

STUDENT ENGAGEMENT AND RETENTION OF MINORITY STUDENTS IN A FAITH-  
BASED INSTITUTION

by

Stephanie Ann Smith

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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APPROVED BY:

Kurt Y. Michael, Committee Chair

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## ABSTRACT

Although there is research in student engagement and retention in higher education institutions, there is little predictive research that study minority students attending faith-based institutions. Due to the established relationship between student engagement and retention, it was important to understand what aspects of student engagement may predict the retention of minority students in order to establish programming and possibly raise the retention rates of these populations. Using the theoretical framework of student involvement and persistence, this predictive, correlational study used archival data to determine if any of the National Survey of Student Engagement's (NSSE) engagement indicators predicted the retention of minority students in a faith-based institution. A logistics regression analysis was used to review 168 NSSE surveys and determine if any of the criterion variables predicted retention. Although, analysis revealed that none of the NSSE engagement indicators produced statistically significant predictive relationships with the retention of minority students, collaborative learning and supportive environment demonstrated notably significant relationships with the retention of these students in a faith-based institution.

*Keywords:* student engagement, retention, minority students, faith-based institution.

### **Dedication**

This dissertation is dedicated to my family. First to my mom, who has always believed in me and has sacrificed everything to see me reach my goals. Thank you for introducing me to Mrs. Peggie and Maxullama who taught me lessons in life that have gotten me here. Your never-ending wisdom pushes me to become the best mother and person that I can be. I dedicate this also to my husband, Stephen. You have been there for me throughout this entire process and your unwavering support and love has made this happen. To Victoria and Micah, I pray that this shows you that with perseverance and through faith, you can do anything God calls you to do. Finally, to the rest of my family. Each of you have contributed in your own unique way to make this dissertation a reality.

## **Acknowledgments**

The first acknowledgement belongs to Jesus, who has given me the tools that I needed to complete this dissertation. His many blessings have made a way for this accomplishment and I pray that my work only glorifies Him.

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### **List of Abbreviations**

National Survey of Student Engagement (NSSE)

Historically Black College or University (HBCU)

Predominantly White Institution (PWI)

National Center for Education Statistics (NCES)

Exploratory Factor Analysis (EFA)

Confirmatory Factor Analysis (EFA/CFA)

Integrated Postsecondary Education Data System (IPEDS)

Banner INB (Internet Native Banner)

## **CHAPTER ONE: INTRODUCTION**

### **Overview**

There are plenty of studies that examine student engagement and retention. However, there are only a few studies that look at the relationship between students' responses on the National Survey of Student Engagement (NSSE) and retention. The purpose of this study was to examine the engagement indicators of NSSE and determine if any of them influenced the retention of minority students. Chapter One includes a discussion of the background, problem statement, the purpose and significance this study, research questions, and definitions.

### **Background**

The diversity in enrollment in higher education institutions is predicted to increase dramatically from 2014-2025 (National Center for Education Statistics, 2017). Although many institutions have retention efforts that directly target the underrepresented minority, these students' retention still is lower than that of their counterpart (National Student Clearinghouse, 2017). The National Student Clearinghouse (2017) reported that first-year persistence and retention of Asian students is 84.2%, that of Black students is 66.9% and Hispanics is 72.5% and White students is 79.2%. This shows that it is less likely for minority students to be retained in college than their White counterparts.

Student engagement has been linked to student retention and persistence through various studies (Bonet & Walters, 2016; Lee, 2017; Xiong, Li, Kornhaber, Suen, Pursel, & Goins, 2015). Kuh et al. (2008) found that student engagement in educationally purposeful activities can benefit all students, but tend to carry greater benefits for students of color. The National Student Engagement Survey looks at ten engagement indicators that affect students; (1) higher-order learning, (2) reflective and integrative learning, (3) learning strategies, (4) quantitative reasoning,

(5) collaborative learning, (6) discussions with diverse others, (7) student-faculty interaction, (8) effective teaching practices, (9) quality interactions, and (10) supportive environment. This study aimed to understand if any of these indicators had a greater effect on the retention of minority students.

When talking about retention, it is important to note the shifts in literature and language that occurred in the 1970s. At this time, there was a shift in the language and the literature shifted from looking at a student's failure to graduate as a student problem to placing the responsibility for retention upon the institutions (Berger et al., 2012). The language shifted and instead of saying that the student did not persist, or withdrew, it changed to the student was not retained (Habley et al., 2012). Tinto (1975) developed a theory for student retention in higher education. He believed that the institution's environment had a role in shaping the retention of students in higher education. He also noted that academics aside, personal and social supports developed while in an institution of higher learning, were essential to college persistence (Tinto, 1998). A person's ability to feel socially included and connected to the campus' community was also critical (Demetriou & Schmitz-Sciborski, 2011). Tinto (2007) developed a student integrative model which recognized that another aspect of understanding retention in higher education included recognizing and accepting engaging students that would bring unique experiences to a university's campus. Tinto (2007) argued for decades, that universities focused on understanding why students left, but that the mentality should have changed to understanding why students stayed.

One of the researchers who focused on understanding why students stayed in higher learning institutions was Astin (1999) who in the 1970s introduced the concept of involvement. His theory explained that students who were more likely to persist, invested energy in their

academic experience. He believed that both the student as well as the institution had responsibilities. Astin (1984) believed that it was the responsibility of the student to finish their degree but also put some responsibilities on the institution and not the entire burden on the student.

Astin (1999) believed that higher learning was an input-environment-output model, where the student represented the input, the institution was the environment, and the output was a changed student. For this theory, there were five assumptions of involvement. First, involvement required an investment of psychological and physical energy, which meant that students needed to devote time and effort to be involved on campus. Second, the amount of energy may change, but involvement needed to be continuous. In other words, a student needed to find what they liked to do and stick with it. Changing constantly without actually sticking with one opportunity may impede involvement from progressing. Third, involvement was quantitatively and qualitatively measurable since it is a behavior. Morrison and Silverman (2012) explained that involvement is what the student actually does and does not refer to the feelings or emotions that the student may have towards an action. Fourth, what the student gained developmentally from involvement is proportional to the extent that they were involved. Finally, there was a positive correlation between academic performance and involvement (Morrison & Silverman, 2012; Astin, 1999). The concept of involvement is more widely known as student engagement or “the time and energy students devote to educationally sound activities inside and outside of the classroom, and the policies and practices that institutions use to induce students to take part in these activities” (Kuh, 2003, p. 25).

Due to the projected increase in the diversity of enrollment in higher education institution and the lower retention rates of minority students, it is important to continue to explore solutions

to this issue. Existing theory and empirical evidence suggest that student engagement plays a substantial role in student retention. For this reason, and encouraged by other researchers to continue the study of student engagement and retention of minority students (Shinde, 2008), this researcher proposed a study to analyze the relationship between student engagement and retention of minority students in a faith-based institution.

### **Problem Statement**

Student retention is a topic that has been widely researched. Also, there are plenty of studies that examine student engagement. Yet, there are only a few that look at the relationship between students' responses on the National Survey of Student Engagement (NSSE) and retention (Shinde, 2008; Zepke, 2013). However, these studies fail to review how student engagement may affect the retention of minority students in faith-based institutions. John and Stage (2014) investigated minority-serving institutions and the education of United States' underrepresented students and concluded that more research is needed in order to determine how minority-serving institutions are affecting the retention rates of the minority students. The problem is that although there is research in the areas of retention and student engagement, however, no studies have examined the relationship between these two factors among minority students at a faith-based institution.

### **Purpose Statement**

The purpose of the study was to determine if the retention of minority students can be predicted by the National Survey of Student Engagement's (NSSE) engagement indicators when attending a faith-based higher education institution. A minority student is a student who self-identified as Hispanic/Latino, American Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Pacific Islander, or Other. Archival data used in this study ranged

between the years 2012 to 2016. The students take the survey every three years; in the spring of 2013 and the spring of 2016. These two years were combined to meet the sample size for this study. The research design used in this study was a predictive correlational design. The predictor variables were NSSE's engagement indicators: (1) higher-order learning, (2) reflective and integrative learning, (3) learning strategies, (4) quantitative reasoning, (5) collaborative learning, (6) discussions with diverse others, (7) student-faculty interaction, (8) effective teaching practices, (9) quality interactions, and (10) supportive environment.

The criterion variable was the retention of minority students which is "the percentage of first-time bachelors (or equivalent) degree-seeking undergraduates from the previous fall who are again enrolled in the current fall" (National Center for Education Statistics, 2018, p. 1). The population in this archival study was undergraduate students who were residentially enrolled in a large, private, faith-based university in the southeast between 2012 to 2016. The school years were chosen because the NSSE is only administered to freshmen and senior students every three years during Assessment Day, which typically happens during the last month of classes in the spring semester. The sample was minority freshmen students during said school years.

### **Significance of the Study**

This study is significant because college administrators are interested in retaining minority students since it is more expensive to recruit students than it is to retain them (Rizkallah & Seitz, 2017). Furthermore, minority students are less likely to be retained than white students (National Student Clearinghouse, 2017). Yet, it is predicted that universities will see an increase in the diversity of their enrollment in the next decade (National Center for Education Statistics, 2017). Rizkallah and Seitz (2017) believe that "understanding the needs and wants as well as the motivation of both prospective and current students is the cornerstone of satisfying them

throughout their years in the institution and probably keeping them for life as alumni” (p. 45). Understanding what type of engagement certain student populations may need to be involved in to be retained through graduation is information that every college administrator needs. This study aimed to shed light on this issue and hopefully, it will encourage administrators to change some of the student engagement techniques used to possibly promote retention. On the other side, changing the focus to retaining minority students can produce quality minority graduates that will go out into the workforce and possibly help communities with their degrees. This study added to the literature of student engagement and retention because it took into account that there may be differences amongst minority students’ engagement attending a faith-based institution as compared to another type of higher learning center.

### **Research Question(s)**

The research question for this study was:

**RQ1:** How accurately can the retention of minority students attending a faith-based higher education institution be predicted by the National Survey of Student Engagement’s engagement indicators?

### **Definitions**

1. *Retention* – Retention is “the percentage of first-time bachelors (or equivalent) degree-seeking undergraduates from the previous fall who are again enrolled in the current fall” (National Center for Education Statistics, 2018, p. 1).
2. *Student Engagement* – Student engagement is “the time and energy students devote to educationally sound activities inside and outside of the classroom, and the policies and practices that institutions use to induce students to take part in these activities” (Kuh, 2003, p. 25)

3. *Engagement Indicator* – Engagement indicator is “valuable information about a distinct aspect of student engagement by summarizing students' responses to a set of related survey questions” (National Survey of Student Engagement, 2018).
4. *Higher-Order Learning* - How much students' coursework emphasizes challenging cognitive tasks such as application, analysis, judgment, and synthesis (National Survey of Student Engagement, 2018).
5. *Reflective & Integrative Learning* - How motivated students are to make connections between their learning and the world around them, reexamining their own beliefs and considering issues and ideas from others' perspectives (National Survey of Student Engagement, 2018).
6. *Learning Strategies* - Actively engaging with and analyzing course material rather than approaching learning as absorption (National Survey of Student Engagement, 2018).
7. *Quantitative Reasoning* - The ability to use and understand numerical and statistical information in everyday life (National Survey of Student Engagement, 2018).
8. *Collaborative Learning* - Collaborating with peers in solving problems or mastering difficult material deepens understanding and prepares students to deal with the messy, unscripted problems they encounter during and after college (National Survey of Student Engagement, 2018).
9. *Discussions with Diverse Others* - Interactions across difference, both inside and outside the classroom, confer educational benefits and prepare students for personal and civic participation in a diverse and interdependent world (National Survey of Student Engagement, 2018).

10. *Student-Faculty Interaction* - Through their formal and informal roles as teachers, advisors, and mentors, faculty members model intellectual work, promote mastery of knowledge and skills, and help students make connections between their studies and their future plans (National Survey of Student Engagement, 2018).
11. *Effective Teaching Practices* - Organized instruction, clear explanations, illustrative examples, and effective feedback on student work all represent aspects of teaching effectiveness that promote student comprehension and learning (National Survey of Student Engagement, 2018).
12. *Quality of Interactions* - Positive interpersonal relations that promote student learning and success (National Survey of Student Engagement, 2018).
13. *Supportive Environment* - Students' perceptions of how much an institution emphasizes services and activities that support their learning and development (National Survey of Student Engagement, 2018).

## **CHAPTER TWO: LITERATURE REVIEW**

### **Overview**

The purpose of this predictive correlational study was to examine if the National Survey of Student Engagement's (NSSE) engagement indicators predict the retention of minority students in a faith-based institution. Theories and prior research have guided the finding of this topic. Chapter Two includes a discussion of the theoretical framework surrounding student involvement and retention, a review of the existing literature of how the two relate to one another, as well as, how these theories and literature have been developed in regards to minority students.

### **Theoretical Framework**

College student retention and student involvement are topics that have been around for decades. Colleges and universities have been interested in why students stay in their colleges through graduation (Turner & Thompson, 2014; Xu, 2017; Wolf, Perkins, Butler-Barnes, & Walker Jr., 2017). The 1970s, seemed to be a period of revelation and reform for how higher education institutions did business. Since the 1970s, Astin (1999) has been trying to understand why students stay in higher learning institutions and introduced the term involvement as a solution to this question. Around the same time, Tinto (1975) collaborated to develop a theory for student retention in higher education. He believed that the institution's environment had a role in shaping the retention of students in higher education. From this decade and thanks to these visionaries, two major theories in higher education started to evolve to what we now understand as the student involvement theory and the student retention theory.

