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The impact of sense of belonging in first-generation college students on GPA and retention

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**THE IMPACT OF SENSE OF BELONGING IN FIRST-GENERATION
COLLEGE STUDENTS ON GPA AND RETENTION**

by

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Abstract

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THE IMPACT OF SENSE OF BELONGING IN FIRST-GENERATION COLLEGE
STUDENTS ON GPA AND RETENTION
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Andrew Tinnin, Ed.D.
Master of Arts in Higher Education

The purposes of this quantitative, correlational study were to (a) understand how the perceived sense of belonging in first-generation students impacts their academic success, as defined by GPA, and (b) to determine how the aforementioned factors impact the student's intention to persist. A survey was distributed to all reported first-generation students at Rowan University with questions including demographics, an adapted sense of belonging index, intention to persist, GPA, and co-curricular involvement ($N = 285$). Research indicated that 89.8% of students recorded moderate to high levels of sense of belonging. Regression analyses revealed that a positive relationship exists between sense of belonging and GPA. Retention showed no significant relationship with GPA or the student's sense of belonging score; however, retention was correlated with individual items within the sense of belonging index. Implications and recommendations for support and services to first-generation students are discussed.

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Chapter I

Introduction

There are many types of students that enter into a higher education institution every year. One group that has been identified as needing a great deal of support are first-generation students. For the purpose of this study, first-generation students are defined as individuals whose parents: (a) have not completed a degree; (b) completed a degree in another country; or (c) may have a degree, but the student has limited preparation or resources in their immediate family or support network. With a lack of preparation or understanding of college functions, the retention rates of these students are often impacted. Retention can be defined as the continuous enrollment of students from one academic year to the next (Swecker, Fifolt, & Searby, 2013). While many of these students come with unique needs, backgrounds and challenges, it is the responsibility of an institution to accommodate and provide the skills needed to succeed.

Statement of the Problem

First-generation students make up over 50 percent of the enrolled, postsecondary college student body in the United States ("First…", 2017). These students often enter the college experience with many unique challenges ahead of them. First-generation students have a much different transition experience than that of non-first-generation students and face many social, academic and emotional barriers that non-first-generation students typically do not, along with the typical college transition tasks (Stebleton & Soria, 2012). Given these barriers, first-generation students often struggle with feeling a sense of

belonging on their campuses (Stebleton, Soria, & Huesman Jr, 2014). Studies have shown that a sense of belonging directly impacts student retention, and in turn, the student experience (Tovar, Simon, & Lee, 2009).

Significance of the Problem

College student retention is a topic continuously studied and researched. With studies questioning which factors impact student retention, it is important to consider the construct of sense of belonging. It is also imperative to consider how these impact first-generation students, as the enrollment for this population continues to rise and their experience differs than that of most other college students. Considering the culmination of these ideas, research regarding first-generation students' sense of belonging could provide insight in better retention efforts for colleges across the country.

Purpose of the Study

The purpose of this quantitative, correlational study is to explore the relationships between sense of belonging and academic success for first-generation students at Rowan University. More specifically, this study aims to understand how the perceived sense of belonging in first-generation students impacts their academic success. In this study, academic success will be defined as and measured by Grade Point Average. This study also aims to determine how the aforementioned factors impact their retention. The goal of this study is to shed light on possible reasons why first-generation students may or may not feel a sense of belonging and what efforts can be made to better accommodate these feelings.

Assumptions and Limitations

There are several assumptions and limitations in the study. First, it is assumed that all participants will answer questions truthfully and entirely in the survey. It is also assumed that the respondents are proportionately representative of the first-generation student population at Rowan. One limitation is that the survey will be distributed electronically. With a diverse student sample, it is possible that some students will not have access to the survey, thus limiting the number of respondents. There is a potential for researcher bias, as I am a first-generation student, however, I am bounding the study in my participant's responses, not my own experiences.

Operational Definitions

1. College knowledge: The understanding of the college process, including registration, admissions, paying tuition, applying for financial aid, etc.
2. Non-first-generation student: A student whose parents have attained a degree higher than a high school diploma, and has also been prepared for college
3. Sense of Belonging: The feeling or experience that one is interpersonally attached within a social system so that they feel like they are an integral part of the system

Research Questions

1. What impact does the construct of sense of belonging have on a first-generation student's academic success?
2. How does the combination of first-generation status and GPA contribute to retention?

Organization of Remaining Chapters of Study

   There are four additional chapters to this study. Chapter II will serve as the literature review. This will include a compilation of prior studies that support my findings and establish a frame of reference for the current study. Chapter III consists of the methods chosen to complete an analysis, as well as the steps that were taken to obtain the information. Chapter IV includes the analysis of the data retrieved from the respondents in this study and any interpretations yielded. Lastly, the discussion of the findings and conclusion will be found in Chapter V.

Chapter II

Review of Relevant Literature

Introduction

This chapter reviews the relevant literature on first-generation students at higher education institutions and it includes four sections. First, it discusses a profile of first-generation college students and the barriers that these students face. Second, it details the relevant literature on the construct of sense of belonging and what it entails in a campus setting. The third section discusses the college retention, degree-attainment and academic experiences of first-generation college students. The chapter concludes with a summary.

First-Generation College Students

According to the National Center for Education Statistics (NCES), during the 2011-2012 academic year, over 50% of undergraduate students had parents who had not attained a Bachelor's degree ("Factsheets…", 2018). This means that in 2011-2012, over 50% of the undergraduate student population would be the first in their families to graduate from a college or university. First-generation students have continued to enroll in higher education institutions, but not all of them will reach degree attainment. Scholars have researched the factors which help or hinder their success, but it is no surprise that these will students face many unique barriers.

First-generation students are more likely to start college with disadvantages than non-first-generation students (Stebleton & Soria, 2012). They are more likely to come from a lower socioeconomic background, more likely to be a minority, more likely to have a disability and more likely to speak a language other than English at home (Bui, 2002). Lower socioeconomic backgrounds often indicate lower academic preparation. First-generation students are less likely to take AP credits in high school, and thus have a more difficult transition into higher education (Bui, 2002).

These students are also financially dependent, which often impedes them from attending or continuing with a higher education institution after high school. Financial constraints often hinder a student's ability to participate in more academically enriched environments such as study abroad, student seminars, and learning communities (Stebleton & Soria, 2012). Learning communities often have a *living* component alongside it. Students within the same community will reside in a common area of a residence hall together to help create and foster a better community based on their common interest. Some learning communities may be hosted in more costly halls, preventing low-income students from participating. Further, first-generation students are more likely to live off-campus to save money. Without the funds to engage in these events and communities, first-generation students may face additional peer-connection and social adjustment challenges (EAB Student Affairs Forum, 2016; Stebleton & Soria, 2012).

Due to financial constraints, many first-generation students often do their best to support their families, which usually requires obtaining a job. First-generation students will then struggle to find a balance between work, family and school. Studies have shown that nearly half of low-income, first-generation students leave college without degree completion (Stebleton & Soria, 2012). College can be quite costly, and when students are faced with the difficult decision of staying or leaving, they are often forced to leave because of their financial limits.

Many of these students face a myriad of challenges entering college and often struggle to graduate on time, or at all. Studies show that 25% of first-generation college students will drop out of college after their first year (EAB Student Affairs Forum, 2016). They are commonly uninformed of the processes and systems that function within higher education (EAB Student Affairs Forum, 2016). It is not uncommon that first-generation students lack college knowledge; however, these students are often cognizant of the assistance that they will need to best pursue their studies successfully (Stebleton & Soria, 2012). A vital factor is maintaining that pursuit is a student's sense of belonging.

Sense of Belonging

Sense of belonging refers to the feeling that one is a central part of the system in which they are currently present. They are involved and integrated in a way that fosters a feeling of home. In a college setting, it is very important for students to feel a sense of belonging for several reasons. Sense of belonging is positively correlated with retention (Hausmann, Schofield, & Woods, 2007; Kim & Lundberg, 2016; Tovar et al., 2009;

Tovar, 2013). