expectations as a participant in this research. The completed consent forms were collected and placed in a locked file cabinet in the home office of the researcher. To ensure full protection of research participants' identity and privacy only the researcher has access to the locked file cabinet. To assure that the research participants were fully informed about all research protocols, data collection and data analysis procedures, and applicable research ethics standards, the participants had also received a copy of their rights (The Belmont Report, 1979) as a research study participant. The individual participants were also be informed that they had the right to review any data collected from them during the implementation of the study and the interpretation of the results of the study (Englander, 2012). The participants also had been

made aware that at any time during their involvement in the research, they were completely free to discontinue their participation and withdraw from the study by informing the researcher without any ramifications for them (Greenberg & Folger, 2011).

Identity protection. The complete and unconditional confidentiality of all research participants was fully assured for the entire duration of the study, and particularly during the process of data collection. The true identities and the sociodemographic profiles of the research participants had been intentionally concealed by using assigned code names instead of their real names. In other words, all data collected from the research participants had been thoroughly and completely depersonalized, and it is now impossible to infer specific identities of research participants in any way or form.

IRB permission. Permission to conduct research involving human participants had been obtained from the IRB. To meet the ethical guidelines, the following information had been submitted: (a) a brief synopsis of the study, research proposal, and the description of the hypotheses, (b) a statement of how informed consent would be obtained from research participants, (c) a copy of research methodology, (d) data collection and data management plans, and (e) a detailed description of any risks to research participants of this study. A copy of the IRB form is included in the appendices. This study was associated with any risks to research participants. Research participants' self-identifiable information was not included in coding or transferred to statistical software. There are no conflicts of interests by the researcher in this study.

Summary

This chapter presented the research methodology of the study. It discussed the selected research design and the rationale behind such selection, described the research population, the sample and the sampling procedures, specified approaches to data collection and data analyses, discussed threats to validity of the study, and provided necessary explanations regarding the ethical procedures of the current research. Chapter 4 will present the results of the analyses and the outcomes of hypotheses testing.

Chapter 4: Results

Introduction

As I discussed in the previous chapters, transfer students at HBCUs face a unique set of challenges to a successful academic and social integration (Freeman & Gail, 2002). Past studies found that transfer students experience a distinct set of academic and social challenges: grades slippage, transfer shock, difficulties with choosing a major, and general administrative problems (Hausmann et al., 2009; Tobolowsky & Cox, 2012). However, these challenges and difficulties are particularly pronounced at HBCUs (Negga et al., 2007). The research literature explains the unique situation with transfer students at HBCUs by an interaction of several factors. They include significant variations in transfer students' socioeconomic status (Kao & Thompson, 2003); cultural beliefs regarding education, especially higher education (Hopps et al., 2002); and detrimental effects of systemic and institutionalized racism (Rosenbloom & Way, 2004; Steinberg et al., 1992).

In this context, I explored the differences in academic and social integration between native and transfer students at a 4-year HBCU. In particular, I sought to identify and examine specific factors that influence transfer students' successful academic and social integration into an HBCU. My overarching purpose of this study was to improve the understanding of the unique challenges to successful academic and social integration of transfer students at 4-year HBCUs. To address the current gap in knowledge, I used a mixed-methods correlational research design in which the quantitative data on HBCU transfer students' experiences with academic and social integration were complemented and contextualized by relevant qualitative data on transfer students' personal experiences. Thus, I examined challenges to successful academic and social integration, as means of avoidance of transfer-associated problems, through the lens of both transfer and native students at a small, publicly funded HBCU.

I tested four specific hypotheses. They are based on Tinto's model of student attrition (Tinto, 1975; 1980; 1982; 1998; 2012) and reflect modifications Tinto's model by Pascarella and Terenzini (1980, 1991, 2005). I examined all hypotheses in the context of an HBCU using self-reported cross-sectional data collected at a single point when I administered the research instrument. The first three hypotheses are quantitative and were statistically tested based on the quantitative data collected in Q_1 - Q_{49} . I addressed the fourth hypothesis through qualitative data collected in Q_{50} of the research instrument. I present the four hypotheses below.

 H_1 : There is a correlation between academic/social integration and institutional commitment regardless of student's transfer status.

 H_2 : There is a difference in GPA between native and transfer students.

 $H_{3:}$ There is a difference in academic/social integration between transfer and native students.

 H_4 : Support by faculty and staff is the most important factor that influences transfer students' integration into an HBCU.

In this chapter, I present the results of the quantitative and qualitative analyses that I performed in this study.

Data Collection

I collected the data for this study within 1 calendar week. I derived the primary data from the students' responses to the 50-item Survey of Native and Transfer Students Integration into an HBCU (Appendix A). The survey is based on the Institutional Integration Scale (IIS) first developed by Tinto (Tinto, 1975), and later enhanced by Pascarella and Terenzini (1980; Appendix A). I did not modify the survey in any way for the purposes of this study. I administered the survey directly to all students during the same day and time.

In Q_1 - Q_{49} , the Survey collected: (1) basic socio-demographic data on the research participants, and (2) data on students' involvement in on-campus social organizations and clubs, (3) data on students' interactions with their respective peer groups, (4) data on interactions with university faculty and staff, (5) data on students' perceptions of the faculty concerns about their development and academic performance, and (6) students' own views on their academic and intellectual development, and attitudes regarding institutional goals and commitments. In the last item (Q_{50}), the survey asked students: (a) to reflect in a narrative form on whether they fitted the institution of their choice, and (b) to elaborate on the factors that, in their personal opinion, had an influence on their successful academic and social integration. The study then used several constructs derived directly from the constructs of the research instrument: peer-group interactions, interactions with faculty, faculty concern for student development and teaching, academic and intellectual development, institutional and goal commitments, and extracurricular activities. The population of this study was native and transfer students attending a publically funded HBCU located in the Eastern United States and taking classes during the Spring semester of 2014. The majority of students attending this institution were from 16 counties surrounding the university's geographic location. The sample of this study was drawn using purposive nonprobability sampling strategy (Aneshensel, 2013). The sample was accurate and reflected the general population of transfer students at this particular HBCU and the broader population of transfer students at HBCUs.

Student Demographics

The sample was comprised of 60.1% female and 39.9% male. Nontraditionalaged students (\geq 25 years old) made up 21% of the sample (Table 1). The students were evenly split between those who were born in state (51.4%, *n* = 76) and born out of state (48.6%, *n* = 72). The majority of the students were African Americans (41.9%). The remaining sample was comprised of 29.7% white, 14.2% Hispanic/Latino, 5.4% Asian/Pacific islander, 0.7% American Indian/Alaskan native, and 8.1% all of more than one race.

The part-time students comprised 7.4% of the sample, while 79.1% were registered fulltime, and 4.1% were registered for more than 19 hours of credit. A surprising 9.5% of the research participants gave an invalid response (either unrealistically high or conversely, unrealistically low number) to the question concerning

credit hours. The native students made up 60.1% of the sample, transfer students made up 39.9% of the sample.

The range of GPA for native students was between 2.5 and 3.4 (mean = 2.9, SD = .43). The range of GPA for transfer students was between 3.0 and 3.4 (mean = 3.06, SD = .47). The average GPA of students who transferred from a four year college fell between a range of 2.5 and 3.4.; and 30.4% of the students had earned prior credit hours. The average GPA for those with prior credits fell between 2.5 and 3.4 and students with prior credits had an average that fell in a higher GPA range.

Table 1

a . 1		1.
Stud	out Domoor	anhier
·) LIACA	ent Demogr	umullar
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	0 2 00	<i>enp</i>

	n	Percentage
Gender		
Female	59	60.1
Male	89	39.9
Race		
African-American/Black	91	60.1
Caucasian/White	35	23.3
Hispanic or Latino	16	10.7
Asian or Pacific Islander	6	4.0
Amer. Indian/Alaska Native	1	.6
More than 1 race	1	.6
2% other overstated		
Ranking		
Freshman	20	13.5
Sophomore	55	37.2
Junior	70	47.3
Senior	3	2.0
Age group		
18 to 25 years	95	64.2
20 to 35 years	14	9.5
>36 years	29	19.6
Employment status		
Not working at the moment	49	33.1
Work study student	16	10.8
Part-time (<15 hrs./wk.)	17	11.5
Part-time (15-34 hrs./wk.)	25	16.9
Full-time (35 or more hrs.)	21	14.2

Temporarily employed	18	12.2
Internship or apprenticeship	2	1.40
Enrollment status		
Part-time (<12 hrs.)	11	7.40
Full-time (12-18 hrs.)	117	79.1
$\geq$ 19 credit hrs.	6	4.10

(table continues)

GPA				
Native students	90	2.5-3.4	60.8	
Transfer student	58		39.2	
Transfer students from 2-yr. college 28		3.0-3.4	18.9	
Transfer students from 4-yr. college 36		2.5-3.4	24.3	
Years at this HBCU	-			
1	7		4.70	
2	19		12.8	
3	67		45.3	
<u>&gt;</u> 4	5		37.2	
Birth state				
In state	72		48.6	
Out of state	76		51.4	
Living Status				
On campus	65		43.9	
Off campus	79		53.4	
Prior credits				
Prior credits before this HBCU	101		68.2	
No prior credits	47		31.8	

**Study participants vs. general student population.** For the Fall of 2013, the university reported an enrollment of 2,421 students, of which 152 (6.3%) were transfer students. In this study, 39.2% were transfer students, yielding a higher percentage than the student body population at this HBCU. Of those enrolled, 1,440 (59.5%) were female, while 981 (40.5%) enrolled were male. In the current study, enrollment numbers by gender closely resembled those of the student body population at this HBCU. In the sample, 39.9% of participants were male and 60.1% were female. Clearly females were overrepresented, making up almost two-thirds of the populations.

The university reported 266 part- time students (11%) and 2,155 full-time students (89%), compared to 7.4% and 79.1% respectively in this study. The university reported a higher percentage of all of African Americans in the student body (73.3%) as compared to all participants in this study (41.9%). Thus, African Americans are underrepresented in this study. The university reported that 15.7% of students enrolled all were white, which is a lower percentage than white participants in this study (29.7%). The proportion of minorities (Whites, Hispanics/Latino, etc.) surveyed was approximately 58 (0.1%), as compared to approximately 18% minorities (of similar ethnicity and 8.6% of unknown ethnicity reported in the student body at this HBCU. Although African Americans make up the majority of the student body population at this HBCU, the majority of students surveyed in this study were not African Americans. Thus, the demographics of the obtained sample deviate somewhat from what a researcher would expect given the demographic make-up of the university.

Study participants vs. population HBCUs nationwide. Across the nation, African Americans typically make up 80% of enrollment at HBCUs (Quinton, 2014), however these numbers may vary as African Americans make up 60 to 70% of the student body at some HBCU institutions. The university where the study was implemented represents a typical HBCU in terms of its proportion of African American students compared to students of other races. The percentage of African American respondents in this study parallels the percentage of African Americans in the U.S. student body populations. However, the percentage of African Americans who responded fell in the lower range of 60-80%, and is approximately 10% less than the percentage that make up the student body at this HBCU. It has been mentioned previously that it is not atypical to observe a decline in the number of African Americans who respond to research surveys. The sample more closely matches HBCUs comprised of a percentage of African American enrollment majority percentage near the lower range. Despite the fact that non-Black respondents were slightly over sampled in an HBCU student body, the convenience population in this study remained representative of this HBCU's student body, and of the student populations nationwide.

## **Independent Variables**

Extracurricular Activities, Peer Group, Interaction with Faculty, Faculty Concern for Student Development and Teaching and Academic and Intellectual Development were the 5 criteria that had been used to construct the independent variable Social/Academic Integration. When asked about Extracurricular Activities, the majority of respondents were found to be involved in any extracurricular activities (Table 2). More than 62.2% of students reported involvement in a campus club/organization extracurricular activity, and most uninvolved activity reported was marching band, choir, or other music (92.6%).

Table 2

## Extracurricular Activities

Question	Description	Average score	Not involved (%)	Only one activity (%)	Two activities (%)	Three or more activities (%)	

16	Campus clubs/organizations	1.05	37.8	30.4	20.3	11.5
17	Honor, recognition, professional societies	.50	62.8	25.7	10.1	1.4
18	Student government association	.20	84.5	10.8	4.7	0.0
19	School sport or athletic teams	.22	79.7	18.9	1.4	0.0
20	National Pan-Hellenic Council organizations	.45	80.4	18.2	1.4	0.0
21	Marching band, choir, or other music	.97	92.6	5.4	0.7	1.4

When asked about Peer Group items (Table 3), almost half of the students strongly agreed to the question "Since coming to this university I have developed close personal relationships with other students". Only 10 % agreed to the question "Most students at this university have values and attitudes different from my own".

## Table 3

Question	Description	Average score	Strongly disagree (%)	Disagree (%)	Not sure (%)	Agree (%)	Strongly agree (%)
22	Since coming to this university I have developed close personal relationships with other students	4.19	4.1	2.7	6.8	39.9	46.6
23	The student friendships I have developed at this university have been personally satisfying	4.23	2.7	3.4	6.8	41.9	45.3
24	My interpersonal relationships with other students have had a positive influence on my personal growth, attitudes, and values	4.04	3.4	8.1	12.2	33.8	42.6
25	My interpersonal relationships with other students have had a positive influence on my intellectual growth and interests in ideas	3.87	7.4	8.1	12.2	34.5	37.8
26	It has been difficult for me to make friends with other students	3.39	16.9	17.6	10.8	18.9	35.8
27	Few of the students I know would be willing to listen to me and help me if I had a personal problem	2.95	23.0	20.9	15.5	19.6	20.9
28	Most students at the university have values and attitudes different from my own	2.74	17.6	30.4	23.0	18.2	10.8

# Peer Group Interactions

## Table 4

# Interactions With Faculty

Question	Description	Average score	Strongly disagree (%)	Disagree (%)	Not sure (%)	Agree (%)	Strongly agree (%)
29	My nonclassroom interactions with faculty have had a positive influence on my personal growth, values, and attitudes	3.85	.7	8.8	21.6	42.6	26.4
30	My nonclassroom interactions with faculty have had a positive influence on my intellectual growth and interests in ideas	3.96	2.7	9.5	10.1	44.6	33.1
31	My nonclassroom interactions with faculty have had a positive influence on my career goals and aspirations	4.14	2.7	4.7	12.8	35.1	44.6
32	Since coming to this university, I have developed a close, personal relationship with at least one faculty member	3.94	7.4	9.5	8.8	30.4	43.9
33	I am satisfied with opportunities to meet and interact informally with faculty members	4.03	8.1	6.8	8.1	27.7	49.3

When asked about interactions with faculty (item 33), almost half (49.3%) of the

respondents strongly agreed to the statement "I am satisfied with opportunities to meet

and interact informally with faculty members" (Table 4).

# Table 5

# Faculty Concern for Student Development

Question	Description	Average score	Strongly disagree (%)	Disagree (%)	Not sure (%)	Agree (%)	Strongly agree (%)
35	Few of the faculty members I have had contact with are generally interested in students	2.43	26.4	43.2	5.4	8.8	15.5
36	Few of the faculty members I have had contact with are generally outstanding or superior teachers	2.53	20.9	43.9	9.5	12.2	13.5

37	Few of the faculty members I have had contact with are willing to spend time outside of class to discuss issues of interest and importance to students	2.53	23.0	42.6	7.4	12.8	14.2
38	Most of the faculty members I have had contact with are in interested in helping students grow in more than just academic areas	3.79	8.1	12.2	6.1	39.9	33.8
39	Most of the faculty members I have had contact with are genuinely interested in teaching	4.06	4.7	4.7	4.1	52.7	33.8

65

About a third of students strongly agree that "Faculty are interested in helping students grow in more than just academic areas" and "Most of the faculty members I have had contact with are interested in helping students grow in more than just academic areas".

## Table 6

# Academic and Intellectual Development

Question	Description	Average score	Strongly disagree (%)	Disagree (%)	Not sure (%)	Agree (%)	Strongly agree (%)
39	I am satisfied with the extent of my intellectual development since enrolling in this university	4.06	6.8	2.7	5.4	48.0	37.2
40	My academic experience has had a positive influence on my intellectual growth and interests	4.25	5.4	6.1	8.1	45.9	33.8
41	I am satisfied with my academic experience at this university	4.30	7.4	6.1	4.1	39.2	42.6
42	Few of my courses at this university have been intellectually stimulating	4.56	8.8	15.5	10.1	41.9	23.6

43	My interest in ideas and intellectual matters has increased since coming to this university	4.60	7.4	20.3	9.5	30.4	32.4
44	I am more likely to attend a cultural event now than I was before coming to this university	4.69	10.1	9.5	15.5	31.1	33.8
45	I have performed academically well as I anticipated I would	4.69	7.4	16.2	9.5	33.8	33.1

# **Dependent Variables**

The GPA range is a dependent variable that was used to explore the differences between transfer and native students. Most students' GPAs fell between a range between 2.5–2.9 (Table 7). No students had a GPA less than 1.5. Only 10.8 % of students held a GPA below 2.5.

Table 7

	Ν	Percentage	
Grouped GPA			
Less than 1.5	0	0.0	
1.5 - 1.9	6	4.3	
2.0 - 2.4	9	6.5	
2.5 - 2.9	51	37.0	
3.0 - 3.4	39	23.9	
3.5 - 4.0	33	28.3	

Grade Point Average of Students

Institutional and Goal Commitments is another dependent variable that was measured by 5 Likert items (Table 8). Although, most students strongly agreed that it was important to graduate (39.9%), slightly less (37.8%) felt just as strongly about registering in the Fall of 2014 at the same institution. Approximately one-fifth (20.9%) of the students were undecided about what course of study they wished to pursue, and more than a tenth of the students did not feel getting good grades was important (11.5%) or graduating was important (7.4%).

Question	Description	Average Score	Strongly Disagree (%)	Disagree (%)	Not Sure (%)	Agree (%)	Strongly Agree (%)
46	I am confident that I made the right decision in choosing to attend this university	3.53	10.1	18.2	13.5	24.3	33.8
47	It is likely that I will register at this university next Fall	3.52	20.3	6.8	11.5	23.6	37.8
48	It is important to me to graduate from this university	3.52	20.9	8.1	8.8	22.3	39.9
49	I have no idea at all what I want to major inn	3.72	56.1	10.8	2.7	9.5	20.9
50	Getting good grades is not important to me	4.09	61.5	16.9	2.0	8.1	11.5
51	It is not important to me to graduate from this university	4.18	63.5	15.5	4.1	9.5	7.4

Table 8 – Institutional and Goal Commitment

#### **Cronbach's Alpha**

The test of reliability of the survey instrument was perfumed. A Cronbach's alpha was conducted on 36 items that measured the internal consistency of the independent variable academic/social integration. The Cronbach's was conducted in a manner to also reveal which items (if any) can be excluded. No item could be excluded without lowering the alpha score. The standardized alpha was .735, which was above the recommended reliability of at least .70.

## **Hypotheses Testing**

Academic/social integration and institutional commitment. The first question of the study was, "what is the relationship between academic/social integration and institutional commitment among transfer and native students at an HBCU?" This research question was explored by the first hypothesis of the study, which was "There is a correlation between academic/social integration and institutional commitment regardless of student's transfer status". The independent variable in this this test was academic/social integration, the dependent variable was institutional commitment.

To test this hypothesis and after all test assumptions were properly satisfied, a PPMCC was conducted on the entire sample of students. It revealed that academic/social integration is moderately positively correlated with institutional commitment regardless of student's transfer status (r = .411, n =148, p < .001). The same test was also performed on each group of students separately to explore the degree of correlation in each group. The results reveal that for both native (r = .421, n = 89, p < .001) and transfer (r = .377, n = 59, p < .001) students, academic/social integration is moderately positively correlated with institutional commitment, but native students display somewhat higher degree of correlation. In other words, taken these results as a whole, for both types of students, higher levels of academic and social integration were directly related to higher levels of institutional commitment. These results of the 1st test are presented by a scatterplot (Figure 2). Based on the results of the PPMCC tests, it was possible to conclude that regardless of student's status, academic/social integration was moderately positively correlated with institutional commitment. Therefore, H₀₁ was rejected and H₁ of this study was accepted.

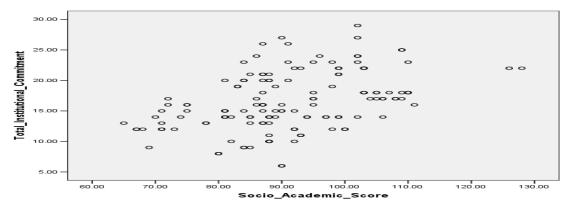


Figure 1. Scatterplot of academic/social integration and institutional commitment.

**Differences in GPA between native and transfer students**. The second research question of the study was, "Do the GPAs of transfer and native students at an HBCU differ?" The second research question was explored by the second hypothesis of the study, which was "There is a difference in GPA between native and transfer students".

The independent variable in this test was student status (native vs. transfer), while GPA was the dependent variable. For the purposes of testing this hypothesis, GPA ranges for transfer and native students were rank ordered and measured in points and a Mann-Whitney U test was performed to compare ranks for the n = 36 for transfer students and n = 112 for native students. The Mann-Whitney U test was used to compare differences between two independent groups when the dependent variable is either ordinal or continuous, but not normally distributed, which are the main assumptions of the test. The results of the test indicated a significant difference between GPA ranges (U = 1,222, p = .007, r = .240), with mean ranks equal to 85.66 for transfer students and for 64.25 native students. The measure of effect size (r) was calculated by dividing (r = Z/SqrtN). Thus, transfer students had a significantly higher GPA range than native students in the sample. Based on these results, it was possible to conclude that a difference in GPA does exist between native and transfer students. Thus, H₀₂ was rejected and H₂ of the study was accepted.

#### Differences in academic/social integration between transfer and native

**students.** The third research question of the study was, "Is there a difference in academic/social integration between transfer and native students?" The third research question was explored by the third hypothesis of the study, which was "There is a difference in academic/social integration between transfer and native students". The independent variable in this test was student status (native *vs.* transfer), while academic/social integration was the dependent variable. An independent groups two-

tailed t-test was be used to test  $H_3$ . The assumptions of the test were satisfied. The test results revealed no statistically significant difference between academic/social integration between transfer and native students (N = 148, p >.05). Based on these results, it was possible to conclude that that there is no basis to claim that there is a difference in academic/social integration between transfer and native students. Thus, the  $H_3$  of this study was rejected and  $H_{03}$  was accepted.

Factors influencing transfer students' integration. The fourth research question of the study was, "What are the factors that influence transfer students' integration into an HBCU?" The fourth question was explored by the fourth hypothesis of the study, which was, "Support by faculty and staff is the most important factor that influences transfer students' integration into an HBCU." The hypothesis was addressed through the analysis of the qualitative data. The qualitative data were collected through  $Q_{50}$  of the research instrument. The research participants were encouraged to provide as much detail as possible. All qualitative data collected in Q₅₀ were compiled into a single database. Then all answers were sorted out through the coding process performed by the researcher. The directed coding technique was used to single out common themes in the responses of the research participants. The codes in this technique were derived from the theoretical framework of the study. During the directed coding stage the data collected were inspected for commonalities that signaled major themes in the communicated experiences of research participants. As a result of the directed coding process all raw qualitative data were reduced to a smaller and more manageable set of descriptive

categories and dominant themes. The emergent themes were interpreted through qualitative content analysis. Directed content analysis was the specific form of content analysis that was utilized. The results of the directed content analysis address H₄ of this study, supplement the results of quantitative tests and present a much more nuanced picture of academic and social integration of transfer students. The results of the qualitative analysis suggest that for the vast majority (86%) of transfer students, support by faculty and university staff is the most important factor that directly and positively influences transfer students' integration into an HBCU. Other themes that emerged suggest that a number of other minor factors may be influencing transfer students' integration, although to a significantly lesser degree: proximity to home (4%), emotional support by parents (3%), availability and ease of access to on-campus student counseling services (4%), and finally having friends who are also transfer students (3%). The emergence of these themes in students' responses suggests that university administrators should also pay closer attention to these minor, yet still important factors when it comes to transfer students' integration process, and in turn, student counselors must address them appropriately when they guide transfer students. Therefore, by the preponderance of qualitative evidence H₄ of this study was accepted.

### **Summary**

This chapter presented the results of the quantitative and qualitative analyses performed in this study. The results of hypotheses testing suggest that (1) academic/social integration is moderately positively correlated with institutional commitment regardless of student's transfer status but native students have somewhat higher degree of correlation; (2) GPA of native and transfer students do indeed differ, with transfer students having significantly higher GPA than native students; (3) there is no statistically significant difference in academic/social integration between native and transfer students, and finally (4) while a number of minor factors may affect successful academic and social integration of transfer students, support by faculty and university staff is the most important factor that directly and positively influences transfer students' integration into an HBCU. The final chapter of this dissertation discusses these results in the context of the extant literature, draws main conclusions, addresses main limitations of the study and provides several recommendations.

### Chapter 5: Discussion, Conclusions, and Recommendations

#### Introduction

I explored differences in academic and social integration between native and transfer students at an HBCU using mixed-methods correlational research design. Taken as a whole, the results of the quantitative analyses did not support the findings in the extant literature on the topic that transfer students at HBCUs may be especially at risk for attrition owing to unique challenges to academic and social integration they experience. Conversely, the results of the qualitative analyses were congruent with past academic literature that found that support by faculty and staff was one of the most important factors that positively affect academic and social integration of transfer students into HBCUs. The findings in this study filled the gap in empirical research into Tinto's theory in the context of an HBCU. In this chapter, I discuss the limitations of this study, implications for social change and provides suggestions for future research.

#### **Review of the Findings**

In this study, I constructed all four tested hypotheses in the context of Tinto's theory that (a) academic and social integration affects institutional commitment, (b) academic and social integration would differ between transfer and native students, and (c) the academic performance of transfer students would differ compared to academic performance of native students at an HBCU.

Analysis of the first hypothesis by Pearson's correlation led to the rejection of the null because regardless of student's status, academic/social integration was moderately

positively correlated with institutional commitment. Tinto's model (Tinto, 1975, 1980, 1982) has been criticized in the past for lacking diversity for the empirical model or for being inappropriate for students of color (Guiffriday, 2004, 2005; Hausmann et al., 2009; Lee & Donlan, 2011). The current results showed that academic and social integration, when examined as a single factor, is significantly correlated with student commitment, suggesting a relationship between these factors can exist at an institution of higher learning with a student body that is predominantly made up of students of color.

However, these results may differ for two reasons. First, I examined the students of color in the present study in the context of an HBCU, whereas in other studies these students were a minority among a predominantly white population in non-HBCUs. Second, in previous studies, academic and social integration were typically treated as separate constructs, whereas in this study, I treated academic and social integration as a single construct – academic academic/social integration. The current results overall suggest that academic/social integration has a positive effect on institutional commitment for students of color attending HBCUs but these findings may not be fully applicable to other students of color attending other colleges and universities.

I rejected the null for the second hypothesis of the study. According to the observed GPA ranges, transfer students performed academically better than native students, underscoring a need to explore further why such a difference would have occurred. Overall, this result runs contrary to some of the extant empirical studies that compared transfer students' academic performance to that of native students' (Titus, 2004; Townsend & Wilson, 2006; Williamson & Cremer, 1998). Specifically, a number of past studies had found, using GPA as a measure, that native students fair better academically in higher educational institutions than their transfer peers (Flaga, 2006; Freeman & Gail, 2002; Kao & Thompson, 2003; Laanan, 2003, 2007; Titus, 2004). Some researchers explained such discrepancy by the transfer shock (Laanan, 1998, 2007; Laanan, Storobin, & Eggleston, 2010; Nettles & Millet, 2008). The results of this study contradict the findings of past research that found that native students perform better academically, but the results also put into question the influence of transfer shock on the academic performance of transfer students. It is possible that transfer shock, as defined by Laanan (1998), did not occur or, if it did occur, the transfer students recovered quickly without any measurable effects on their academic performance. If the latter occurred, this does not explain why in this study transfer students, on average, outperformed native students.

A substantial body of empirical research on this topic that offers some plausible explanations to this observation. In this regard, a few higher educational institutions have reported that transfer students, in fact, perform better academically than native students (Berger & Malaney, 2003). It could be that some 2-year educational institutions may be better at preparing students academically for a transition to 4-year university setting (Cooper et al., 1994; Strage, 1999) or that at such institutions students experience higher level of community involvement (Gallini & Moely, 2003; Svanum & Bigatti, 2009). For example, Seymour and Hewitt compared junior-year transfer and native students at several 4-year universities and found that transfer students had higher GPAs than native students (Seymour & Hewitt, 1997). The authors also found that in the sample of 4-year universities institutional emphasis was placed on student academics and community involvement (Seymour & Hewitt, 1997). Similarly, in a study conducted at a large state university in South Carolina, Glass and Harrington (2002) found that transfer students accumulated higher GPAs than native students by the end of their sophomore year.

Taken as a whole, this suggests that the differences in GPA between transfer and native students observed in the current study could simply be due to the fact that a significant number of transfer students in the sample were juniors. This corresponds well with the results of some studies that found that if transfer students had higher GPAs as juniors at a 4-year university, this was also moderately associated with their higher graduation rates compared to native students (Erasmus & Nathan, 2014; Hughes, 2012). A variety of factors can explain this phenomenon. For example, entering transfer students may be held to a higher GPA standard than native students. This would lead to the admittance of better performing students. This is not the case in the current study, because the HBCU, where the study was implemented, requires an average GPA of 2.0 for transfer admittance. Another factor may be availability and overall quality of institutional resources intended to reduce transfer shock (e.g.: student advisors, support programs, etc.). Yet another possibility is that the transfer shock from high school to a 4year university experienced by native students could be greater than the transfer shock from a two-year to 4-year institution by transfer students. Other latent factors or the

interaction of the factors described above may be also responsible. Therefore, more research is needed to investigate this unexpectedly observed discrepancy in academic performance between transfer and native students.

This study did not reject the null for the third hypothesis and based on statistical evidence concluded that there was no difference in academic/social integration between transfer and native students. Again, this finding runs contrary to the conclusions of past research that suggested that transfer students' academic and social integration needs do in fact differ from those of native students (Strage, 1999; Tobolowsky & Cox, 2012; Townsend & Wilson, 2006). Given such contrarian conclusion, the outcome of the third hypothesis should be considered in conjunction with the fourth hypothesis and must be discussed in the context of the findings of the qualitative analysis of this study.

The latter clearly indicated that for transfer students, support by faculty and university staff by far is the most important factor that directly and positively influences transfer students' academic and social integration into an HBCU. The thematic content analysis also revealed that several minor factors and their possible interactions influence transfer students' academic/social integration, albeit to a significantly lesser degree: proximity to home, emotional support by parents, availability and accessibility of oncampus student counseling services, and having friends who are also transfer students.

However, from the perspective of students' needs and with the obvious exception of the last one that emphasizes student affinity due to specific similar institutional circumstances, all other factors can affect students' academic/social integration regardless of their status. In this regard, extant literature explains different needs of transfer students at HBCUs by such major factors as their challenging socioeconomic backgrounds (Fall & Robert, 2012), lack or insufficient financial and emotional support of their families (Steinberg et al., 1992; Whaley & Noel, 2013), and by inadequate access to on-campus student counseling and career guidance services (Aud et al., 2010). The literature identified these factors as critical, thus suggesting their higher order ranking. Yet, students in their narrative responses mentioned only the last of the three critical factors as truly important, while the other factors identified by the literature either were not mentioned or did not figure prominently in their answers at all, i.e. they were not that critical for them.

Therefore, it would be reasonable to conclude that while transfer students' academic and social integration needs may differ from those of native students, in reality, the differences may not be that pronounced or they may be even marginal at most. Consequently, the conclusions of the last two hypotheses imply that the unique needs, whatever those may be, of transfer students can be successfully and sufficiently addressed primarily by the support from faculty and staff at this and other HBCUs.

## Limitations

The findings of the study are subject to several limitations. First, they are limited in terms of generalizability to the entire population of transfer students. Although the conclusions about transfer students' experiences with successful academic and social integration at this HBCU may be extrapolated to other HBCUs because of close similarities in their student populations; some conclusions may not be completely generalizable to the entire population of transfer students in the U.S. due to unique demographics, cultural and social experiences of the research participants.

The research instrument limitations too. The Survey of Native and Transfer Students Integration measured research participants' perceptions about their personal experiences with successful academic and social integration, not the experiences themselves. In essence, the findings of the study did not address cultural and social experiences directly, they merely interpreted in the context of past empirical research the effective experiential values that research participants had attached to these experiences. The research instrument also had some validity and reliability limitations due to the use of constructs. Furthermore, this study was implemented in a natural setting and therefore, it would be somewhat problematic to replicate its context completely and fully account for all extraneous institutional details.

Also, the study relied on the correlation research design. Although it is generally considered robust and reliable and used extensively in educational and psychological research, it is not perfect. Its main limitation is that it allows examining the constructs under investigation, but it would not allow inferring the cause and effect directly. Thus, the findings of this study should be treated as observational and not definitively causative conclusions.

### **Discussion and Recommendations**

The GPA can certainly affect the ability of a student to persist in college. It has been frequently touted in the scholarly and policy literature as an objective way to quantitatively measure academic integration. In the current study, transfer students made up 43.2% of the research participants. Transfer shock is a familiar concept at many higher education institutions. At the same time, as the findings of this study suggest, it may not have such a significant effect on academic and social integration into an HBCU. This may be especially true for those HBCUs in which transfer students make up less than half the student body. This study found no significant differences in the academic and social integration between transfer and native students. In fact, transfer students had a higher GPA than their native peers. This may mean two things. Either GPA may be more significant in affecting transfer students to persist or GPA is not a very reliable predictor of academic integration altogether and a better measure should be found.

Many empirical studies of institutional persistence model were based on the work of Tinto (1975, 1980, 1982, 1997, 1998) and Astin (1984, 1985, 1999). However, Tinto's and Astin's models differ with regard to GPA and noninstitutional social factors. For example, Cabrera, Nora and Castaneda (1993), created a better model and found that the GPA in conjunction with institutional commitment exhort the largest influence on student persistence (Cabrera, Nora & Castaneda, 1993). Thus, the results of the current study suggest that the GPA of native students should be a primary target in future studies for investigating factors that affect student attrition at HBCUs.

Furthermore, although not a construct in the Tinto's model, Astin's model included GPA as a parallel predictor for institutional persistence. Thus, Astin's model may be more relevant for HBCUs than the Tinto's model. Astin has emphasized that the relationship between GPA and student persistence may be nonlinear, and demonstrated that low GPA has been previously shown to decrease the likelihood of persistence but a high GPA by itself may not increase the likelihood of persistence (Astin, 1999). This indicates that future research models of student retention that use GPA as a predictor should approach its use with more caution as GPA may not be the best predictor.

Moreover, while in this study there was a positive association between academic and social integration and institutional commitment regardless of the student's transfer status but no difference between academic and social integration between transfer and native students, it is clear that factors other than GPA have more influence over students' intent to persist as the results of qualitative analyses clearly demonstrate. In relation to this, it would be appropriate to note that the current study employed a model that treated academic and social integration as a single construct. Future studies should rely on a model that would employ exploratory analyses aimed to identify if any subgroups of items or to identify if a smaller group of items exist to form this construct. In addition, for complete validization, the findings of this study need to be replicated as other HBCUs. Students can recover from transfer shock. Obviously, not all transfer students experience it. It has been suggested by Tinto that a more comprehensive model of student attrition may be needed to gain an in-depth understanding of a variety factors that affect student attrition (Tinto, 1997, 1998). The data for the current study were collected from students attending an HBCU. Tinto's original study on retention had been criticized for lacking diversity. Thus, this study filled in an important gap in the current understanding of factors that affect social and academic integration at diverse university populations. In addition, few studies in the extant literature used the IIS to look for underlying constructs at HBCUs. Thus, exploratory factor analyses (such as a principal component analysis) using items from the IIS needed to examine underlying factors that affect student retention at institutions of higher learning that consist of a predominantly African-American population.

#### **Implications for Social Change**

The findings of this study have several important implications for social change. At the individual level, the results of this study will inform educational psychologists and student advisors about unique issues transfer students may face after they transfer at a 4year institution, especially when they transfer to an HBCU. The results of the study also indicate that more attention or at least equal attention should be paid to the needs of native students. The study will directly benefit transfer students at HBCUs because its findings would allow further improving the process of social and academic integration at these higher educational institutions by streamlining it. At the organizational level, the results of the study will assist HBCUs in developing objective, data-driven educational policies and their corresponding implementation and assessment instruments to help all students regardless of their status achieve their academic goals in the most efficient way, persist to graduation regardless of personal and institutional circumstances, and overall improve retention rates at HBCUs. Such policies should lead to substantial improvements in organizational efficiency and would eliminate redundancies in the provision of academic and student services.

Finally, at the larger societal level, the study will contribute, at least to some extent, to finding a viable and sustainable solution to a persistent problem of drastically increasing graduation rates at HBCUs by targeting a specific cohort of students. Identification of support by faculty and staff as the most important factor that directly and positively affects academic and social integration of transfer students would allow to approach this problem strategically by allocating more internal and external financial and human resources to these activities. The study will also raise awareness among college leadership, faculty and staff about the role their support plays in the lives of transfer students.

## Conclusions

The final chapter reviewed the findings of the study, discussed their implications for extant research on the topic of academic and social integration of transfer students at HBCUs, outlined its main limitations, provided some recommendations for future research given the study's findings and discussed implications this study has for social change.

One of the aims of this study was to contribute to social change through improved understanding of the unique challenges to successful academic and social integration of transfer students at 4-year HBCUs. To this extent, this study contributed to bridging the current gap in theoretical knowledge about HBCU transfer students' experiences with academic and social integration. This study also examined challenges to successful academic and social integration, as means of avoidance of transfer-associated problems, through the lens of both transfer and native students at a small, publicly funded HBCU and thus contributed to more detailed exploration of the multifaceted problems faced by transfer students at HBCUs such as institutional procedures, orientation, integration into the new environment, interaction amongst other students and faculty, extracurricular activities, and other individual and organizational behaviors.

### References

- Adelman, C. (2005). *Moving into town and moving on: The community college in the lives of traditional-age students.* Washington, DC: U.S. Department of Education.
- Agresi, A., & Finlay, B. (2011). *Statistical methods for the social sciences* (4th ed.). Upper Saddle River, NJ: Pearson.
- Anderson, E., & Kim, D. (2006). Increasing the success of minority students in science and technology. Washington, DC: American Council on Education.
- Aneshensel, C. (2013). *Theory-based data analysis for the social sciences* (2nd ed.). Thousand Oaks, CA: Sage.
- Antonio, A. (2004). The influence of friendship groups on intellectual self-confidence and educational aspirations in college. *Journal of Higher Education*, 75(4), 446-471. doi:10.1353/jhe.2004.0019
- Aronson, E., Wilson, T., & Akert, R. (2012). Methodology: How social psychologists do research. Social Psychology (pp. 26-55). Upper Saddle River, NJ: Pearson.
- Astin, A. (1984). Student involvement: A development theory for higher education. *Journal of College Student Personnel*, 25(4), 297-308. doi:10.087x10665
- Astin, A. (1985). Achieving educational excellence. San Francisco, CA: Jossey-Bass.
- Astin, A. (1999). Student involvement: A developmental theory for higher education. Journal of College Student Development, 40(5), 518-529. doi:12.542x/332418873
- Aud, S., Fox, M., & KewalRamani, A. (2010). Status and trends in the education of racial and ethnic groups. Washington, DC: U.S. Department of Education/National Center for Education Statistics (Report # NCES 2010-015).

- Baker, B., Caison, A., Meade, A. (2007). Assessing gender-related differential item functioning and predictive validity with the Institutional Integration *Scale (IIS)*. *Educational & Psychological Measurement*, 67(3), 545-559. doi:10.1177/0013164406292088
- Bartlett, M. (1954). A note on the multiplying factors for various chi square approximations. *Journal of the Royal Statistical Society Series B*, *16*(2), 296-298. doi:10.0000x551410
- Baum, S., Ma, J., Payea, K. (2013). Education pays: the benefits of higher education for individuals and society. New York, NY: College Board.
- Bean, J. (1980). Dropouts and turnover: The sythesis and test of a causal model of student attrition. *Research in Higher Education*, *12*(2), 155-187. doi:11.025x7761001
- Bean, J., & Metzner, B. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research*, 55(4), 485-540. doi: 10.3102/00346543055004485
- Bender, L. (1990). Spotlight on the transfer function: A national study of state policies and practices. Washington DC: American Association of Community & Junior Colleges.
- Berger, J., & Malaney, G. (2003). Assessing the transition of transfer students from community colleges to a university. *NASPA Journal*, 40(4), 1-23.
  doi:10.110081541000x

- Booth, A., Papaioannou, D., & Sutton, A. (2013). Systematic approaches to a successful *literature review*. Thousand Oaks, CA: Sage.
- Bragg, D. (2001). Community college access, mission and outcomes: Considering intriguing intersections and challenges. *Peabody Journal of Education*, 71(1), 93-116. doi:10.1207/S15327930PJE7601_06
- Breidenbach, D., French, B. (2010). Ordinal logistic regression to detect differential item functioning for gender in the Institutional Integration Scale (IIS). *Journal of College Student Retention*, 12(3), 339-352. doi:10.2190/CS.12.3.e
- Brint, S., & Karabel, J. (1989). *The diverted dream: Community colleges and the promise* of educational opportunity in America. New York, NY: Oxford University Press.
- Britner, S., & Pajares, F. (2006). Sources of science self-efficacy beliefs of middle school students. *Journal of Research in Science Teaching*, *43*, 485-499.
  doi:10.1002/tea.20131
- Cabrera, A., Nora, A., & Castaneda, M. (1993). College persitence: Sturctural equations modeling test of an itegrated model of student retention. *The Journal of Higher Education*, 64(2), 123-139. doi:10.2307/2960026
- Campbell, N. (1990). High school students' computer attitudes and attributes: Gender and ethnic group differences. *Journal of Adolescent Research*, *5*(4), 484-499. doi:10.1177/074355489054007
- Chen, D., Ingram, T., & Davis, L. (2014). Bridging student engagement and satisfaction: A comparison between Historically Black Colleges and Universities and

predominantly White institutions. *Journal of Negro Education*, *83*(4), 565-579. doi:10.7709/jnegroeducation.83.4.0565

- Cheng, X., Suwanakul, S., & Wu, R. (2015). Determinants of graduation rates of historically black colleges and universities. *Journal of Economics & Economic Education Research*, 16(2), 51. doi:10.10.554233246517.10
- Concannon, J., & Barrow, L. (2010). Men's and women's intentions to persist in undergraduate engineering degree programs. *Journal Science Education Technology*, 19, 133-145. doi:10.1007/s10956-009-9187-x
- Cooper, D., Healy, M., & Simpson, J. (1994). Student development through involvement:
   Specific changes over time. *Journal of College Student Development*, *35*, 98-102.
   doi:10.007154x154000
- Creswell, J. (2012). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. (2013). *Research design: Qualitative, quantitative & mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.
- Crisp, G., Nora, A., & Taggart, A. (2009). Student characteristics, pre-college, college, and environmental factors and predictors of majoring in and earning a STEM degree: An analysis of students attending a Hispanic serving institution. *American Educational Research Journal*, 46(4), 924-942. doi:10.3102/0002831209349460
- Day, J. (1996). Population projections of the United States by age, sex, race and Hispanic origin. Washington, DC: U.S. Census Bureau.

- Domestic Policy Council Office of Science and Technology Policy. (2006). *American Education: Handbook of Theory and Research* (Vol. II), (pp. 359-384). Bronx, NY: Agathon Press.
- Downe-Wamboldt, B. (1992). Content analysis: Method, applications, and issues. *Health Care for Women International, 13*, 313-321. doi:10.0071442231000x10
- Egglesston, L., & Laanan, F. (2001). Making the transition to the senior institution. *New Directions for Community Colleges*, *114*, 87-97. doi:10.1002/cc.23
- Ellington, R. (2006). *Having their say: Eight high-achieving. African-American Engineering, 14*(2), 177-200. doi:10.1615/JWomenMinorScienEng.v14.i2.40
- Erastus, K., & Nathan, A. (2014). What are African Americans doing in college? A review of the undergraduate degrees awarded by U.S. institutions to African Americans: 2005-2009. *Journal of Negro Education*, 83(4), 530-548. doi:10.7709/jnegroeducation.83.4.0530.
- Espinosa, L. (2009). The academic Self-concept of African American and Latina(o) men and women in STEM majors. *Journal of Women and Minorities in Science & Engineering*, 22(1), 177-203. doi:10.1615/JWomenMinorScienEng.v14.i2.40
- Fairweather, J., & Paulson, K. (2008). The Evolution of American scientific fields:
  Disciplinary differences versus institutional isomorphism (pp.197-212). In
  Välimaa, J., & Ylijoki, O. (Eds.). *Cultural Perspectives on Higher Education*.
  Amsterdam, Netherlands: Springer.

- Fall, A., & Robert, G. (2012). High school dropouts: Interactions between social context, self-perceptions, school engagement, and student dropout. *Journal of Adolescence*, 35(4), 787-798. doi:10.1016/j.adolescence.2011.11.004.
- Fitzpatrick, J., & Silverman, T. (1989). Women's selection of career in engineering: Do traditional differences still exist? *Journal of Vocational Behavior*, 34(3), 266-278. doi:10.1016/0001-8791(89)90019-5
- Flaga, C. (2006). The process of transition for community college transfer students. San Francisco, CA: Jossey-Bass.
- Freeman, K., Gail, T. (2002). Black colleges and college choice: Characteristics of students who choose HBCUs. *Review of Higher Education*, 25(3), 349-358. doi: 10.1353/rhe.2002.0011.
- French, B., & Oakes, W. (2004). Reliability and validity evidence for the Institutional Integration Scale (IIS). *Educational & Psychological Measurement*, 64(1), 88-98, doi:10.1177/0013164403258458.
- Gallagher & J.C. Kaufman (Eds.), *Gender differences in mathematics: An integrative psychological approach* (pp., 294-315). New York, NY: Cambridge University Press.
- Gallini, S., & Moely, B. (2003). Service-learning and engagement, academic challenge, and retention. *Michigan Journal of Community Service Learning*, *10*(1), 1-14. doi:3239521.0010.101

- George, Y., Neale, D., Van Horne, V., & Malcom, S. (2001). In pursuit of a diverse science, technology, engineering, and mathematics workforce: Recommended research priorities to enhance participation by underrepresented minorities.
  Washington, DC: American Association for the Advancement of Science.
- Ginder, S., & Kelly-Reid, J. (2013). Postsecondary Institutions & Cost of Attendance in 2012-13; Degrees & Other Awards Conferred, 2011-12; and 12-Month Enrollment, 2011-12; (Provisional Data). Washington, D.C.: National Center for Education Statistics (NCES).
- Glass, J., & Harrington, A. (2002). Academic performance of community college transfer student and "native" students at a large state university. *Community College Journal of Research & Practice*, 26(5), 415-430.
  doi:10.1080/02776770290041774
- Gloria. A., Castellanos, J., Lopez, A., & Rosales, R. (2005). An examination of the of the academic nonpersistence decisions of Latino undergraduates. *Hispanic Journal of Behavioral Studies*, 27(2), 202-223. doi:10.1177/0739986305275098
- Greenberg, J., & Folger, R. (2011). *Controversial issues in social research methods*. New York, NY: Springer.
- Guiffriday, D. (2004). Friends from home: Asset and liability to African American students attending a predominantly white institution. *NASPA Journal*, 2(3) 693-708. doi:10.10.7761300x1-1x

- Guiffriday, D. (2005). To break away or strengthen ties to home: A complex question for African American students attending a predominantly White institution. *Equity & Excellence in Education*, *38*(1), 49-60. doi:10.1080/10665680590907864
- Gwilliam, L., & Betz, N. (2001). Validity of measures of math-and science-related selfefficacy for African Americans and European Americans. *Journal of Career Assessment*, 9(3), 261-281. doi:10.1177/106907270100900304
- Hackett, G., & Betz, N. (1989). An exploration of the mathematics selfefficacy/mathematics performance correspondence. *Journal for Research in Mathematics Education*, 20(3), 261-273. doi:10.2307/749515
- Hausmann, L., Ye, F., Schofield, J., & Woods, R. (2009). Sense of belonging and persistence in White and African American first-year students. *Research in Higher Education*, 50, 69-669. doi:10.1007/s11162-009-9137-8
- Hernandez, J. (2000). Understanding the retention of Latino college students. *Journal of College Student Development*, 41(6), 575-588. doi:10.29010/176.000
- Hernandez, J., & Lopez, M. (2004). Leaking pipeline: Issues impacting Latino/a college student retention. *Journal of College Student Retention*, 6(1), 37-60. doi:10.2190/FBLY-0UAF-EE7W-QJD2
- HHS. (2009). Code of Federal Regulations (CFR 45-46): Protection of Human Subjects (Common Rule). Washington, DC: U.S. Department of Health & Human Services (HHS).

- Hoffman, E., Starobin, S., Laanan, F., & Rivera, M. (2010). Role of community colleges in STEM education: Thoughts on implications for policy, practice, and future research. *Journal of Women & Minorities in Science & Engineering*, *16*(1), 85-96. doi:10.1615/JWomenMinorScienEng.v16.i1.60
- Hopps, J., Christler, R., & Christian, O. (2002). From Problems to personal resilience. *Journal of Ethnic & Cultural Diversity in Social Work, 11*(1-2), 55-77,
  doi:10.1300/J051v11n0103.
- Hsieh, H., & Shannon, S. (2005). Three approaches to qualitative content analysis.*Qualitative Health Research*, 15(9), 1277-1288. doi:10.1177/1049732305276687
- Huang, G., Taddesse, N., & Walter, E. (2000). Entry and persistence of women and minorities in college science and engineering education. Washington, DC: National Center for Education Statistics.

Hughes, B. (2012). Complementarity between the transfer goals of community colleges and Historically Black Colleges and Universities: Learning from history. *Community College Journal of Research & Practice*, *36*(2), 81-92, doi:10.1080/10668920802466525.

Hutchison, M., Follman, D., Sumpeter, M., & Bodner, G. (2006). Factors influencing the self-efficacy beliefs of first-year engineering students. *Journal of Engineering Education*, 39-47. doi:10.1002/j.2168-9830.2006.tb00876.x

- Jackson, D. (2010) Transfer students in STEM majors: Gender differences in the socialization factors that influence academic and social adjustment (Doctoral dissertation). Iowa State University, Ames, IA.
- Johnson, A. (2007). Unintended consequences: How science professors discourage women of color. *Science Education*, *91*(5), 805–821. doi:10.1002/sce.20208
- Jones, M., Howe, A., & Rua, M. (2000). Gender differences in students' experiences, interests, and attitude toward science and scientists. *Science Education*, 84 (2), 180-192. doi:10.98711100000x1
- Juszkiewicz, J. (2015). Trends in community college enrollment & completion data. Washington, DC: American Association of Community Colleges (AACC).
- Kaiser, H. (1970). A second generation Little Jiffy. *Psychometrika*, 35, 401–415. doi:10.222019x16
- Kaiser, H. (1974). An index of factorial simplicity. *Psychometrika*, *39*, 31–36. doi:10.223110x01
- Kane, T., Rouse, C. (1995). Labor market returns to two- and 4-year college. American Economic Review, 85(3), 60-614. doi:13.6654/144300
- Kao, G., & Thompson, J. (2003). Racial and ethnic stratification in educational achievement and attainment. *Annual Review of Sociology*, 29(5), 417-442. doi:10.2307/30036974

- Karp, M., Hughes, K., & O'Gara, L. (2010). An exploration of Tinto's integration framework for community college students. *Journal of College Student Retention*, *12*(1), 69–86. doi:10.2190/CS.12.1.e
- Kezar, A., & Moriarty, D. (2000). Expanding our understanding of student leadership development: A study exploring gender and ethnic identity. *Journal of College Student Development*, 41(1), 55-69. doi:10.0091000019x01
- King, J. (2002). Crucial choices: How students' financial decision affect their academic success. Washington, DC: American Council on Education.
- Kuh, G., Kinzie, J., Buckley, J., Bridges, B., Hayek, J. (2007). Piecing together the student success puzzle: Research, propositions, and recommendations. San Francisco, CA: Jossey-Bass.
- Laanan, F. (1998). Beyond transfer shock: A study of student' college experiences and adjustment process at UCLA. Unpublished doctoral dissertation. University of California, Los Angeles, CA.
- Laanan, F. (2003). Degree aspirations of two-year college students. *Community College* Journal of Research & Practice, 27(6), 495-518. doi:10.121308861x10
- Laanan, F. (2007). Studying transfer students: Part II: Dimensions of transfer student adjustment. *Community College Journal of Research & Practice*, 31, 37-59. doi:10.1080/10668920600859947
- Laanan, F., Starobin, S., & Eggleston L. (2010). Adjustment of community college students at 4-year university: Role and relevance of transfer student capital for

student retention. *Journal of College Student Retention*, 12(2), 175-209. doi:10.2190/CS.12.2.d

- Larose, S., Robertson, D., Roy, R., & Legault, F. (1998). Nonintellectual learning factors as determinants for success in college. *Research in Higher Education*, 39(3), 275-297. doi:10.1023.1018776917403
- Lee, J. & Donlan, W. (2011). American Indian/Alaskan Native undergraduate retention at predominantly white institutions: An elaboration of Tinto's theory of college student departure. *Journal of College Student Retention*, *12*(3), 257-276. doi:10.2190/CS.12.3.a
- Lee, V., Mackie-Lewis, C., & Marks, H. (1993). Persistence to the baccalaureate degree for students who transfer from community college. *American Journal of Education 102(1)*, 80-114. doi:10.0000010.x106615114
- Light, J. (2001). *Making the most of college: Students speak their minds*. Cambridge, MA: Harvard University Press.
- Malcom, L. (2010). Charting the pathways to STEM for Latina/o students: The role of community colleges. *New Directions for Institutional Research*, 148, 29-40. doi:10.1002/ir.359
- Marshall, C., & Rossman, G. (2006). *Designing qualitative research* (4th ed.). Thousand Oaks, CA: Sage.

- Matthews, R. (1996). Learning communities: A retention strategy that serves students and faculty. Washington, DC: American Association of State Colleges & Universities.
- Mau, C. (2003). Factors that influence persistence in science and engineering career aspirations. *The Career Development Quarterly*, *51*, 234-243. doi:10.1002/j.2161-0045.2003.tb00604.x
- Montgomery, R., & Montgomery, B. (2012). Graduation rates at HBCUs: An underperforming performance measure for determining institutional funding policies. *Journal of Continuing Higher Education*, 60(2), 93-109. doi:10.1080/07377363.2012.690623
- Mooney, G., & Foley, D. (2011). Community colleges: Playing an important role in the education of science, engineering and health graduates. Arlington, VA: National Center for Science & Engineering Statistics.
- Murguia, E., Padilla, R. and Pavel, M. (1991). Ethnicity and the concept of social integration in Tinto's model of institutional departure. *Journal of College Student Development*, 32(5), 433-439. doi:10.8871.kp100019
- Murphy, M., Steele, C., & Gross, J. (2007). Signaling threat: How situational cues affect women in math, science, and engineering setting. *Psychological Science*, 18(10), 879-885. doi:10.1111/j.1467-9280.2007.01995.x

- National Academy of Sciences. (2007a). *Beyond bias and barriers: Fulfilling the potential of women in academic science and engineering*. Washington, DC: National Academies Press.
- National Academy of Sciences. (2007b). *Rising above the gathering storm: Energizing and employing America for a brighter economic future*. Washington, DC: National Academies Press.
- National Center for Education Statistics. (2015). *Digest of education statistics, 2013*. Washington, DC: National Center for Education Statistics (NCES).
- Negga, F., Applewhite, S.; & Livingston, I. (2007). African American college students and stress: School racial composition, self-esteem and social support. *College Student Journal*, 41(4), 823-830. doi:12.11./klm66520
- Nettles, M., & Millet, C. (2008). Student access in community colleges. New Directions for Community Colleges, 30, 87-98. doi:10.1002/cc.23
- Nichols, G., & Wolfe, H. (2007). A method for identifying variables for predicting STEM enrollment. *Journal of Engineering Education*, 33-44. doi:10.1002/j.2168-9830.2007.tb00913.x
- Nora, A., Cabrera, A., Hagedorn, L., & Pascarella, E. (1996). Differential impacts of academic and social experiences on college-related behavioral outcomes across different ethnic and gender groups at 4-year institutions. *Research in Higher Education, 37,* 427-451. doi:10.1007/BF01730109

- O. Ylijoki (eds.). *Cultural perspectives in higher education* (pp, 197-212). Dordrecht, Netherlands: Springer.
- Ong, M., Wright, C., Espinosa, L., & Orfield, G. (2011). Inside the double bind: A synthesis of empirical research on undergraduate and graduate women of color in science, technology, engineering and mathematics. *Harvard Educational Review*, *81(2)*, 172–208. doi:10.17763/haer.81.2.t022245n7x4752v2
- Ong, M., Wright, C., Espinosa, L., & Orfield, G. (2011). Inside the double bind: A synthesis of empirical research on undergraduate and graduate women of color in science, technology, engineering and mathematics. *Harvard Educational Review*, *81*(2), 172–208. doi:10.17763/haer.81.2.t022245n7x4752v2

Osborne, J. (2013). Best practices in data cleaning. Thousand Oaks, CA: Sage.

- Packard, B., Cagnon, J., & LaBelle, O. (2011). Women's experiences in the STEM community college transfer pathway. *Journal of Women and Minorities in Science & Engineering*, 17(2), 129-147. doi:10.1615/JWomenMinorScienEng.20
- Pajares, F. (2004). *Self-efficacy beliefs in academic contexts: An outline*. Retrieved from http://des.emory.edu/mfp/efftalk.html
- Pascarella, E. (1985). College environmental influences on learning and cognitive development: a critical review and synthesis (123-129). In J.C. Smart (Ed.), *Higher education: Current Challenges.* New York, NY: Praeger Press.

- Pascarella, E., & Terenzini, P. (1980). Predicting freshman persistence and voluntary dropout decisions from a theoretical model. *Journal of Higher Education*, 51(1), 60-75, doi:10.2307/1981125.
- Pascarella, E., & Terenzini, P. (1991). *How college affects students: Findings and insight from twenty years of search*. San Francisco, CA: Jossey-Bass.
- Pascarella, E., & Terenzini, P. (2005). *How college affects students: A third decade of research*. San Francisco, CA: Jossey-Bass.
- Pascarella, E., Pierson, C., Wolniak, G., & Terenzini, P. (2004). First-generation college students: Additional evidence on college experiences and outcomes. *Journal of Higher Education*, 75(3), 249-284. doi:10.23081x6615
- Patton, M. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Piland, W. (1995). Community college transfer students who earn bachelor's degrees. Community College Review, 23(3), 35-44. doi:11.00710.x615
- Price, K. (2010). Undergraduate women in STEM: Does participation in STEM extracurricular programs enhance success among students? (Doctoral dissertation). Florida State University, Tallahassee, FL.

Quinton, S. (2014). When a 43% graduation rate means success. Retrieved from: http://www.theatlantic.com/education/archive/2014/04/when-a-43-graduation-rate-means-success/360672/

- Rayman, P., & Brett, B. (1995). Women science majors: What makes a difference in persistence after graduation? *The journal of College Student Development*, 66(4), 831-844. doi:10.2307/2943794
- Rendón, L. (1994). Validating culturally diverse students: Toward a new model of learning and student development. *Innovative Higher Education*, 9(1), 33-52. doi:10.1007/BF01191156
- Reyes, M. (2011). Unique challenges for women of color in STEM transferring from community colleges to universities. *Harvard Educational Review*, 81(2), 241-262. doi:10.17763/haer.81.2.324m5t1535026g76
- Rosenbloom, S., & Way, N. (2004). Experiences of discrimination among African
  American, Asian American, and Latino adolescents in an urban high school. *Youth & Society, 35*(4), 420-451. doi:10.1177/0044118x03261479.
- Saldaña, J. (2012). *The Coding manual for qualitative researchers* (2nd ed.). Thousand Oaks, CA: Sage.
- Sax, L. (1994). Mathematical self-concept: How college reinforces the gender gap. *Research in Higher Education*, *35*(2), 141-166. doi:10.1007/BF02496699
- Sax, L. (2001). Undergraduate science majors: Gender differences in who goes to graduate school. *Review of Higher Education*, 24(2), 153-172. doi:10.1353/rhe.2000.0030

Sax, L., Bryant, A., & Harper, C. (2005). The differential effects of student-faculty interaction on college outcomes for women and men. *Journal of College Student Development*, 46(6), 642-659. doi:10.1353/csd.2005.0067

Schreier, M. (2012). *Qualitative content analysis in practice*. Thousand Oaks, CA: Sage.

- Selingo, J. (2015). *College (un)bound: The future of higher education and what it means for students*. Seattle, WA: Amazon Publishing.
- Seymour, E. (2001). Tracking the processes of change in US undergraduate education in science, mathematics, engineering, and technology. *Science Education*, 86, 79-105. doi:10.1002/sce.1044
- Seymour, E., & Hewitt, N. (1994). Talking about leaving: Factors contributing to high attrition rates among science, math, and engineering undergraduate engineering majors. Final report to the Alfred P. Sloan Foundation on an Ethnography Inquiry at Seven Institutions. Boulder, CO: University of Colorado.
- Seymour, E., & Hewitt, N. (1997). *Talking about leaving: Why undergraduates leave the sciences*. Boulder, CO: Westview Press.
- Shain, C. (2002). Revising the problem of engineering school persistence in African American women students. Doctoral dissertation. Retrieved from ProQuest Dissertation and Theses database, Publication No. 304798888
- Shashaani, L. (1995). Socioeconomic status, parent's sex-role stereotypes, and the gender gap in computing. *Journal of Research on Computing in education*, 26(4), 433-451. doi:10.1080/08886504.1994.10782102

- Sieber, J., & Tolich, M. (2013). *Planning ethically responsible research* (2nd ed.). Thousand Oaks, CA: Sage.
- Smart, J. (1986). College effects on occupational status attainment. *Research in Higher Education*, 24, 73-95. doi:10.00000x10961595x

Starobin, S. (2004). Gender Difference in college choice, aspirations, and self-concept among community college students in science, mathematics, and engineering.
Unpublished doctoral dissertation. Denton, TX: University of North Texas.

- Starobin, S., & Laanan, F. (2008). Broadening female participation in science, technology, engineering, and mathematics: Experiences at community colleges. *New Directions for Community Colleges*, 142, 37-46. doi:10.1002/cc.323
- Steinberg, L., Dornbusch, S., & Brown, B. (1992). Ethnic differences in adolescent achievement: An ecological perspective. *American Psychologist*, 47(6), 723-729. doi:10.1037/0003-066X.47.6.723.
- Steinberg, L., Lamborn, S., Dornbusch, S., & Darling, N. (1992). Impact of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Development*, 63(5), 1266-1281. doi:10.1111/j.1467-8624.1992.tb01694.x
- Strage, A. (1999). Social and academic integration and college success: Similarities and differences as a function of ethnicity and family education background. *College Student Journal*, 33, 198-205. doi:10.210x6651cc2

- Svanum. S., & Bigatti. S. (2009). Academic course engagement during one semester forecasts college success: Engaged students are more likely to earn a degree, do it faster and do it better. *Journal of College Student Development*, 50(1), 120-127. doi:10.1353/csd.0.0055
- Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches*. Thousand Oaks, CA: Sage.
- Tashakkori, A., & Teddlie, C. (Eds.). (2010). *Handbook of mixed methods in social & behavioral research*. Thousand Oaks, CA: Sage.
- Terenzini, P. & Pascarella, E. (1997). Living with myths: Undergraduate education in America. *Magazine of Higher Learning*, 26(1), 28-32. doi:10.1080/00091383.1994.9938488
- Terenzini, P., Rendón, L., Upcraft, M., Millar, S., Allison, K., Gregg, P., & Jalomo, R. (1994). The transition to college: Diverse students, diverse stories. *Research in Higher Education*, 35(1), 57-73. doi:10.1007/BF02496662
- The Belmont Report. (1979). *Ethical principles and guidelines for the protection of human subjects of research*. Washington, DC: National Commission for the Protection of Human Subjects of Biomedical & Behavioral Research.
- Thompson, M. (2001). Informal student-faculty interaction: Its relationship to educational gains in science and mathematics among community college students. *Community College Review*, 29(1), 35-57. doi:10.1177/009155210102900103

- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, *45*(1), 89-125. doi:10.10.i249659.
- Tinto, V. (1980). College origins and patterns of status attainment: schooling among professional and business-managerial occupations. *Sociology of Work & Occupations*, 7, 457-486. doi:10.1177/073088848000700404
- Tinto, V. (1982). Limits of theory and practice in student attrition. *The Journal of Higher Education*, 53(6), 687-700. doi:10.2307/1981525
- Tinto, V. (1986). Theories of student departure revisited (pp.56-77). In J.C. Smart (Ed.), *Higher Education Challenges*. New York, NY: College Press.
- Tinto, V. (1997). Classrooms as communities: Exploring the educational character of student persistence. Journal of Higher Education, 68(6), 599–623. doi:10.10.1320991k.
- Tinto, V. (1998). Colleges as communities: Taking research on student persistence seriously. *Review of Higher Education*, *21*(2), 167-177. doi:10.10.her885201.
- Tinto, V. (2012). Leaving college: Rethinking the causes and cures of student attrition (3rd ed.). Chicago: IL: University of Chicago Press.
- Tinto. V., Goodsell, A., & Russo, P. (1993). Gaining a voice: The impact of collaborative learning on student experience in the first year of college. Unpublished manuscript.

- Tinto. V., Russo, P., & Kadel, S. (1994). Constructing educational communities: Increasing retention in challenging circumstances. *Community College Journal*, 64(4), 26-30. doi:11.00910000x41
- Titus, M. (2004). An examination of influence of institutional context on student persistence at 4-year colleges and universities: A multilevel approach. *Research in Higher Education*, 45(7), 673-700. doi:10.1023/B:RIHE.0000044227.17161.fa
- Tobolowsky, B., & Cox, B. (2012). Rationalizing neglect: An institutional response to transfer students. *Journal of Higher Education*, 83(3), 389-410.
  doi:10.1353/jhe.2012.0021.
- Toossi, M. (2012). Employment outlook: Labor force projections to 2020: a more slowly growing labor force. Washington, DC: U.S. Department of Labor – Monthly Labor Review. Retrieved on April 14, 2016 from: http://www.bls.gov/opub/mlr/2012/01/art3full.pdf
- Torres-Campos, C. Phinney, J., Prez-Brena, N., Kim, C., Ornelas, B. (2009). A mentorbased targeted intervention for high-risk Latino college freshmen: A pilot study. *Journal of Hispanic Higher Education*, 8(2), 158-178. doi:10.1177/1538192708317621.
- Toutkoushian, R., & Smart, J. (2001). Do institutional characteristics affect student gains from college? *The Review of Higher Education*, 25(1), 39-61.
  doi:10.1353/rhe.2001.0017

- Townsend, B., & Wilson, K. (2006). "A hand hold for a little bit": Factors facilitating the success of community college transfer students to a large research university. *Journal of College Student Development*, 47(4), 439-456. doi:10.1353/csd.2006.0052
- Townsend, B., & Wilson, K. (2009). The academic and social integration of persisting community college transfer students. *Journal of College Student Retention: Research, Theory & Practice*, 10, 405-423. doi:10.2190/CS.10.4.a
- Tsapogas, J. (2004). *The role of community colleges in the education of recent science and engineering graduates.* Arlington, VA: National Science Foundation.
- U.S. Census Bureau. (2002). The big payoff: Educational attainment and synthetic estimates of work-life earnings. Suitland, MD: U.S. Census Bureau. Retrieved on April 14, 2016 from: https://www.census.gov/prod/2002pubs/p23-210.pdf
- Vogt, C., Hocevar, D., & Hagedorn, L. (2007). A social cognitive construct validation: Determining women's and men's success in engineering programs. *Journal of Higher Education*, 78(3), 337-364. doi:10.009100x5
- Welsh, J., Brake, N., & Choi, N. (2005). Student participation and performance in dual credit courses in a reform environment. Community College Journal of Research & Practice, 29(3), 199-213. doi:10.1080/10668920590901158
- Whaley, A., & Noel, L. (2013). Academic achievement and behavioral health among Asian American and African American adolescents: testing the model minority

and inferior minority assumptions. *Social Psychology of Education*, *16*(1), 23-43. doi:10.1007/s11218-012-9206-2

Whitt, E. (1997). College student affairs administration. Boston, MA: Pearson.

Whitten, B., Foster, S., Duncombe, M., Allen, P., Heron, P., McCullough, L., & Zorn, H. (2004). "Like a family": What works to create friendly and respectful student-faculty interactions? *Journal of Women and Minorities in Science & Engineering*, *10*(3), 229–242. doi:10.1615/JWomenMinorScienEng.v10.i3.30

- Williams, J., & Montgomery, D. (1995). Using frame of reference theory to understand the self-concept of academically able students. *Journal for the Education of Gifted*, 18(4), 400-409. doi:10.1177/016235329501800404
- Williamson, D., & Cremer, D. (1998). Student attrition in 2- and 4-years colleges:
  Application of a theoretical model. *Journal of College Student Development*, 29(3), 210-217. doi:10.1100010.8871x5561
- Wolcott, H. (1994). Transforming qualitative data: Description, analysis & interpretation (2nd ed.). Thousand Oaks, CA: Sage.
- Zastavker, Y., Ong. M., & Page, L. (2006). Women in engineering: Exploring the effect of project-based learning in a first-year undergraduate engineering program.
  Paper presented at the 36th ASEE/IEEE Frontiers in education conference, San Diego, CA.
- Zimmerman, B. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology*, 25(1), 82-9. doi:10.1006/ceps.1999.1016

## Appendix A: Survey Instrument

University (HBCU)	to a Historically Black College or
Thank you for taking the time to do our survey. All answers w with the strictest confidence.	vill be handled with anonymity and
.) Did you transfer to this university from a community coll	lege? Yes No
	lle en en interniter?
2.) Did you transfer to this university from another 4-year co	shege of university:
YesNo	
3.) Did you have any prior college credits when you enrolled	d into this university as a freshman?
YesNo	
a.) If so, how many prior college credits were transfe	erred into this university?
4.) Do you live: On Campus Off Campus	
5.) What is your race/ethnicity?	
African-American/BlackC	Caucasian/White
Hispanic or Latino A	sian or Pacific Islander
American Indian or Alaska Native M	fore than one race
6.) Gender: Male Female	
7.) Were you born in North Carolina? Yes No	0
a. If so, what county are you originally from:	-
8.) How many years have you attended this HBCU?	

___Freshman

Sophomore

___Junior

Senior

10.) Are you currently enrolled

Part-time (less than 12 credit hours)

_____Full-time (12 to 18 credit hours)

In 19 or more credit hours

## 11.) Your age is:

____Under 18 years

_____18 to 25

_____26 to 35

Over 36

12.) Your estimated GPA is:

3.5-4.0
3.0-3.4
2.5-2.9
2.0-2.4
1.5 - 1.9
Less than 1.5

13.) Which of the following statements about occupational status apply to you?

____ Not working at the moment

____ Work study student

____ Part-time or hourly work (< 15 hours per week)

Part-time work (15 to 34 hours per week)

____ Full-time work (35 or more hours)

____ Temporarily employed

Internship or apprenticeship

Please circle your degree of involvement with each of the following types of organizations or events:

	Not Involved	Only One	Two of These	Three or More	
14.) Campus clubs/organizations	0	1	2	3	
(such as Chemistry Club or Physics Club)					
15.) Honor, recognition, and professional societies	0	1	2	3	
(such as National Society of Black Engineers [NSBE]					
or Psi Chi National Honor Society)					
16.) Student Government Association	0	1	2	3	
(such as student body president or student council member)					
17.) School sport or athletic teams	0	1	2	3	
(such as ECSU football team or ECSU volleyball team)					
18.) National Panhellenic Council organizations	0	1	2	3	
or interfraternity council organizations					
(such as Delta Sigma Theta, Groove Phi Groove)					
19.) Marching band, choir, or other music	0	1	2	3	
related groups and ensembles					

Peer-Group Interactions	Strongly	Agree	Not Sure	Disagree	Strongly Disagree
20.) Since coming to this university, I have developed close personal relationships with other	5	4	3	2	1
students.					
<ol> <li>The student friendships I have developed at this university have been personally satisfying.</li> </ol>	s 5	4	3	2	1
22.) My interpersonal relationships with other students have had a positive influence on my personal growth, attitudes, and values.	5	4	3	2	1
3.) My interpersonal relationships with other tudents have had a positive influence on my ntellectual growth and interest in ideas.	5	4	3	2	1
24.) It has been difficult for me to meet and make riends with other students.	5	4	3	2	1
25.) Few of the students I know would be willing to isten to me and help me if I had a personal problem	5	4	3	2	1
26.) Most students at this university have values and attitudes different from my own.	5	4	3	2	1

For the next set of questions, please circle the number on the scale of how much you strongly agree (5) or strongly disagree (1) with the following statements:

Interactions with Faculty	Strongly Agree	Agree	Not Sure	Disagre e	Strongl y Disagre
					e
27.) My non-classroom interactions with faculty have had a positive influence on my personal growth, values, and attitudes.	5	4	3	2	1
28.) My non-classroom interactions with faculty have had a positive influence on my intellectual growth and interest in ideas.	5	4	3	2	1

39.) I am satisfied with my academic experience at this university.	5	4	3	2	1
40.) Few of my courses this year have been intellectually stimulating.	5	4	3	2	1
41.) My interest in ideas and intellectual matters has increased since coming to this university.	5	4	3	- 2	1
42.) I am more likely to attend a cultural event (i.e., concert, lecture, art show) now than I was before coming to this university.	5	4	3	2	1
43.) I have performed academically as well as I anticipated I would.	5	4	3	2	1

Institutional and Goal Commitments	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
44.) I am confident that I made the right decision in choosing to attend this university.	5	4	3	2	1
45.) It is likely that I will register at this university next fall.	5	4	3	2	1
46.) It is important to me to graduate from this university.	5	4	3	2	1
47.) I have no idea at all what I want to major in.	5	4	3	2	1
(48.) Getting good grades is not important to me.	5	4	3	2	1
49.) It is not important to me to graduate from this university.	5	4	3	2	1

50.) Do you feel that you fit in here at ECSU? Yes

No

a.) If yes, what helped you the most to fit in? Please give details.

b.) If you do not feel as if you fit in here at ECSU, please explain why not in as much detail as possible.