## **Student Involvement Theory**

Student involvement theory has evolved over time as its own separate theory from student development. Based on the evolution of student development theory, Jones and Stuart (2016) determined that this theory answered the following questions:

1. Who is the college student in developmental terms? What changes occur and what do those changes look like?
2. How does development occur? What are the psychological and social processes that cause development?
3. How can the college environment influence student development? What factors in the particular environment of a college/university can either encourage or inhibit growth?
4. Toward what end should development in college be directed? (Knefelkamp et al., 1978, p. x)

Many scholars have given their thoughts and insights throughout the evolution of this theory. However, it is Astin (1999) who transforms this theory and questions into what he proposes as student involvement theory.

### **History and Definition**

Astin (1999) developed the student involvement theory, in part, because student development theory until that time had been chaotic, meaning it had been researched from so many angles that there was not a true, widely recognized definition of what it was. Astin (1999) aimed to focus this theory and simplify it enough for others to be able to understand it and use it. He believed that he created a theory that could be used by researchers to guide their investigation, as well as, college administrators and faculty to help them create more environments conducive to learning (Astin, 1999).

Astin (1984) defines involvement as “the amount of physical and psychological energy that the student devotes to the educational experience” (p. 297). He took a physical approach to involvement when he said that “it is not so much what the individual thinks or feels, but what the individual does, how he or she behaves, that defines and identifies involvement” (p. 298). To reach this theory, Astin (1975) conducted a longitudinal analysis of college student persistence where he concluded that students who were persistent in college had a higher degree of involvement and those students who did not stay where not involved.

Astin (1984) believed that for higher education to function, both students and college administrators needed to assume some level of responsibility. He viewed higher learning was an input-environment-output model, where the student represents the input, the institution is the environment, and the output is a changed student. Up to that time in history, it was viewed as the responsibility of the student to finish their degree, not the institutions. Astin (1984) challenged this model by putting some responsibilities on the institution and not the entire burden on the student.

To achieve this, Astin (1984) developed five assumptions of involvement. The first one, reflected on the definition of involvement and emphasized that it could be either very specific (studying for a math class) or generalized (the student experience). The second assumption was that involvement was a continuous process, meaning that different students may have varied degrees of involvement in one thing and one student may have different degrees of involvement in multiple things at different times. The third assumption is that involvement is both quantitative and qualitative. By qualitative, Astin (1984) referred to the reading comprehension a student may have in one assignment and by quantitative to the physical time spent doing one task. The fourth assumption is that the quality and quantity of involvement is directly

proportional to the learning and development the student achieves in an educational program. Lastly, how effective a policy or practice may be directly linked to its capacity to increase student involvement. When Astin (1984) developed these assumptions, he encouraged researchers and college administrators to test them out in their campuses and create programming based on his propositions.

### **Further Research**

Since that time, many researchers have furthered the research of student involvement. Researchers have looked at different types of involvement like religious (De Soto et al., 2018), political (Zernov & Lukonina, 2014), civic (O’Leary, 2014), recreational (Suttikun & Chang, 2016), curricular and co-curricular efforts (Webber et al., 2013), among others and how this affects the persistence of students on campus. Overall, these studies support the idea that involvement leads to persistence in higher education.

In more recent research, the concept of involvement has evolved to student engagement or “the time and energy students devote to educationally sound activities inside and outside of the classroom, and the policies and practices that institutions use to induce students to take part in these activities” (Kuh, 2003, p. 25). Researchers still consider student engagement as an important aspect of the student experience in the university, as well as, aiding in their persistence, and they continue to develop definitions (Hamilton, 2018; Groccia, 2018; Kahu, 2013; Baron & Corbin, 2012). However, most definitions still gravitate or are based on the original ideas of involvement that Astin proposed.

### **Engagement Indicators**

One of the leading institutions that research student engagement is Indiana University. This institution created the National Survey of Student Engagement (NSSE), which believes that

the term “student engagement” represents two features of collegiate quality. The first one would be the student approach or “the amount of time and effort students put into their studies and other educationally purposeful activities” (National Survey of Student Engagement [NSSE], 2018a, p. 1). The second is the institutional approach or “how the institution deploys its resources and organizes the curriculum and other learning opportunities to get students to participate in activities that decades of research studies show are linked to student learning” (NSSE, 2018a, p. 1). From this definition and approach to student engagement, NSSE developed ten specific indicators that aim to assess how the students in a particular institution are being engaged what they gain from attending the particular college or university. These ten indicators are organized into four themes, academic challenge, learning with peers, experiences with faculty, and campus environment, which cover every aspect of a student’s experience in an institution.

**Academic challenge.** The theme of academic challenge represents the promotion of learning by challenging and supporting students to engage in different methods of learning. The engagement indicators that are part of the academic challenge theme are higher-order learning, reflective and integrative learning, learning strategies, and quantitative reasoning (NSSE, 2018b).

**Higher-order learning.** Higher-order learning “captures how much students' coursework emphasizes challenging cognitive tasks such as application, analysis, judgment, and synthesis” (NSSE, 2018b, p. 1). Although there are some definitions of higher-order learning, this term is normally used to refer to the top three levels of Bloom’s taxonomy which includes analyzing, evaluating, and creating (Bloom et al., 1956). Bloom’s taxonomy included six categories of cognitive processes that acted as a step ladder, ranging from simple to complex (Agarwal, 2018). These categories that are considered to influence higher-order learning, help student develop

critical thinking skills and it is being used to see how students may be capable of transferring knowledge to different topics (Barnett & Ceci, 2002).

In order for students to develop their higher-order learning, teachers and professors must teach classes where this is being promoted. For this reason, this engagement indicator attempts to determine how much, in a school year, is the coursework a student is subjected to emphasize the following,

Applying facts, theories, or methods to practical problems or new situations; analyzing an idea, experience, or line of reasoning in depth by examining its parts; evaluating a point of view, decision, or information source; forming a new idea or understanding from various pieces of information (NSSE, 2018b, p. 1).

Higher-order learning attempt to measure the highest degree of difficulty that a student encounters in college. It is a cognitive engagement that normally happens in the classroom and it is encouraged in advanced level courses. As part of the academic challenge theme, this indicator may be considered the most difficult to attain, but possibly the most valuable since it demonstrates how the complexity of education may lead to higher degrees of learning (Agarwal, 2018).

***Reflective and integrative learning.*** Reflective and integrative learning means to make connections between the learning that happens in the classroom and the world around the student. This helps the student to reexamine their beliefs and consider ideas from other people's perspective (NSSE, 2018b). Reflective learning is "a process of holding experiences up to a mirror in order to examine them from different perspectives" (Jacobs, 2016, p. 62) This practice and learning style requires providing rationales for previous actions, as well as, personal exploration and examination (Jacobs, 2016). There are many different ways to practice

reflective learning. Some examples are journaling, self-reflection, class activities, and research papers. Reflective learning is a method to possibly bridge students' thoughts and actions since they engage in responding, connecting, and analyzing experiences, processes, and events (Allan & Driscoll, 2014).

Integrative learning is defined as “an empowering developmental process through which students synthesize knowledge across curricular and cocurricular experiences to develop new concepts, refine values and perspectives in solving problems, master transferable skills, and cultivate self-understanding” (Ferren & Anderson, 2016, p. 33-34). Integrative learning helps students use knowledge that they may have acquired in a variety of situations and apply it to something new. This style of learning goes beyond the classroom and subject matters and may encourage students to make choices and decisions about their future while strengthening connections of what they have learned in the past.

As an engagement indicator, reflective and integrative learning help measure how often, during a school year, a student

Combined ideas from different courses when completing assignments; Connected your learning to societal problems or issues Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments; Examined the strengths and weaknesses of your own views on a topic or issue; Tried to better understand someone else's views by imagining how an issue looks from his or her perspective; Learned something that changed the way you understand an issue or concept; Connected ideas from your courses to your prior experiences and knowledge (NSSE, 2018b, p. 1).

With this style of learning, students can feel confident of what they know and can learn how to apply those ideas in the future.

***Learning strategies.*** Learning strategies are used in order to prepare students to engage with course materials and enhance absorption and retention of what is being learned. Learning strategies teach students how to learn the material that is being taught in classes and what they are exposed to. Some examples of effective learning strategies are taking notes during class and reviewing them after class has ended, identifying important information in readings, summarizing course materials, and developing different methods to study (NSSE, 2018b). Students who are aware of their learning, can foresee issues that they may have and are more likely to address gaps in their learning strategies in order to be more successful in their classes (Weisskirch, 2018). As an engagement indicator, learning strategies try to answer how often in a school year a student has identified key information from assigned readings, reviewed their notes after class, and has summarized what they have learned from class or course materials (NSSE, 2018b). Overall, each student employs different learning strategies in their time in college and some may be more efficient than others. However, in order to retain the information that is being taught in the classroom, students must know what available strategies they may have at their disposal. Employing some of these strategies may help them in the long run with their grades and the entirety of their college career.

***Quantitative reasoning.*** Quantitative reasoning is the last engagement indicator under the theme of academic challenge. This engagement indicator is defined as “the ability to use and understand numerical and statistical information in everyday life— is an increasingly important outcome of higher education” (NSSE, 2018b, p. 1). One misconception that the term quantitative reasoning carries is the idea that it is all about mathematics. However, higher education institutions believe that all students should have some basic skill in quantitative reasoning in order to be able to integrate and apply these skills to their professional and personal

lives. Elrod (2014) states that quantitative reasoning is “much more than a general education learning outcome; it must be accomplished within the major, but also beyond it (p. 5). Students must also be able to evaluate, analyze, and critique various arguments by utilizing statistical and numerical data.

Steen (2004) believed that quantitative reasoning uses mathematics skills for students to perform complex reasoning and decision making processes. It is more important for students to understand the meaning behind the results than knowing how to perform a calculation. As an engagement indicator, quantitative reasoning assess how often a student reaches conclusions based on their analysis of numerical data, uses numerical information to study a problem, and evaluates conclusions others have made from numerical information. Overall, researchers believe that quantitative reasoning goes beyond the required math class needed as an undergraduate student. Even if students feel like mathematics will not help them in their major, the skills learned through quantitative reasoning can be utilized for things in their personal and professional life beyond their higher education experience.

**Learning with peers.** The theme learning with peers describes the variety of interactions inside and outside the classroom that students have with one another. There are only two engagement indicators under this theme and they are collaborative learning and discussions with diverse others. Students interact with their peers in a consistent basis and this theme helps evaluate how often these interactions occur and their significance.

**Collaborative learning.** Collaborative learning is usually seen as environments where students help one another delve deeper and better understand material. It can be anything from group projects, explaining material to another student or getting help understanding the material, preparing for an exam together, or joining a group after class to review what was learned.

Scholars believe that collaborative learning is beneficial to students, which is why it is highly encouraged by many professors. Van Wyk and Haffejee (2017) state that “even the limited use of group work strategies can develop a positive learning climate, aid classroom cohesion and improve self-directedness of students” (p. 158). Other researchers believe that collaborative learning promotes trust and interdependence of students by encouraging them to share knowledge with one another and trust what others are saying creating their own community of knowledge (Bruffee, 1999). The professor’s role is to initiate and encourage these communities by "creating the conditions in which collaborative learning can occur" (Gerlach, 1994, p. 10).

Collaborative learning deepens the understanding of material by engaging students in problem solving and mastering skills that they may have not been able to achieve on their own. Sometimes, professors do not have the time to explain a topic enough due to time constraints or the amount of material that needs to be covered, collaborative learning gives students the opportunity to catch up with the topics that they may not fully grasp during class time. Professors may also have one teaching style, and this style may be different from the learning style of the student. By collaborating with others, a student may be able to have the material explained to them in a way that matches their particular learning style. This engagement indicator answers the question, how often does a student asks another student for help understanding course material, they explain material to another student, studies for exams or works on class projects with other students (NSSE, 2018b).

*Discussions with diverse others.* Schools districts prior to entering college are being more and more segregated by income and race than ever before, and it is only getting worse with time (Hannah-Jones, 2014; Yuhas, 2015). This means that when students enter higher education

they may encounter a variety of income and race differences that they are not used to and have never may have been exposed to before. Higher education provides a unique opportunity for students to interact with people who come from different backgrounds than they do and this lends itself to a possible increase in cultural intelligence which is the ability to function effectively in diverse environments (Livermore, 2011).

Researchers have demonstrated that higher education institutions who have a more diverse campus climate, better prepare students for the work force and their experiences outside the university (Gurin, Dey, Hurtado, & Gurin, 2002). Students who participate in curricular and co-curricular opportunities that highlight different cultures, beliefs, and perspectives improve their social and cognitive development (Chang, 1999; Chang, 2002). The indicator discussions with others help students develop new and different perspectives by encouraging them to interact with others who may have different cultural, economic, and social backgrounds that they may be used to. This engagement indicator asks the question, how often does a student interact with someone who has a different race or ethnicity, economic background, religious beliefs, or political affiliations than they do.

**Experiences with teachers.** The next theme, experiences with teachers, also has two engagement indicators. This theme refers to any engagement inside or outside the classroom that a student may have with a professor. The two engagement indicators under this section are student-faculty interaction and effective teaching practices. This theme is different from the others because it puts some responsibility of the students' experience in the professors and not just the students.

***Student-faculty interaction.*** Positive interactions with faculty can promote interest, persistence, and growth in a student. Trolan, Jach, Hanson, and Pasarella (2016) state that

several forms of student-faculty interaction, such as quality of faculty contact, frequency of faculty contact, research with faculty, personal discussion with faculty, and out-of-class interactions with faculty, have a positive influence on academic motivation, even when controlling for a host of student background characteristics and institutional characteristics, including a precollege measure of academic motivation (p. 810).

Furthermore, another study identifies that positive student-faculty interaction positively affects persistence and reaps academic benefits (Dwyer, 2017). However, when a student does not trust or believes in the faculty member, interactions can have adverse effects in the student's persistence.

Students must develop relationships with faculty and sometimes this can be difficult due to class sizes and breakout sessions with teacher assistants. However, the more interaction a student gets to have with faculty members the more they can focus in their major and their future. Professors have many formal and informal roles that they can use to interact with students. They often act as teachers, advisors, and mentors and they “model intellectual work, promote mastery of knowledge and skills, and help students make connections between their studies and their future plans” (NSSE, 2018b, p. 1). This engagement indicator asks how often a student talks to their professor about their career plans, work on co-curricular activities with their professor, discusses class materials outside of class, and discusses their performance with their professor (NSSE, 2018b).

***Effective teaching practices.*** In order for students to learn, faculty must employ effective teaching practices. The primary objective of an institution of higher learning is education and it is up to the professors to ensure that this is taking place in the classroom. Often times, there are

assessments and reviews of teachers that determine their effectiveness. However, if a teacher is not effective, the students are the ones who get affected the most.

Although, teaching is very important, it is also complex and a multifaceted activity (Khandelwal, 2009). Many researchers have shown the many components that involve effective teaching (Harris, 1998; Kyricaou, 1997; Johnson, 1997; Giovannelli, 2003). Some of these components are “interest and explanation, concern and respect for students and student learning, appropriate assessment and feedback, clear goals and intellectual challenge, independence, control and active engagement, and learning from students” (Çakmak & Akkutay, 2016, p. 2350). For the purposes, of this study, this engagement indicator considers effective teaching practices to be planned and organized instruction, clear explanations about the material, illustrative examples throughout the course, and effective feedback on the work the student submits (NSSE, 2018b). Furthermore, this indicator examines the extent to which faculty members clearly explain requirements and goals, teach courses in an organized manner, used examples to explain a challenging point, and provides feedback on assignments (NSSE, 2018b).

**Campus environment.** The last of the themes is campus environment. This theme goes beyond the classroom to examine students’ co-curricular life. This involves offices within campus that should provide support for the students, as well as, activities, events, and social atmospheres that promote the students’ well-being (NSSE, 2018b). The final two engagement indicators to be examined are quality of interactions and supportive environment.

***Quality of interactions.*** This engagement indicator represents the interactions that students have with peers, faculty, and staff. Although, the frequency of interactions with peers and faculty has been covered in previous engagement indicators, this one aims to evaluate the quality of those relations, as well as, taking a first look of the interactions with staff members.

Entering into college is a difficult transition for most students. They try to assimilate and fit in in the best possible way they can, but often they still need the support from many people on campus to feel “at home.” The term inclusion is one often used in research to describe this phenomenon, and it is “organizational strategies and practices that promote meaningful social and academic interactions among persons and groups who differ in their experiences, their views, and their traits (Tienda, 2013, p. 467). As established previously, positive interactions with peers and faculty, often leads to persistence and retention of the student. A student may have many interactions with people on their campus, however, if that student does not perceive those interactions as meaningful, supportive, or inclusive, they may have an adverse effect in the actions of the student and can inhibit his participation and growth in the institution. This engagement indicator, explicitly asks students to indicate the quality of interaction that they have with peers, advisors, faculty, administrative staff, and student services staff.

*Supportive environment.* This engagement indicator does not address the people or personal interactions that students may have, but the services, opportunities, and activities offered by the university that support their development and learning as a student. Universities are focusing on providing as many services and activities as they can for students since they are adopting market-oriented principles (DeShields et al., 2005) and their most important customers are the students (Douglas et al., 2006). Universities are getting competitive with one another in their search for the best students and in the process, they are developing mechanisms that will aid said students to succeed academically and socially.

A supportive environment tries to assess the needs of students, physically, emotionally, cognitively, and socially and strives to provide outlets to provide the support they need. This indicator emphasizes the students’ perception of the university’s efforts in creating and

development support structures for them. It assesses how much institutions emphasize academic support and the use of support services, interaction with students of different backgrounds, social interactions, well-being services, non-academic responsibilities, and attendance to activities and events (NSSE, 2018b).

### **Overview of Student Involvement Theory**

Student involvement or student engagement is the amount of energy that students devote to their academic experience. This multidimensional topic encourages institutions of higher learning to create environments where students feel welcomed and have all of the support that they many need in order to enhance their learning and finish their degrees. Student involvement connects the students to all of the stakeholders in the learning environment and encourages their interaction to maximize learning.

### **Student Retention Theory**

Student retention theory, much like student involvement, emerged in the 1970s as a response to the change in literature. At this time, a shift in the language and the literature shifted from looking at a student's failure to graduate as a student problem to placing the responsibility for retention upon the institutions (Berger et al., 2012). Instead of saying that the student did not persist, or withdrew, the language changed to the student was not retained (Habley et al., 2012). From this time forward, student engagement became the focus of universities and the way that they started to drive retention, which promoted many scholars to prove the positive relationship between the two (Bonet & Walters, 2016; Lee, 2017; Xiong, Li, Kornhaber, Suen, Pursel, & Goins, 2015).

## **History and Definition**

In 1975, Tinto (1975) was concerned about student dropouts from higher education and proposed a new theory that explains the interactions between the student and the institution that causes some students to drop out, and that also distinguishes reasons why students are taking this action. During his research, Tinto (1975) developed a student integration model that theorizes that social integration into their institution leads to an increased commitment, which further leads to graduation. Later, Tinto (1993) describes that behavior and perception of the students is what causes them to further move towards integration with the institution. He also noted that academics aside, personal and social supports developed while in an institution of higher learning, are essential to college persistence (Tinto, 1998). A person's ability to feel socially included and connected to the campus' community is also critical (Demetriou & Schmitz-Sciborski, 2011). Tinto's (2007) student integrative model recognizes that another aspect of understanding retention in higher education includes recognizing and accepting engaging students that will bring unique experiences to a university's campus. Tinto (2007) argues that for decades, universities focused on understanding why students left, but that the mentality should change to understanding why students stay.

Since then, scholars have accepted Tinto's theory why students are retained and have taken the difficult task of defining the term retention. The term retention is often used interchangeably with "retention rate, persistence rate, graduation rate, completion rate, attrition rate, drop-out rate, stop-out rate, withdrawal rate, and non-persistence rate" (Haydarov, Moxley, & Anderson, 2013, p. 433). All of these terms try to provide a measurement of students' performance in higher education. Overall, there is a lack of consistency in definitions and methods used in literature with regards to retention (Howell et al., 2004; Park et al., 2008). Yet,

a definition that is often used was developed by the National Center for Education Statistics (n.d.) and defines retention rate as

a measure of the rate at which students persist in their educational program at an institution, expressed as a percentage. For four-year institutions, this is the percentage of first-time bachelor's (or equivalent) degree-seeking undergraduates from the previous fall who are again enrolled in the current fall. For all other institutions this is the percentage of first-time degree/certificate-seeking students from the previous fall who either re-enrolled or successfully completed their program by the current fall. (para. 1)

Retention, then, needs to be viewed as a snapshot of progress in the student's higher education career, since it is determined by the date when a report is run for that particular institution. There is a possibility of a student who may be considered "not retained" but decides to return or continue with their education at a later date.

Retention has only become more fluid with the integration of education in the online environment. In this method, students are encouraged to start their program whenever they want and pace their classes to what it is allowed by their schedule. This dilemma has caused institutions to have difficulty determining the students who are, in fact, retained since they cannot be compared to in a fall to fall perspective. For this reason, some researchers are adapting definitions of retention that include enrollment in courses as a measurement of retention. Ashby (2004) provides an example of this by defining retention as "a measure of the percentage of students who gain a course credit or an award based on the number who registered for a course or an award" (p. 66).

Overall, retention theory works alongside of the student involvement theory to ensure that the students will successfully complete their college career. Yet, the term retention is one

widely used and manipulated in higher education literature to account for the students who stay and those who leave an institution. The National Center for Education Statistics provides a definition of retention that has structure and measurable outcomes. Though there is plenty of research on student involvement and retention, there seems to be a lack of literature on how they correlate with minority students in a faith based institution. The upcoming section will detail the literature available that connects student engagement and retention and how it may relate to minority students.

### **Related Literature**

Minority student retention is becoming an important topic worth researching because, the diversity in enrollment in higher education institutions is predicted to increase dramatically from 2014-2025 (National Center for Education Statistics, 2017). Although many institutions have retention and student engagement efforts that directly target the underrepresented minority, these students' retention still is lower than that of their counterpart (National Student Clearinghouse, 2017). The National Student Clearinghouse (2017) reports that although the first-year persistence and retention of Asian students is 84.2%, that of Black students is 66.9% and Hispanics is 72.5% compared to that of White students, which is 79.2%. This shows that it is less likely for minority students to be retained in college than their White counterparts. As more minorities enter higher education, colleges need to create and develop strategies that will assist them to understand the needs of these populations. In this section, the retention and student engagement research of minority students will be evaluated in order to show the need for this study.

## **Retention and Engagement of Minority Students**

Institutions of higher learning are currently facing a crisis. The National Center for Education Statistics (n. d.) released a report that around 41 percent of the students entering college will not complete their degree within six years. This statistic becomes even worse if only looking at minority students (McClain and Perry, 2017). It plummets to only one fourth or one fifth for Blacks, Hispanics, and Native Americans (Tienda, 2013). Yet, minority student enrollment continues to rise. Over time, higher education institutions have tried to address the disparities of students by offering programs to help them gain access to the institutions themselves (Dyce, Albold, & Long, 2013; Corwin, Colyar, & Tierney, 2005; Klugman & Butler, 2008; Perna, 2005). These programs attempt to offer minority students the help they need to get to college by offering financial aid, helping them navigate through applications, and prepare them academically in order to be a more competitive candidate (Bergin, Cooks, & Bergin, 2007; Bonous-Hammarth & Allen, 2005; Villalpando & Solorzano, 2005). These programs have been very successful getting minority students to campus and have created a diverse campus environment by recruiting students from different backgrounds, yet, once on campus, the responsibility of developing an inclusive campus that will promote the retention of these students relies solely on the institution.

### **Inclusion**

There is plenty of research that shows that students who interact with others who have a different ethnic or racial background develop positive academic outcomes, graduate at higher rates, achieve exemplary leadership skills, are more civically involved and exhibit lower levels of discrimination in the workforce. (Hurtado & Deangelo, 2012; Bowman, 2011; Engberg & Hurtado, 2011; Hurtado, 2007; Espenshade & Radford, 2009). Having more minorities on

campus helps with achieving these goals. However, if the minority students do not feel like they are a part of a larger group, they will tend to go back to what they are used to and engage in the homogeneous group dynamics that they had learned previously, hence, putting a stop to any benefit that could have developed from the promotion of intergroup relations (McPherson, Smith-Lovin, & Cook, 2001; Crisp & Turner, 2011). In other words “it is necessary for members of different groups to interact in ways that challenge preexisting stereotypes about others” (Tienda, 2013, p. 471). Once in a higher education institution, minority students can diversify the campus environment if provided with opportunities if interactions with other students. Yet, in order to achieve this, universities need to address the particular needs of each student.

### **Needs of Minority Students**

In order to increase involvement of minority students that will lead to inclusion and eventually their retention, institutions of higher learning must first understand their needs and address them. In a recent study by Roscoe (2015), he shows that African American and Hispanic students are at a disadvantage from that of their White counterparts when entering college due to them being “statistically under-prepared both academically and socially for the higher education environment” (p. 48). On top of lagging behind in academics and socially, other challenges that minority students face are lack of financial resources (De los Santos, Jr., & Cuamea, 2010; Boatman & Long, 2016), family support (Schneider and Ward, 2003; Torres, 2004), and having to work while in college (Nuñez & Sansone, 2016). These factors add on to the challenges and inhibit minority students from being as involved as their White counterparts, thus, it limits their college engagement and puts barriers towards their retention. By understanding these factors, universities can develop programs to create an equitable environment for students that come in

with challenges. If they can remove or lift the burden students may feel by coming into college with these factors, then, minority students may be able to perform at the best of their ability and focus their attention to the essential requisites of higher education.

### **Black or African American Students**

When selecting a university to attend, African American students are faced with a unique challenge of either attending a Historically Black College or University (HBCU) or a Predominantly White Institution (PWI). Statistically, HBCUs tend to graduate more African American students than PWIs and one of the reasons is because students do not have to spend time trying to fit in and they are able to focus on their studies (Chesler, Lewis, & Crowfoot, 2005; Gusa, 2010). When it comes to engagement, African American students feel more comfortable to interact with peers and professors in HBCUs since they do not have as many cultural barriers to get through as they would in a PWI (Hunn, 2014). A study by Hausman, Schofield, and Woods (2007) showed that a sense of belongingness and academic integration are important for African American student retention. Although African American students received 46 percent more degrees on 2013-2014 than they did in 2003-2004, this is due to the overall increase in enrollment at higher education institutions instead of retention practices (NCES, 2017).

The research on African American student engagement surrounds academic support services (Gill & Farrington, 2014), engagement with faculty and peers (Lundberg, 2014; Neville & Parker, 2017), and mentoring services offered to these students (Sato, Eckert, & Turner, 2018). However, there is not much research that comprehensively addresses student engagement of these students and none that looks at how this may relate to retention.

## **Hispanic/Latino Students**

When it comes to student engagement, there seems to be more research for Latino students than for any other minority. Latinos are the youngest and fastest growing ethnic group in the United States. They are the least educated compared to all major ethnic groups and have historically experienced low rates of college completion (Swail, Cabrera, & Lee, 2004; Fry, 2002, 2004; Gándara & Contreras, 2010). However, more and more Latinos are enrolling in higher education institutions and “the number of bachelor’s degrees awarded to Hispanic students more than doubled between 2003–04 and 2013–14” (NCES, 2017, p. 112).

Gonzales, Brammer, and Sawilowsky (2014) established that a predictor for retention better than a high school grade point average for a Latino student is an intentional learning community model that can address the needs of these students. Furthermore, mentoring programs are causing students to become more engaged and help develop support networks for Latino students (Sáenz et al., 2015; Salas et al., 2014). Staff, faculty, and other on-campus support also help Latino students persist in higher education (Rodriguez, Massey, & Sáenz, 2016; Tovar, 2015). Overall, the support received by Latino students is well documented and seems to be driving their retention in higher education institutions. Yet, although there is research for particular engagement indicators, there seems to be an absence of a study that would combine all of them and relates Latino student engagement with retention.

## **Asian Students**

There is very limited research regarding Asian students’ engagement and retention even though the “total college enrollment rate for Asian 18- to 24-year-olds has been higher than the rates for their White, Black, Hispanic, and American Indian/Alaska Native peers, as well as their peers of Two or more races, in every year between 2005 and 2015” (NCES, 2017, p. 95). Asian

students also have the highest six-year graduation rate among their peers at 71 percent (NCES, 2017). It is possible that the lack of literature in Asian student engagement is due to them being considered to be the “model minority” (Bankston and Zhou, 2002). Asian students are characterized by their high academic achievement, often surpassing that of their White counterparts (Bankston and Zhou, 2002). Research on the reasons why Asian American persist is needed and may inform how they have come to be the model minority.

### **Nonresident Alien Students**

Nonresident alien students or most commonly identified as international students are students who have citizenship in other countries, but that are pursuing higher education in the United States. In 2015-2016, students from China, India, Saudi Arabia, and South Korea represented 60% of all international student enrollment in higher education institutions (China: 32%; India: 16%; Saudi Arabia: 6%; and South Korea: 6%) (Institute of International Education, 2016). Colleges and universities try to make these students feel welcomed by providing resources such as international centers and events that they can be a part of (Wang & BrckaLorenz, 2018). Research shows a couple of studies that have analyzed student engagement of international students in the U.S. (Korobova, 2012; Zhao, Kuh, & Carini, 2005). Yet, there is a lack of literature that shows how this engagement may relate to retention.

### **American Indian or Alaskan Native**

This population of students is very small and often represents only 1 percent of the student population in higher education institutions (NCES, 2017). However, student engagement research reports that a beneficial method of engagement with this population is interaction with faculty members (Lundberg & Lowe, 2016). Positive interactions with faculty and constant feedback, enhanced American Indian student learning (Lundberg & Lowe, 2016). Furthermore,

support for student success also increased student learning (Lundberg, 2014), while family support is known to be one of the most powerful predictors of retention to graduation (Guillory & Wolverton, 2008). Overall, this is one of the only studies that show a retention predictor. However, this study aims to discover if more predictors regarding student engagement can be discovered.

### **Native Hawaiian or Pacific Islander**

Like the previous population discussed, this population also represents less than 1 percent of the student population in higher education institutions (NCES, 2017). Furthermore, in regards to student engagement there is a lack of research that specifies the differences in Native Hawaiian and Pacific Islander Students. In studies, these students get lumped with other minorities which can skew the view of this population. Research is very needed for this population that identifies how they engage in higher education. More information would be beneficial to be able to distinguish these students' needs from that of their peers.

### **Two or More Races Students**

From 2010 to 2014, students who identified themselves as having two or more races that enrolled in higher education institutions nearly doubled (Snyder, de Brey, & Dillow, 2015). This is due to the social and racial melting pot that is happening in the United States. Since this population has increased dramatically in higher education, researchers are starting to notice them and studies have emerged regarding this particular population. Some studies agree that this population of students have a different racialized experiences that may lead to a different type of engagement in higher education (Museus, Lambe Sariñana, Yee & Robinson, 2016; Renn, 2003). Although there are not many studies regarding student engagement practices of students with two or more races, one study showed that they tend to be more engaged in HBCUs than in PWI

and they are even less engaged in PWIs than the African American population (Harris & BrckaLorenz, 2017). However, there is an absence of literature that analyzes what type of engagement would be more beneficial to their retention.

### **Faith-based Higher Education Institutions**

There are many different types of higher education institutions that can be selected for a study. From two-year institutions to four-year institutions, for-profit or non-profit, public or private, and secular or faith-based. All of these institutions face many different challenges when it comes to student retention, although that is one of the goals for all of them. Morris et al. (2004) found that spiritual integration in the context of a faith-based university was as significant a predictor of persistence as Tinto's social and academic predictors. Thus, "spiritual integration is important because students who find it difficult to spiritually identify or connect with their college or university are more likely to go elsewhere for their education" (Patten & Rice, 2009, p. 45).

Faith-based institutions accept students of different religions in order to increase student pluralism, and try to get all of those students to graduation. However, students who already feel they do not fit for religious reasons work at constructing a sense of fit in social or academic domains, which aids with their retention (Alleman, Robinson, Leslie, & Glanzer, 2016). Students in faith-based institutions, who do not align with religious views, redefine institutional practices and teachings in terms that are personally acceptable: as either general moral lessons that can help them to be a better person or as cultural insights that can benefit them social and professionally in the future (Alleman et al., 2016). In these cases, university staff and faculty are instrumental in helping students find a way to fit into the institution even if they do not share

religious views and practices (Alleman et al., 2016). Thus, the retention of students attending a faith-based institution is challenged by another factor, religion.

Davignon et al. (2013) argue that at most faith-based institutions, the percentage of students who claim the founding denomination as their own is in decline. Yet, each institution still needs to recruit a select number of students to continue to function as a business. This, in turn, has increased the likelihood that a larger percentage of enrolled students will be unfamiliar with the guiding beliefs and practices of the faith-based institution that they have selected. These students still count towards the retention rate of the institution, which is why these colleges and universities work hard to combat differences that they may have with the students and provide outlets that may assist them with becoming a part of the institution. In a quantitative study, first-year religious minority students or students from faith traditions that were different from that of the institution dropped out at a higher rate than their peers who aligned with the institutions' religious beliefs (Patten & Rice, 2009). Faith-based institutions want to provide a diverse environment for the students that they enroll by recruiting students with different religious backgrounds, yet, they struggle with being able to keep students that do not follow the religious practices supported by the institution. Overall, faith-based institutions have an additional challenge to overcome when it comes to student retention and student satisfaction as a whole. They need to balance the diversity of the student body while still upholding the practices and beliefs of the faith guiding the institution.

### **Summary**

This chapter has been devoted to analyzing all of the theories and related literature behind the study being proposed. The purpose of this predictive correlational study is to examine if the National Survey of Student Engagement's (NSSE) engagement indicators predict the retention of

minority students in a faith-based institution. Student engagement and student retention are topics that have been around for decades and countless of researchers have been able to relate them to many topics regarding institutions of higher learning and different populations.

However, both of these topics emerged from theories that were mainly developed in the 1970s.

Until the 1970s, higher education institutions were interested in student's failure to graduate, which put all of the responsibility of persistence on the student. Yet, at that time, there was a shift in the language and the literature shifted from looking at a student's failure to graduate as a student problem to placing the responsibility for retention upon the institutions (Berger et al., 2012). Student retention came to the literature and with that, a new theory evolved. Tinto (1975) proposed a new theory that explained the interactions between the student and the institution that caused some students to drop out. It also distinguished reasons why students were making this decision. During his research, Tinto (1975) developed a student integration model, later known as student retention theory, and it explains how social integration into their institution leads to an increased commitment from the student, which then, leads to graduation.

Around the same time, Astin (1999) has taken the opposite approach and has been trying to understand why students stayed in higher learning institutions and introduced the term involvement as a solution to this question. Astin (1984) defines involvement as "the amount of physical and psychological energy that the student devotes to the educational experience" (p. 297). He believes that he created a theory that could be used by researchers to guide their investigation, as well as, college administrators and faculty to help them create more environments conducive to learning (Astin, 1999). Astin (1984), like Tinto, believed that in order for higher education to function effectively, both students and college administrators

needed to assume some level of responsibility. He viewed higher learning as an input-environment-output model, where the student represents the input, the institution is the environment, and the output is a changed student. In more recent research, the concept of involvement has evolved to student engagement or “the time and energy students devote to educationally sound activities inside and outside of the classroom, and the policies and practices that institutions use to induce students to take part in these activities” (Kuh, 2003, p. 25). The National Student Engagement Survey developed ten engagement indicators that affect students in institutions of higher learning; (1) higher-order learning, (2) reflective and integrative learning, (3) learning strategies, (4) quantitative reasoning, (5) collaborative learning, (6) discussions with diverse others, (7) student-faculty interaction, (8) effective teaching practices, (9) quality interactions, and (10) supportive environment (NSSE, 2018b).

Colleges and universities continue to be interested in why students stay in their colleges all the way through graduation (Turner & Thompson, 2014; Xu, 2017; Wolf, Perkins, Butler-Barnes, & Walker Jr., 2017). The recent surge of diverse students is causing institutions of higher learning to take a closer look at their engagement and retention practices. The diversity in enrollment in higher education institutions is predicted to increase dramatically from 2014-2025 (National Center for Education Statistics, 2017). Yet, retention of these students does not seem to be keeping up. The National Student Clearinghouse (2017) reports that although the first-year persistence and retention of Asian students is 84.2%, that of Black students is 66.9% and Hispanics is 72.5% compared to that of White students, which is 79.2%. It is less likely for minority students to be retained in college in their first year than their White counterparts.

With this in mind, researchers are trying to produce studies that will enhance the literature of retention and student engagement and how this affects minority students.

Unfortunately, there is not much research out there that can fulfill the current needs of these students. Also, there are no predictive studies that look at how student engagement indicators may relate to the retention of minority students. Some researchers suggest that in order to close the gap in the literature studies are needed to determine how minority-serving institutions are affecting the retention rates of the minority students (John & Stage, 2014). In order to retain as many students as possible, higher education institutions, need research that will demonstrate which engagement indicators may be more effective with the populations that they serve. Having this information will guide the allocation of funding, diversity development strategies, as well as, benefit the overall minority population attending higher education institutions.

## **CHAPTER THREE: METHODS**

### **Overview**

The purpose of this predictive correlational study was to examine if the National Survey of Student Engagement's (NSSE) engagement indicators predict the retention of minority students in a faith-based institution. Logistic regression was used to examine the relationship between the predictor variables (NSSE's engagement indicators) and the criterion variable, retention of minority students. Chapter Three includes a discussion of the study's design, research question and hypothesis, participants and setting, procedures, and data analysis.

### **Design**

The research design used in this study was a predictive correlational design. Correlation studies are used to "(1) explore causal relationships between variables and (2) to predict scores on one variable from research participants' scores on other variables" (Gall, Gall, & Borg, 2007, p. 337). This design was appropriate because correlational designs are used to analyze the relationships between multiple variables, including how these variables both individually and in combination affect the criterion variable (Gall et al., 2007). In this study, a predictive correlation design was used to predict the retention of minority students based on the National Survey of Student Engagement's (NSSE) engagement indicators. Archival data from the years 2012 to 2016 were used for this study. The students took the survey every three years; in the spring of 2013 and the spring of 2016. These two years were combined to meet the sample size for this study. The school years were particularly chosen because the NSSE is only administered to Freshmen and Senior students every three years during Assessment Day, which typically happens during the last month of classes in the spring semester. This data came from a faith-based university in central Virginia.

In this study, variables were referred to as either predictor or criterion variables. The predictor variables were NSSE's engagement indicators: (1) higher-order learning, (2) reflective and integrative learning, (3) learning strategies, (4) quantitative reasoning, (5) collaborative learning, (6) discussions with diverse others, (7) student-faculty interaction, (8) effective teaching practices, (9) quality interactions, and (10) supportive environment. See Table 1 for definitions of engagement indicators.

Table 1

*Definitions of Engagement Indicators*

Engagement Indicators	Definition
Higher-Order Learning	How much students' coursework emphasizes challenging cognitive tasks such as application, analysis, judgment, and synthesis.
Reflective & Integrative Learning	How motivated students are to make connections between their learning and the world around them, reexamining their own beliefs and considering issues and ideas from others' perspectives.
Learning Strategies	Actively engaging with and analyzing course material rather than approaching learning as absorption.
Quantitative Reasoning	The ability to use and understand numerical and statistical information in everyday life.
Collaborative Learning	Collaborating with peers in solving problems or mastering difficult material deepens understanding and prepares students to deal with the messy, unscripted problems they encounter during and after college.
Discussions with Diverse Others	Interactions across difference, both inside and outside the classroom, confer educational benefits and prepare students for personal and civic participation in a diverse and interdependent world.
Student-Faculty Interaction	Through their formal and informal roles as teachers, advisors, and mentors, faculty members model intellectual work, promote mastery of knowledge and skills, and help students make connections between their studies and their future plans.
Effective Teaching Practices	Organized instruction, clear explanations, illustrative examples, and effective feedback on student work all represent aspects of teaching effectiveness that promote student comprehension and learning.
Quality of Interactions	Positive interpersonal relations that promote student learning and success.
Supportive Environment	Students' perceptions of how much an institution emphasizes services and activities that support their learning and development.

*Note.* From the National Survey of Student Engagement, 2018b.

The criterion variable was retention of minority students which is “the percentage of first-time bachelors (or equivalent) degree-seeking undergraduates from the previous fall who are again enrolled in the current fall” (National Center for Education Statistics, 2018, p. 1). A minority student was a student who self-identified as Hispanic/Latino, American Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Pacific Islander, or Other. A predictive correlational design involved determining “the extent to which a criterion behavior pattern can be predicted” (Gall et al., 2007, p. 342). For this reason, a predictive correlational design was appropriate for this study, which tried to determine the extent to which retention of freshmen minority students can be predicted by the NSSE’s engagement indicators.

### **Research Question**

The research question for this study was:

**RQ1:** How accurately can the retention of minority students attending a faith-based higher education institution be predicted by the National Survey of Student Engagement’s engagement indicators?

### **Hypothesis**

The null-hypothesis for this study was:

**H<sub>0</sub>1:** There is no predictive relationship between the criterion variable (retention of minority students) and the predictor variables from the National Survey of Student Engagement; (1) higher-order learning, (2) reflective and integrative learning, (3) learning strategies, (4) quantitative reasoning, (5) collaborative learning, (6) discussions with diverse others, (7) student-faculty interaction, (8) effective teaching practices, (9) quality interactions, and (10) supportive environment.

## Participants and Setting

Archival data consisting of undergraduate students who were residentially enrolled in a large, private, faith-based university in the southeast. The data used in this study was from the years 2012 to 2016. The students took the survey every three years; in the spring of 2013 and the spring of 2016. These two years were combined to meet the sample size for this study. All of the freshmen minority students who completed the National Survey of Student Engagement (NSSE) within these years were selected. The school years were combined to a total of 168 surveys. The year 2013 consisted of 99 students and the year 2016 consisted of 69 students. NSSE is only administered during Assessment Day, which typically happens during the last month of classes in the spring semester. Freshmen students were any students with less than 24 conferred credit hours. A minority student was a student who self-identified as Hispanic/Latino, American Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Pacific Islander, or Other. The sample was comprised of 71 Males and 97 Females. Their ethnic origin was 31 Hispanic/Latino, 4 American Indian or Alaskan Native, 52 Asian, 61 Black or African American, 6 Native Hawaiian or Pacific Islander, and 14 Other. The average age of the freshmen in this sample was 18.5 years old. According to Tabachnick and Fidell (2012), testing multiple correlations requires a sample size of at least  $50 + 8m$  where  $m$  is the number of predictor variables. In this study, there were 10 predictor variables (higher-order learning, reflective and integrative learning, learning strategies, quantitative reasoning, collaborative learning, discussions with diverse others, student-faculty interaction, effective teaching practices, quality interactions, and supportive environment); the minimum number of cases was  $50 + 8(10)$ , or 130. There was a total of 193 total responses, the researcher removed 25 surveys that were incomplete, leaving a sample size of 168. This exceeded the minimum sample size for the

correlation. The researcher received a list from the Institutional Effectiveness Office that listed all the freshmen students who took the survey in the spring of 2013 and the spring of 2016 and their ethnicities. Once filtered, the researcher selected the students from each of the ethnicities necessary for this study, which created a sample size of 168.

### **Instrumentation**

This study used archival data to examine if the National Survey of Student Engagement's (NSSE) engagement indicators predicted the retention of minority students in a faith-based institution. To measure the predictor variable, the instrument used was the National Survey of Student Engagement (see Appendix A for instrument). The criterion variable was the student retention data provided by the Institutional Effectiveness Office.

#### **National Survey of Student Engagement (NSSE)**

The faith-based institution studied offered the NSSE to all Freshmen and Seniors every three years to measure how undergraduates spend their time and what they gain from attending college (Indiana University, 2018b). The survey was administered during Assessment Day, which typically happens during the last month of classes in the spring semester. The survey was automatically sent to each qualifying student via an email, and contained instructions on how to take the survey. The NSSE takes approximately an hour to complete and once finished, it was sent back to the NSSE administrators for scoring.

Originally, NSSE was designed in order to measure the quality of undergraduate education since up to that point, quality was measured by accrediting agencies by solely looking at resources and processes of institutions (Indiana University, 2018a). NSSE was created in 1998 to “provide an estimate of how undergraduates spend their time and what they gain from attending college” (Indiana University, 2018b, p. 1) and has been used in numerous studies (Du,

2016; Vaughan & Cloutier, 2017; Wong, 2015). NSSE reported scores for 10 engagement indicators calculated from 47 questions and grouped within four themes; academic challenge, learning with peers, experiences with faculty, and campus environment. Each of the questions that contribute to an engagement indicator is converted to a 4-point Likert scale (i.e., Never = 0; Sometimes = 20; Often = 40; Very often = 60) to produce an indicator score. A score of zero means a student responded at the bottom of the scale, while a score of 2820 indicates the top of the scale for each indicator. The total score is then divided by 2820 to give a total overall percent value (National Survey of Student Engagement, 2015a). The ten engagement indicators with their reliability scores are broken down in Table 2. Scores for each indicator were provided by the Office of Institutional Effectiveness.

Table 2

*Engagement Indicators' number of questions, reliability, scores, and percent values*

Engagement Indicators	Number of questions	Reliability Stats Cronbach alpha	High/Low score	Percent value
Higher-Order Learning	4	.86	240/0	8.5%
Reflective & Integrative Learning	7	.88	420/0	15%
Learning Strategies	3	.78	180/0	6.4%
Quantitative Reasoning	3	.86	180/0	6.4%
Collaborative Learning	4	.82	240/0	8.5%
Discussions with Diverse Others	4	.89	240/0	8.5%
Student-Faculty Interaction	4	.84	240/0	8.5%
Effective Teaching Practices	5	.85	300/0	10.6%
Quality of Interactions	5	.85	300/0	10.6%
Supportive Environment	8	.89	480/0	17%

*Note.* From the National Survey of Student Engagement, 2018.

Exploratory and confirmatory factor analysis (EFA/CFA) provided evidence for construct validity for NSSE's engagement indicators. The EFA for first-year students, seniors, and online seniors suggested 12, 13, and 11 distinct components explaining 65%, 69%, and 71% of the variance, respectively (Miller, Sarraf, Dumford, & Rocconi, 2016, p. 1). The Kaiser-Meyer-Olkin statistic was .94 in all three analyses indicating factorability of the item set (Kaiser, 1974). In addition, the Bartlett's test of sphericity was significant ( $p < .001$ ) for all three analyses (Miller et. al., 2016, p. 1). CFA results showed fit indices, factor correlations, and regression weights that provide sufficient construct validity evidence for all ten engagement indicators (Miller et al., 2016).

### **Retention Data Collection**

For this study, the researcher collected retention data of residential freshmen students. Retention is defined as "the percentage of first-time bachelors (or equivalent) degree-seeking undergraduates from the previous fall who are again enrolled in the current fall" (National Center for Education Statistics, 2018, p. 1). Freshmen students were any students with less than 24 conferred credit hours. The researcher requested a report from the Institutional Effectiveness Office that included all of the freshmen who took the NSSE survey, who were enrolled in the fall of 2012 and 2015 and were retained until the next fall (2013 and 2016). Furthermore, they provided the raw scores for each of the 10 engagement indicators from NSSE for every student. For the demographics, the report provided race/ethnicity, gender, and age, while it excluded students who were younger than 18 at the time. This data was linked and stripped of all identifiers and was based on the Integrated Postsecondary Education Data System's (IPEDS) census date for each year, which is the date when institutions are required to report their enrollment data. The retention information for each student was acquired by using the

university's database, Banner INB (Internet Native Banner).

Banner INB is a database used through university's network and uses pages to both enter and search information. Different departments within the university have access to this database on a need-only basis and have access to enter and retrieve information. Once an admissions application comes in, a team in admissions is tasked with entering all of the information from demographics to the degree program that they are wanting to enroll into. Throughout a student's program, academic advisors, financial aid employees, and employees of the registrar's office enter information in the student's profile. The student's profile is linked to the student's identification number and some of the information includes his or her birthdate, ethnicity, religious affiliation, contact information, transfer work, current or past registrations, and grades from courses they have taken. In this study, archival data was obtained from NSSE and Banner INB.

### **Procedures**

Before data collection, the researcher requested and obtained approval from the Institutional Review Board (see Appendix B for approval). The researcher requested a report through the Institutional Effectiveness Office, via email (see Appendix C for email), which contained demographic information, retention, and the scores of the National Survey of Student Engagement (NSSE) of all the freshmen students who took the survey in the spring of 2013 and the spring of 2016. Freshmen were any students with 24 or less conferred credit hours. Demographic information included, gender, age, and ethnicity. Retention information included those students who were retained until the following fall, 2013 and 2016, respectively. This data was linked and stripped of all identifiers and was based on the Integrated Postsecondary Education Data System's (IPEDS) census date for each year, which is the date when institutions

are required to report their enrollment data. The datasheet also included the score for each of the NSSE engagement indicators. Using this list, the researcher filtered by ethnicity and selected all the freshmen minority students who had complete results for the NSSE's engagement indicators. A minority student was a student who self-identified as Hispanic/Latino, American Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Pacific Islander, or Other.

Freshmen and seniors take the NSSE in the spring semester, every three years. This survey was emailed to all freshmen and seniors on Assessment Day and it takes approximately one hour to complete. Once students finish the survey, it was collected and scored by NSSE administrators who develop an Institutional Report and data files, which are made available for the universities to download by the summer. Once the engagement indicators' raw scores were received for the students who self-identified as a minority student, then, the researcher removed any student who failed to receive a score for each engagement indicator.

Once the researcher received the data of the freshmen who took the survey and were enrolled in the fall of 2012 and 2015, then the researcher analyzed if these students were retained to the next fall, 2013 and 2016. For this study, the researcher used the Integrated Postsecondary Education Data System (IPEDS) definition of retention, which is "A measure of the rate at which students persist in their educational program at an institution, expressed as a percentage. For four-year institutions, this is the percentage of first-time bachelors (or equivalent) degree-seeking undergraduates from the previous fall who are again enrolled in the current fall" (National Center for Education Statistics, 2018, p. 1). IPEDS establishes a census date every year, which is the date when institutions are required to report their enrollment numbers.

### Data Analysis

A logistic regression analysis was used to test the null hypothesis at a 95% confidence interval. The criterion variable, minority students' retention was dichotomous (either they were or were not retained) and was determined by the enrollment data acquired via Banner INB. This variable was coded as "0" and "1" for did not retain and retained, respectively. The researcher ran descriptive statistics and checked the assumption of non-multicollinearity among the predictor variables, engagement indicators, to see if they were highly correlated to one another. Another assumption is a 50/50 split. The retention of residential minority students (criterion variable) was obtained and the proportion of the two groups did not meet this assumption. However, according to King and Zeng (2001), sometimes the data varies greatly from a 50/50 split in logistic regression analyses. In these cases, variables are proven difficult to explain and predict and the authors recommend for researchers to change the estimates of absolute and relative risks by as much as some estimated effects reported in the literature (King & Zeng, 2001). The data was screened for errors, outliers, and the number of participants (more than 5 in each cell).

The researcher discussed results addressing goodness of fit of the models outputted using binary logistic regression. The Omnibus Tests of Model Coefficients returned a Chi-square value to see if the null model or constant-only model was statistically significant at  $p < .05$ . In addition, results from Nagelkerke's  $R^2$ , Cox and Snell's  $R^2$  and Hosmer and Lemeshow test were used to address models' fit to survey data. Additional reporting components included Wald statistics and the estimated change in odds. Effect size information was presented along with prediction equations corresponding to the research question.

## CHAPTER FOUR: FINDINGS

### Overview

In this chapter, descriptive analytics were discussed, as well as the data screening and the assumptions for the logistics regression analysis. Results for the null hypothesis including the logistics regression results and the Chi square and odd ratios for each predictor variable of National Survey for Student Engagement's (NSSE) engagement indicators were presented.

### Research Question

**RQ1:** How accurately can the retention of minority students attending a faith-based higher education institution be predicted by the National Survey of Student Engagement's engagement indicators?

### Null Hypothesis

**H<sub>0</sub>1:** There is no predictive relationship between the criterion variable (retention of minority students) and the predictor variables from the National Survey of Student Engagement; (1) higher-order learning, (2) reflective and integrative learning, (3) learning strategies, (4) quantitative reasoning, (5) collaborative learning, (6) discussions with diverse others, (7) student-faculty interaction, (8) effective teaching practices, (9) quality interactions, and (10) supportive environment.

### Descriptive Statistics

This study used data from 168 minority freshmen students who took the NSSE survey in the years 2012 to 2016. The students took the survey every three years; in the spring of 2013 and the spring of 2016. These two years were combined to meet the sample size for this study. The predictor variables, engagement indicators, were continuous in nature, since the student could earn a score from 0-60 in each indicator. The NSSE reports scores for 10 engagement indicators

calculated from 47 questions and grouped within four themes; academic challenge, learning with peers, experiences with faculty, and campus environment. Each of the questions that contribute to an engagement indicator was converted to a 4-point Likert scale to produce an indicator score. The scores range from 0 to 60, high values indicate more of the characteristic and smaller values indicate less of the characteristic. Thus, the mean and standard deviation were calculated and examined for each sub-scale. A summary of these statistics for the predictor variables can be found in Table 3.

Table 3

*Descriptive Statistics*

	N	Mean	Std. Deviation
Higher-Order Learning	168	41.34	14.626
Reflective and Integrative Learning	168	37.95	12.188
Learning Strategies	168	39.05	13.118
Quantitative Reasoning	168	27.66	17.058
Collaborative Learning	168	32.14	13.609
Discussions with Diverse Others	168	39.82	13.256
Student-Faculty Interaction	168	19.82	15.610
Effective Teaching Practices	168	41.91	13.393
Quality of Interactions	168	42.33	11.702
Supportive Environment	168	43.02	13.180

The criterion variable, retention of freshmen students, is categorical in nature, thus a frequency count was calculated and can be examined in Table 4.

Table 4

*Retention*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Did not retain	16	9.5	9.5	9.5
	Retained	152	90.5	90.5	100.0
	Total	168	100.0	100.0	

**Results****Data Screening**

The researcher conducted data screening on each of the predictor variables (engagement indicators) to look for any data inconsistencies. From 193 total responses, the researcher removed 25 surveys that were incomplete, leaving a sample size of 168. After this screening, each variable was assessed for integrity, and deemed intact. The criterion variable of retention was coded as 0 – Did not retain, and 1 – Did retain.

**Assumptions**

According to Warner (2008), there are several assumptions required for logistics regression. First, the criterion variable must be dichotomous; the criterion variable in this study is retention of minority students, which is dichotomous with the two options of retained or did not retain. Another assumption is a 50/50 split. The retention of residential minority students (criterion variable) was obtained and the proportion of the two groups did not meet this assumption. However, according to King and Zeng (2001), sometimes the data varies greatly from a 50/50 split in logistic regression analyses. In these cases, variables are proven difficult to explain and predict and the authors recommend for researchers to change the estimates of absolute and relative risks by as much as some estimated effects reported in the literature (King

& Zeng, 2001). Next, there must be an absence of multicollinearity among the predictor variables as determined by the variance inflation factor as shown by Table 5.

Table 5

*Coefficients*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.623	.118		5.293	.000	.391	.856		
	Higher-Order Learning	.002	.002	.106	1.139	.257	-.002	.006	.668	1.497
	Reflective and Integrative Learning	.002	.002	.086	.835	.405	-.003	.007	.547	1.828
	Learning Strategies	-9.813E-6	.002	.000	-.005	.996	-.004	.004	.687	1.455
	Quantitative Reasoning	-.001	.002	-.069	-.719	.473	-.004	.002	.627	1.594
	Collaborative Learning	.003	.002	.153	1.589	.114	-.001	.007	.627	1.596
	Discussions with Diverse Others	.001	.002	.053	.629	.530	-.003	.005	.813	1.230
	Student-Faculty Interaction	-.002	.002	-.080	-.808	.420	-.005	.002	.589	1.696
	Effective Teaching Practices	-.003	.002	-.128	-1.348	.180	-.007	.001	.650	1.539
	Quality of Interactions	-.001	.002	-.024	-.277	.782	-.005	.004	.755	1.324
	Supportive Environment	.004	.002	.174	1.782	.077	.000	.008	.613	1.632

Next, Warner (2008) stated that the model must be specified and include all relevant variables. The literature review for this study showed that the researcher chose the predictor variables of NSSE's engagement indicators since it was a validated and reliable survey. Based on the literature review, these variables were relevant to the criterion variable, retention of minority students. Lastly, Warner (2008) stated that the "categories on the outcome variable are assumed to be exhaustive and mutually exclusive" (p. 932). Students were either retained or not retained and the researcher did not consider other options such as transfers. In this study, all assumptions required by Warner (2008) were met.

### **Results for Null Hypothesis**

A binary logistic regression analysis was used to test the relationship at a 95% confidence level between the predictor variables (higher-order learning, reflective and integrative learning, learning strategies, quantitative reasoning, collaborative learning, discussions with diverse others, student-faculty interaction, effective teaching practices, quality interactions, and supportive environment) and the criterion variable (retention). The criterion variable was coded as "0" for did not retain and "1" for retained. The predictor variables were continuous and could have a score of 0-60. High values indicated more of the characteristic and smaller values indicated less of the characteristic.

The results of the binary logistic regression were not statistically significant,  $X^2(10) = 15.19, p = .125$ , as shown by Table 6.

Table 6

#### *Omnibus Test of Model Coefficients*

		Chi-square	df	Sig.
Step 1	Step	15.196	10	.125
	Block	15.196	10	.125
	Model	15.196	10	.125

Furthermore, the model was weak according to Cox and Snell's ( $R^2 = .086$ ) and Nagelkerke's ( $R^2 = .185$ ) as shown by Table 7. The model did not hold, and there was no statistically significant, predictive relationship between the retention of minority students and the engagement indicators and the predictor variables (higher-order learning, reflective and integrative learning, learning strategies, quantitative reasoning, collaborative learning, discussions with diverse others, student-faculty interaction, effective teaching practices, quality interactions, and supportive environment). Thus, the researcher failed to reject the null hypothesis.

Table 7

*Model Summary*

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	90.473 <sup>a</sup>	.086	.185

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Table 8 shows a summary of the predictor variables (engagement indicators) and their Wald ratio, which was not statistically significant. These results indicated that higher-order learning, reflective and integrative learning, learning strategies, quantitative reasoning, collaborative learning, discussions with diverse others, student-faculty interaction, effective teaching practices, quality interactions, and supportive environment were not statistically significant when it comes to retention for minorities as a whole.

Table 8

*Variables in the Equation*

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1 <sup>a</sup>	Higher-Order Learning	.031	.023	1.806	1	.179	1.031	.986	1.078
	Reflective and Integrative Learning	.033	.030	1.221	1	.269	1.033	.975	1.095
	Learning Strategies	-.004	.027	.021	1	.884	.996	.944	1.051
	Quantitative Reasoning	-.020	.022	.828	1	.363	.981	.940	1.023
	Collaborative Learning	.052	.030	3.051	1	.081	1.053	.994	1.116
	Discussions with Diverse Others	.016	.022	.503	1	.478	1.016	.973	1.061
	Student-Faculty Interaction	-.028	.025	1.251	1	.263	.972	.925	1.021
	Effective Teaching Practices	-.043	.026	2.703	1	.100	.958	.910	1.008
	Quality of Interactions	-.005	.027	.036	1	.850	.995	.944	1.048
	Supportive Environment	.046	.026	3.246	1	.072	1.047	.996	1.102
	Constant	-.794	1.363	.339	1	.560	.452		

## **CHAPTER FIVE: CONCLUSIONS**

### **Overview**

A logistic regression was conducted to examine predictive relationships among the National Survey of Student Engagement's (NSSE) engagement indicators and retention for minority undergraduate students attending a faith-based higher education institution. Chapter Five will discuss the results of the statistical analysis and the implications of those results in light of related research. In addition, limitations of the study and recommendations for future research are recommended.

### **Discussion and Conclusion**

The purpose of this study was to examine the engagement indicators of NSSE and determine if any of them influenced the retention of minority students attending a faith-based institution. The criterion variable was retention of minority students. In this study retention was defined as "the percentage of first-time bachelors (or equivalent) degree-seeking undergraduates from the previous fall who are again enrolled in the current fall" (National Center for Education Statistics, 2018, p. 1). Minority students were those students who self-identified as Hispanic/Latino, American Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Pacific Islander, or Other in the National Survey of Student Engagement.

The predictor variables were NSSE's engagement indicators. Those indicators were: (1) higher-order learning, (2) reflective and integrative learning, (3) learning strategies, (4) quantitative reasoning, (5) collaborative learning, (6) discussions with diverse others, (7) student-faculty interaction, (8) effective teaching practices, (9) quality interactions, and (10) supportive environment. See Table 9 for definitions of engagement indicators.

Table 9

*Definitions of Engagement Indicators*

Engagement Indicators	Definition
Higher-Order Learning	How much students' coursework emphasizes challenging cognitive tasks such as application, analysis, judgment, and synthesis.
Reflective & Integrative Learning	How motivated students are to make connections between their learning and the world around them, reexamining their own beliefs and considering issues and ideas from others' perspectives.
Learning Strategies	Actively engaging with and analyzing course material rather than approaching learning as absorption.
Quantitative Reasoning	The ability to use and understand numerical and statistical information in everyday life.
Collaborative Learning	Collaborating with peers in solving problems or mastering difficult material deepens understanding and prepares students to deal with the messy, unscripted problems they encounter during and after college.
Discussions with Diverse Others	Interactions across difference, both inside and outside the classroom, confer educational benefits and prepare students for personal and civic participation in a diverse and interdependent world.
Student-Faculty Interaction	Through their formal and informal roles as teachers, advisors, and mentors, faculty members model intellectual work, promote mastery of knowledge and skills, and help students make connections between their studies and their future plans.
Effective Teaching Practices	Organized instruction, clear explanations, illustrative examples, and effective feedback on student work all represent aspects of teaching effectiveness that promote student comprehension and learning.
Quality of Interactions	Positive interpersonal relations that promote student learning and success.
Supportive Environment	Students' perceptions of how much an institution emphasizes services and activities that support their learning and development.

*Note.* From the National Survey of Student Engagement, 2018b.

Although, researchers still consider student engagement an important aspect that contributes towards students' persistence and retention (Hamilton, 2018; Groccia, 2018; Kahu, 2013; Baron & Corbin, 2012), in this study none of these engagement indicators showed statistical significance at the 95% confidence level in the retention of minority students attending a faith-based institution. However, collaborative learning where ( $p = .081$ ) and supportive environment where ( $p = .072$ ), while not significant, were notable due to their closeness to the

.05 alpha level when compared to the other indicators. See Chapter 4 Table 8 for significance levels. Thus, these two indicators warrant further discussion.

### **Collaborative Learning**

Collaborative learning is usually seen as environments where students help one another delve deeper and better understand material. Although not statistically significant at the 95% confidence level in this study, collaborative learning was notably significant at the 92% confidence level in the predictive relationship with the retention of minority students. Furthermore, the odds ratio indicated that minority students with a high score in collaborative learning were three times more likely to be retained, than students with high scores in other indicators. Van Wyk and Haffejee (2017) stated that “even the limited use of group work strategies can develop a positive learning climate, aid classroom cohesion and improve self-directedness of students” (p. 158). Other researchers believe that collaborative learning promotes trust and interdependence of students by encouraging them to share knowledge with one another and trust what others are saying creating their own community of knowledge (Bruffee, 1999). The professors’ role is to initiate and encourage these communities by "creating the conditions in which collaborative learning can occur" (Gerlach, 1994, p. 10).

Minority students, with high scores in the collaborative learning indicator, may benefit from spending time with other students and this interaction may deepen the understanding of material that they may have not been able to achieve on their own. Collaborative learning gives students the opportunity to catch up with the topics that they may not have fully grasped during class time. By collaborating with others, a student may be able to have the material explained to them in a way that matches their particular learning style rather than just getting the professors’ teaching style.

## **Supportive Environment**

This engagement indicator addresses the services, opportunities, and activities offered by the university that support the development and learning of a student. Universities have focused on providing as many services and activities as they can for students, since they have adopted market-oriented principles (DeShields et al., 2005) and their most important customers are the students (Douglas et al., 2006). Like collaborative learning, even though a supportive environment was not statistically significant at the 95% confidence level in this study, it was notably significant at the 93% confidence level in the predictive relationship with the retention of minority students. Furthermore, the odds ratio indicated that minority students with a high score in supportive environment were three times more likely to be retained, than students with high scores in other indicators.

Minority students, especially African American and Hispanic students, are at a disadvantage from that of their White counterparts when entering college due to them being “statistically under-prepared both academically and socially for the higher education environment” (Roscoe, 2015, p. 48). Minority students with a high score in this engagement indicator may benefit from an increase in academic support and the use of support services, interaction with students of different backgrounds, social interactions, well-being services, non-academic responsibilities, and attendance to activities and events (NSSE, 2018b). Faith-based institutions could assess the needs of students, physically, emotionally, cognitively, and socially and strive to provide outlets to provide the support they need.

## **Implications**

This research contributes to the knowledge base of retention and student engagement. Student retention is a topic that has been widely researched. Also, there are plenty of studies that

examine student engagement. Yet, there are only a few that look at the relationship between students' responses on the National Survey of Student Engagement (NSSE) and retention (Shinde, 2008; Zepke, 2013). However, these studies fail to review how student engagement may affect the retention of minority students in faith-based institutions. John and Stage (2014) investigated minority-serving institutions and the education of United States' underrepresented students and concluded that more research is needed in order to determine how minority-serving institutions are affecting the retention rates of the minority students. This study examined the engagement indicators of NSSE and determined that statistically, none of them predicted the retention of minority students attending a faith-based institution. This study is also the first known study that examines these variables within a faith-based institution.

The notable finding of collaborative learning and supportive environment having possibly a higher impact in the retention of minority students, could have an implication for faith-based institutions. Noting this possible difference, administrators in faith-based institutions could work to further understand what type of engagement minority students may need to possibly be retained through graduation. This study added to the literature of student engagement and retention because it took into account that there may be differences amongst minority students' engagement attending a faith-based institution as compared to another type of higher learning institution.

### **Limitations**

A limitation of this study is that it did not meet the 50/50 split assumption of the did not retain and retained groups. A different sample that meets this assumption may produce different results. Also, all of the freshmen in this study were from one faith-based institution and lived residentially. The results of this study should not be applied to other types of higher education

institutions or students in online programs. Furthermore, this study only looked at minority students who self-identified as Hispanic/Latino, American Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Pacific Islander, and Other, and it does not apply to students who may have self-identified as Two or more races or Nonresident alien.

Finally, the definition used for retention was limited to one year and it was defined as “the percentage of first-time bachelors (or equivalent) degree-seeking undergraduates from the previous fall who are again enrolled in the current fall” (National Center for Education Statistics, 2018, p. 1). Students either were or were not retained to the next fall based on the Integrated Postsecondary Education Data System’s (IPEDS) census date for each year, which is the date when institutions are required to report their enrollment data. This does not take into account minority students who may have dropped out past this date. Finally, results may have been different if looking at graduation rates or retention through their senior year.

### **Recommendations for Future Research**

The results of this study provided some insight into the engagement and retention of minority students attending faith-based institutions. However, there are several areas related to this study where future research is recommended.

1. Replications of this study should be conducted in a variety of faith-based institutional settings, including public institutions, online, hybrid, secular and community college.
2. Because this study only examined the retention of minority students from one faith-based institution, it would be beneficial for similar studies to be conducted at other faith-based institutions to see if the results are similar.
3. Replications of this study should be conducted comparing results of the minority students with their White counterparts in a faith-based institution.

## Summary

Chapter Five discussed the findings of the study in regards to the research question and null hypothesis. The researcher failed to reject the null hypothesis and there was no statistically significant relationship between the retention of minority students attending a faith-based institution and NSSE's engagement indicators. The notable findings of collaborative learning and supportive environment were discussed, and the implications were examined. Limitations of the study were assessed, including the 50/50 split assumption, that only one university was included in the study, and the narrow definition of retention. In addition, recommendations for future research in areas related to this study were suggested.

## REFERENCES

- Agarwal, P. K. (2018). Retrieval practice & Bloom's taxonomy: Do students need fact knowledge before higher order learning? *Journal of Educational Psychology*, 1-21.
- Allan, E. G., & Driscoll, D. L. (2014). The three-fold benefit of reflective writing: Improving program assessment, student learning, and faculty professional development. *Assessing Writing*, 21, 37-55.
- Alleman, N. F., Robinson, J. A., Leslie, E. A., & Glanzer, P. L. (2016). Student constructions of fit: Narratives about incongruence at a faith-based university. *Journal of Christian Higher Education*, 15(3), 169-184.
- Ashby, A. (2004). Monitoring student retention in the Open University: definition, measurement, interpretation and action. *Open Learning: The Journal of Open, Distance and e-Learning*, 19(1), 65-77.
- Astin, A. W. (1975). *Preventing students from dropping out*. San Francisco: Jossey-Bass.
- Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel* 25, 297-308.
- Astin, A. W. (1999). Student involvement: A developmental theory for higher education. *Journal of College Student Development*, 40(5), 518-529.
- Bankston, C. B., & Zhou, M. (2002). Being well vs doing well: self-esteem and school performance among immigrant and nonimmigrant racial and ethnic groups. *International Migration Review*, 36(2), 389-415.
- Barnett, S. M., & Ceci, S. J. (2002). When and where do we apply what we learn? A taxonomy for far transfer. *Psychological Bulletin* 128, 612-637.

- Baron, P., & Corbin, L. (2012). Student engagement: rhetoric and reality. *Higher Education Research & Development* 31(6), 759-772.
- Berger, J. B., Ramirez, G., & Lyons, S. (2012). Past to present: A historical look at retention. In A. Seidman, *College Student Retention (2nd ed.)* (pp. 7-31). Lanham, MD: Rowman & Littlefield.
- Bergin, D. A., Cooks, H. C., & Bergin, C. C. (2007). Effects of a college access program for youth underrepresented in higher education: A randomized experiment. *Research in Higher Education*, 48, 727-750.
- Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *he taxonomy of educational objectives: The classification of educational goals: Handbook 1: Cognitive domain*. New York : David McKay Company.
- Boatman, A., & Long, B. T. (2016). Does financial aid impact college student engagement?: Evidence from the Gates Millennium Scholars program. *Research in Higher Education*, 57(6), 653-681.
- Bonet, G., & Walters, B. R. (2016). High impact practices: student engagement and retention. *College Student Journal* 50(2), 224-235.
- Bonus-Hammarth, M., & Allen, W. R. (2005). A dream deferred: The critical factor of timing in college preparation and outreach. In W. G. Tierney, Z. B. Corwin, & J. E. Colyar, *Preparing for college: Nine elements of effective outreach* (pp. 155-172). Albany: State University of New York Press.
- Bowman, N. A. (2011). Promoting participation in a diverse democracy: A meta-analysis of college diversity experiences and civic engagement. *Review of Educational Research*, 81, 29-68.

- Bruffee, K. (1999). *Collaborative learning: Higher education, interdependence, and the authority of knowledge*. (2nd ed.). Baltimore: Johns Hopkins University Press.
- Çakmak, M., & Akkutay, Ü. (2016). Effective teaching in the eye of teacher educators: A case study in a higher education. *The Qualitative Report*, 21(12), 2349-2364.
- Chang, M. J. (1999). Does racial diversity matter? The educational impact of a racially diverse undergraduate population. *Journal of College Student Development*, 40(4), 377-395.
- Chang, M. J. (2002). Preservation or transformation: Where's the real educational discourse on diversity? *Review of Higher Education*, 25(2), 125-140.
- Chesler, M. C., & Crowfoot, J. (2005). *Challenging racism in higher education*. Lanham, MD: Rowman & Littlefield.
- Corwin, Z. B., Colyar, J. E., & Tierney, W. G. (2005). Introduction: Engaging research and practice—Extracurricular and curricular influences on college access. In W. G. Tierney, Z. B. Corwin, & J. E. Colyar, *Preparing for college: Nine elements of effective outreach* (pp. 1-9). Albany: State University of New York Press.
- Crisp, R. J., & Turner, R. N. (2011). Cognitive adaptation to the experience of social and cultural diversity. *Psychological Bulletin*, 137, 242-266.
- Davignon, P., Glanzer, P., & Rine, P. J. (2013). Assessing the denominational identity of American Evangelical colleges and universities, part III: The student experience. *Christian Higher Education*, 12(5), 315-330.
- De Los Santos, J. A., & Cuamea, K. M. (2010). Challenges facing Hispanic-serving institutions in the first decade of the 21st century. *Journal of Latinos and Education*, 9(2), 90-107.
- De Soto, W., Tajalli, H., Pino, N., & Smith, C. L. (2018). The effect of college students' religious involvement on their academic ethic. *Religion & Education*, 190-207.

- Demetriou, C., & Schmitz-Sciborski, A. (2011). Integration, motivation, strengths and optimism: Retention theories past, present and future. *7th National Symposium on Student Retention* (pp. 300-312). Norman: University of Oklahoma.
- DeShields, O. W., Kara, A., & Kaynak, E. (2005). Determinants of business student satisfaction and retention in higher education: Applying Herzberg's two-factor theory. *International Journal of Educational Management, 19*(2), 128-139.
- Douglas, J., Douglas, A., & Barnes, B. (2006). Measuring student satisfaction at a UK university. *Quality Assurance in Education, 14*(3), 251-267.
- Du, F. (2016). Using National Survey of Student Engagement (NSSE) Findings to Enhance the Cocurricular and Advising Aspects of a First-Year Seminar. *Assessment Update 28*(3), 1-16.
- Dwyer, T. (2017). Persistence in higher education through student–faculty interactions in the classroom of a commuter institution. *Innovations in Education and Teaching International, 54*(4), 325-344.
- Dyce, C. M., Albold, C., & Long, D. (2013). Moving from college aspiration to attainment: Learning from one college access program . *The High School Journal, 96*, 152-165.
- Elrod, S. (2014). Quantitative reasoning: The next "across the curriculum" movement. *Peer Review, 16*(3), 4-8.
- Engberg, M. E., & Hurtado, S. (2011). Developing pluralistic skills and dispositions in college: Examining racial/ethnic group differences. *Journal of Higher Education, 82*, 416-443.
- Espenshade, T. J., & Radford, A. W. (2009). *No longer separate, not yet equal: Race and class in elite college admission and campus life*. Princeton, NJ: Princeton University Press.

- Ferren, A., & Anderson, C. B. (2016). Integrative learning: Making liberal education purposeful, personal, and practical. *New Directions for Teaching & Learning*, 2016(145), 33-40.
- Fry, R. (2002). *Latinos in higher education: Many enroll, too few graduate*. Washington, DC: Pew Hispanic Center.
- Fry, R. (2004). *Latino youth finishing college: The role of selective pathways*. Washington, DC: Pew Hispanic Center.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2006). *Educational Research: An introduction (8th ed.)*. New York, NY: Allyn & Bacon.
- Gall, M., Gall, J., & Borg, W. (2007). *Educational research: An introduction. (8th ed.)*. Boston: Pearson.
- Gándara, P., & Contreras, F. (2010). The Latino education crisis. *Educational Leadership*, 67, 24-30.
- Gerlach, J. M. (1994). Is this collaboration? In K. Bosworth, & S. J. Hamilton, *Collaborative learning: Underlying processes and effective techniques* (pp. 5-14). San-Francisco, CA: Jossey-Bass.
- Gill, E. L., & Farrington, R. (2014). The impact of an intensive learning program (ILP) on black male football student-athlete academic achievement. *Journal of College Student Development*, 55(4), 413-418.
- Giovannelli, M. (2003). Relationship between reflective disposition toward teaching and effective teaching. *The Journal of Educational Research*, 96(5), 293-309.
- Gonzales, S. M., Brammer, E. C., & Sawilowsky, S. (2014). Belonging in the academy: Building a “casa away from casa” for Latino/a undergraduate students. *Journal of Hispanic Higher Education*, 14(3), 223-239.

- Groccia, J. E. (2018). What is student engagement? *New Directions for Teaching & Learning* 2018(154), 11-20.
- Guillory, R. M., & Wolverton, M. (2008). It's about family: Native American student persistence in higher education. *Journal of Higher Education*, 79, 58-87.
- Gurin, P., Dey, E. L., Hurtado, S., & Gurin, G. (2002). Diversity and higher education: Theory and impact on educational outcomes. *Harvard Educational Review*, 72(3), 330-366.
- Gusa, D. (2010). Gusa, D. (2010). White institutional presence: The impact of Whiteness on campus climate. *Harvard Educational Review*, 80, 464-489.
- Habley, W. R., Bloom, J. L., & Robbins, S. B. (2012). *Increasing persistence: Research-based strategies for college student success*. San Francisco, CA: Jossey-Bass.
- Hamilton, A. (2018). The need for student engagement. *New Directions for Teaching & Learning* 2018(154), 21-31.
- Hannah-Jones, N. (2014). Segregation now . . . sixty years after Brown v. Board of Education, the Schools in Tuscaloosa, Alabama, show how separate and unequal education is coming back. *The Atlantic*, 1-35.
- Harris, A. (1998). Effective teaching: A review of the literature. *School Leadership & Management*, 15(2), 169-183.
- Harris, J. C., & BrckaLorenz, A. (2017). Black, white, and biracial students' engagement at differing institutional types. *Journal of College Student Development*, 58(5), 783-789.
- Hausmann, L., Schofield, J., & Woods, R. (2007). Sense of belonging as a of intentions to persist among African American and White first-year college students. *Research in Higher Education*, 48, 803-839.

- Haydarov, R., Moxley, V., & Anderson, D. (2013). Counting chickens before they are hatched: An examination of student retention, graduation, attrition, and dropout measurement validity in an online master's environment . *Journal of College Student Retention: Research, Theory & Practice, 14*(4), 429-449.
- Howell, S., Laws, D., & Lindsay, N. (2004). Reevaluating course completion in distance education. Avoiding the comparison between apples and oranges. *The Quarterly Review of Distance Education, 5*(4), 243-252.
- Hunn, V. (2014). African American students, retention, and team-based learning: A review of the literature and recommendations for retention at predominately white institutions. *Journal of Black Studies, 45*(4), 301-314.
- Hurtado, S. (2007). Linking diversity with the educational and civic missions of higher education. *Review of Higher Education, 30*, 185-196.
- Hurtado, S., & Deangelo, L. (2012). Linking diversity and civic-minded practices with student outcomes. *Liberal Education, 98*(2).
- Indiana University. (2018a). *Our Origins and Potential*. Retrieved from National Survey of Student Engagement: <http://nsse.indiana.edu/html/origins.cfm>
- Indiana University. (2018b). *National Survey of Student Engagement*. Retrieved February 26, 2018, from <http://nsse.indiana.edu/html/about.cfm>
- Institute of International Education. (2016). *Open doors data: Open doors report on international educational exchange*. Retrieved from Institute of International Education: <http://www.iie.org/Research-and-Publications/Open-Doors/Data#.WDtFZ9IrLIW>
- Jacobs, S. (2016). Reflective learning, reflective practice. *Nursing, 46*(5), 62-64.

- John, G., & Stage, F. K. (2014). Minority-serving institutions and the education of U.S. underrepresented students. *New Directions for Institutional Research*, 65-76.
- Johnson, B. L. (1997). An organizational analysis of multiple perspectives of effective teaching: Implications for teacher evaluation. *Journal of Personnel Evaluation in Education*, 11, 69-87.
- Jones, S. R., & Stewart, D. (2016). Evolution of student development theory. *New Directions for Student Services* 154, 17-28.
- Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in Higher Education* 38(5), 758-773.
- Kaiser, H. (1974). An index of factorial simplicity. *Psychometrika*, 39, 31-36.
- Khandelwal, K. A. (2009). Effective teaching behaviors in the college classroom: A critical incident technique from students' perspective. *International Journal of Teaching and Learning in Higher Education*, 21(3), 299-309.
- King, G., & Zeng, L. (2001). Logistic Regression in Rare Events Data. *Political Analysis*, 9, 137-163.
- Klugman, J., & Butler, D. (2008). *Opening doors and paving the way: Increasing college access and success for talented low-income students*. New York: The Goldman Sachs Foundation.
- Knefelkamp, L., Widick, C., & Parker, C. (1978). Applying new developmental findings. *New Directions for Student Services* 4, vii-xvi.
- Korobova, N. (2012). A comparative study of student engagement, satisfaction, and academic success among international and American students. (*Doctoral dissertation*). *Graduate Theses and Dissertations, Paper 12367*.

- Kuh, G. D. (2003). What we're learning about student engagement from NSSE: Benchmarks for effective educational practices. *Change: The Magazine of Higher Learning* 35(2), 24-32.
- Kuh, G., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *Journal of Higher Education*, 79, 540-563.
- Kyriacou, C. (1997). *Effective teaching in schools: Theory and practice (2nd ed.)*. Cheltenham, UK: Stanley Thornes Ltd.
- Lee, N. E. (2017). The part-time student experience: Its influence on student engagement, perceptions, and retention. *The Canadian Journal for the Study of Adult Education* 30(1), 1-18.
- Livermore, D. (2011). *The Cultural Intelligence Difference: Master the One Skill You Can't Do Without in Today's Global Economy*. New York: AMACOM.
- Lundberg, C. A. (2014). Institutional support and interpersonal climate as predictors of learning for Native American students. *Journal of College Student Development*, 55(3), 263-277.
- Lundberg, C. A. (2014). Peers and faculty as predictors of learning for community college students. *Community College Review*, 42(2), 79-98.
- Lundberg, C. A. (2016). Faculty as contributors to learning for Native American students. *Journal of College Student Development*, 57(1), 3-17.
- McClain, K. S., & Perry, A. (2017). Where Did They Go: Retention Rates for Students of Color at Predominantly White Institutions. *College Student Affairs Leadership*, 4(1), 1-3.
- McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, 27, 415-444.

- Miller, A., Sarraf, S., Dumford, A., & Rocconi, L. (2016). *Construct Validity of NSSE Engagement Indicators*. Bloomington: NSSE's Psychometric Portfolio.
- Morris, J. M., Beck, R., & Smith, A. B. (2004). Examining student/institution fit at a Christian university: The role of spiritual integration. . *Journal of Education & Christian Belief*, 8(2), 87-100.
- Morrison, L., & Silverman, L. (2012). Retention theories, models, and concepts. In A. Seidman, *College student retention* (pp. 61-77). Lanham, MD: Rowman & Littlefield.
- Museus, S. D., Lambe Sariñana, S. A., Yee, A. L., & Robinson, T. (2016). An examination of multiracial students' experiences with prejudice and discrimination in college. *Journal of College Student Development*, 57, 680-697.
- National Center for Education Statistics. (2017). *Projections of Education Statistics to 2025*. Washington: U.S. Department of Education.
- National Center for Education Statistics. (2018). *IPEDS Glossary*. Retrieved from IPEDS 17-18 Data Collection System: <https://surveys.nces.ed.gov/ipeds/VisGlossaryAll.aspx>
- National Center for Education Statistics. (n.d.). *Graduation Rates*. Retrieved from U.S. Department of Education: <http://nces.ed.gov/fastfacts/display.asp?id=40>
- National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. (2018, July 1). *Glossary*. Retrieved from The integrated postsecondary education data system (IPEDS) : <https://nces.ed.gov/ipeds/>
- National Student Clearinghouse Research Center. (2017). *First-Year Persistence and Retention*. Herndon: National Student Clearinghouse.
- National Survey fo Student Engagement. (2018a). *About NSSE*. Retrieved from National Survey fo Student Engagement: <http://nsse.indiana.edu/html/about.cfm>

- National Survey of Student Engagement. (2015, August). *Internal Consistency Statistics by Class Level*. Retrieved from NSSE 2015 Engagement Indicators:  
[http://nsse.indiana.edu/2015\\_institutional\\_report/pdf/EI%20Intercorrelations%202015.pdf](http://nsse.indiana.edu/2015_institutional_report/pdf/EI%20Intercorrelations%202015.pdf)
- National Survey of Student Engagement. (2015). *NSSE 2015 Engagement Indicators*.  
Bloomington: Indiana State University.
- National Survey of Student Engagement. (2018). *Engagement Indicators*. Retrieved from  
National Survey of Student Engagement:  
[http://nsse.indiana.edu/html/engagement\\_indicators.cfm](http://nsse.indiana.edu/html/engagement_indicators.cfm)
- National Survey of Student Engagement. (2018b). *Engagement Indicators*. Retrieved from  
National Survey of Student Engagement:  
[http://nsse.indiana.edu/html/engagement\\_indicators.cfm](http://nsse.indiana.edu/html/engagement_indicators.cfm)
- NCES. (2017). *Status and Trends in the Education of Racial and Ethnic Groups 2017*.  
Washington, DC: U.S. Department of Education.
- Neville, K. M., & Parker, T. L. (2017). A Breath of Fresh Air: Students' Perceptions of  
Interactions With African American Faculty. *Journal of College Student Development*,  
58(3), 349-364.
- Núñez, A., & Sansone, V. A. (2016). Earning and learning: Exploring the meaning of work in  
the experiences of first-generation latino college students. *Review of Higher Education*,  
40(1), 91-115.
- O'Leary, L. S. (2014). Civic engagement in college students: Connections between involvement  
and attitudes. *New Directions for Institutional Research 2014(162)*, 55-65.

- Park, C., Boman, J., Dean Care, W., Edwards, M., & Perry, B. (2008). Persistence and attrition: What is being measured? *Journal of College Student Retention: Research, Theory, and Practice Issue*, 10(2), 223-233.
- Patten, T. A., & Rice, N. D. (2009). Religious minorities and persistence at a systemic religiously affiliated university. *Christian Higher Education*, 8(1), 42-53.
- Perna, L. W. (2000). Differences in the decision to attend college among African Americans, Hispanics, and Whites. *The Journal of Higher Education*, 71(2), 117-141.
- Renn, K. A. (2004). *Mixed-race students in college: The ecology of race, identity, and community on campus*. Albany: State University of New York Press.
- Rizkallah, E., & Seitz, V. (2017). Understanding student motivation; A key to retention in higher education. *Scientific Annals of Economics and Business*, 64(1), 45-57.
- Rodriguez, S. L., Massey, K., & Sáenz, V. B. (2016). Engaging Latino men in community colleges: The role of student-faculty interactions. *Journal of Applied Research in the Community College*, 23(2), 21-40.
- Roscoe, J. (2015). Advising African American and Latino students. *Research & Teaching in Developmental Education*, 31(2), 48-60.
- Sáenz, V. B., Ponjuan, L., Segovia Jr., J., & Del Real Viramontes, J. (2015). Developing a Latino mentoring program: Project MALES (mentoring to achieve Latino educational success). *New Directions for Higher Education*, 2015(171), 75-85.
- Salas, R., Aragon, A., Alandejani, J., & Timpson, W. M. (2014). Mentoring experiences and Latina/o university student persistence. *Journal of Hispanic Higher Education*, 13(4), 231-244.

- Sato, T., Eckert, K., & Turner, S. T. (2018). Perceptions of Black student athletes about academic mentorship at a predominantly White institution in higher education. *The Urban Review*, 1-25.
- Schneider, M. E., & Ward, D. J. (2003). The role of ethnic identification and perceived social support in Latinos' adjustment to college. *Hispanic Journal of Behavioral Sciences*, 25(4), 539-554.
- Shinde, G. (2008). *The relationship between students' responses on the National Survey of Student Engagement (NSSE) and retention*. Cookeville: ProQuest Dissertations Publishing.
- Suttikun, C., & Chang, H. J. (2016). College students' satisfaction and involvement with the recreation center based on perceived service quality: The moderating effects of health and weight consciousness. *Recreational Sports Journal* 40(2), 179-192.
- Swail, W. S., Cabrera, A. F., & Lee, C. (2004). *Latino youth and the pathway to college*. Washington, DC: Pew Hispanic Center.
- Tienda, M. (2013). Diversity ≠ inclusion: Promoting integration in higher education. *Educational Researcher*, 42(9), 467-475.
- Tinto, V. (1975). Dropouts from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45, 89 - 125.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition research (2nd ed.)*. Chicago: University of Chicago.
- Tinto, V. (1998). Colleges as communities: Taking the research on student persistence seriously. *Review of Higher Education*, 21, 167 - 177.

- Tinto, V. (2007). Research and practice of student retention: What next? . *Journal of College Student Retention: Research, Theory & Practice*, 8, 1-19.
- Torres, V. (2004). Familial influences on the identity development of Latino first-year students. *Journal of College Student Development*, 45(4), 457-469.
- Tovar, E. (2015). The role of faculty, counselors, and support programs on Latino/a community college students' success and intent to persist. *Community College Review*, 43(1), 46-71.
- Trolian, T. L., Jach, E. A., Hanson, J. M., & Pascarella, E. T. (2016). Influencing academic motivation: The effects of student-faculty interaction. *Journal of College Student Development*, 57(7), 810-826.
- Turner, P., & Thompson, E. (2014). College retention initiatives meeting the needs of millennial freshman students. *College Student Journal* 48(1), 94-104.
- Van Wyk, J., & Haffejee, F. (2017). Benefits of group learning as a collaborative strategy in a diverse higher education context . *International Journal of Educational Sciences*, 18(1-3), 158-163.
- Vaughan, N., & Cloutier, D. (2017). Evaluating a blended degree program through the use of the NSSE framework. *British Journal of Educational Technology* 48(5), 1176–1187.
- Villalpando, O., & Solorzano, D. G. (2005). The role of culture in college preparation programs: A review of the research literature. In W. G. Tierney, Z. B. Corwin, & J. E. Colyar, *Preparing for college: Nine elements of effective outreach* (pp. 13-28). Albany: State University of New York Press.
- Wang, R., & BrckaLorenz, A. (2018). International student engagement: An exploration of student and faculty perceptions. *Journal of International Students*, 8(2), 1002-1033.

- Webber, K. L., Krylow, R. B., & Zhang, Q. (2013). Does involvement really matter? Indicators of college student success and satisfaction. *Journal of College Student Development* 54(6), 591-611.
- Weisskirch, R. S. (2018). Grit, self-esteem, learning strategies and attitudes and estimated and achieved course grades among college students. *Current Psychology*, 37(1), 21-27.
- Wolf, D. A., Perkins, J., Butler-Barnes, S. T., & Walker, T. A. (2017). Social belonging and college retention: Results from a quasi-experimental pilot study. *Journal of College Student Development* 58(5), 777-782.
- Wong, A. (2015). Understanding Students' Experiences in Their Own Words: Moving Beyond a Basic Analysis of Student Engagement. *The Canadian Journal of Higher Education* 45(2), 60-80.
- Xiong, Y., Li, H., Kornhaber, M. L., Suen, H. K., Pursel, B., & Goins, D. D. (2015). Examining the relations among student motivation, engagement, and retention in a MOOC: A structural equation modeling approach. *Global Education Review* 2(3), 23-33.
- Xu, Y. J. (2017). Localizing college retention efforts: The distance between theoretical orientation and institution-specific needs. *Innovative Higher Education* 42(1), 49-63.
- Yuhas, A. (2015, September 7). Students' return to school is marred by renewed segregation across US. *The Guardian*.
- Zepke, N. (2013). Student engagement: a complex business supporting the first year experience in tertiary education. *The International Journal of the First Year in Higher Education* 4(2), 1-14.
- Zernov, D. V., & Lukonina, E. S. (2014). The content and tendencies of the active political involvement of college students. *Russian Education & Society* 56(10), 66-81.

Zhao, C. M., Kuh, G. D., & Carini, R. M. (2005). A comparison of international student and American student engagement in effective educational practices. *The Journal of Higher Education, 76*(2), 209-231.

**APPENDIX A: INSTRUMENT**

The National Survey for Student Engagement has been removed to comply with copyright, however a copy can be accessed through the following link

[http://nsse.indiana.edu/html/survey\\_instruments.cfm](http://nsse.indiana.edu/html/survey_instruments.cfm).

**APPENDIX B: IRB APPROVAL****LIBERTY UNIVERSITY**  
INSTITUTIONAL REVIEW BOARD

November 14, 2018

Stephanie Smith

IRB Application 3555: Student Engagement and Retention of Minority Students in a Faith-based Institution

Dear Stephanie Smith,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study does not classify as human subjects research. This means you may begin your research with the data safeguarding methods mentioned in your IRB application.

Your study does not classify as human subjects research because it will not involve the collection of identifiable, private information.

Please note that this decision only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued non-human subjects research status. You may report these changes by submitting a new application to the IRB and referencing the above IRB Application number.

If you have any questions about this determination or need assistance in identifying whether possible changes to your protocol would change your application's status, please email us at [irb@liberty.edu](mailto:irb@liberty.edu).

## APPENDIX C: REPORT REQUEST

### Smith, Stephanie A (Office of Equity and Inclusion)

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**From:** Smith, Stephanie A (Office of Equity and Inclusion)  
**Sent:** Wednesday, December 12, 2018 10:12 AM  
**To:** BIO Student Affairs Team; Evans, Michael Alan (Analytics and Decision Support); Fuentes, Raymond Jorge (Analytics and Decision Support); Gallagher, Lauren A (Analytics and Decision Support); Volkov, Ciara M (Analytics and Decision Support); Charlesworth, Elicia (Institutional Effectiveness Admin); Susman, Jonathan (Institutional Effectiveness Admin); Ziemkowsky, Nathan (Analytics and Decision Support)  
**Subject:** Report for a dissertation  
**Attachments:** Smith\_3555NonHumanSubjectsResearch\_11\_18.pdf

Good morning ADS team and IE,

I'm currently working on my dissertation, and I just got IRB approval to request data. My study will use archival data to examine if the National Survey of Student Engagement's (NSSE) engagement indicators predict the retention of minority students in a faith-based institution. For this particular study, retention is defined as "the percentage of first-time bachelors degree-seeking undergraduates from the previous fall who are again enrolled in the current fall" based on the IPEDS census date. Freshmen students are any student with less than 24 conferred credit hours.

I need ADS and IE to work together to provide me with the data, linked and stripped of all identifiers. I am requesting a report that includes all of the freshmen who took the NSSE survey who were enrolled in the fall of 2012 and 2015 and who of those students were retained until the next fall (2013 and 2016). I need the raw scores of the 10 engagement indicators from NSSE for every student. For the demographics, I need race/ethnicity, gender, and age (Please exclude students who were younger than 18 at the time).

I have attached my IRB approval and I will go ahead and submit a report request through the help desk as well, but I figured I could give you more information this way. Please, let me know if you have any questions and if I can help clarify anything. Thank you so much in advance!

Best regards,  
**Stephanie Smith, MA '14, Ed.S. '16**  
*Associate Director of Retention & Student Success*  
**Office of Equity & Inclusion**

(434) 592-4340

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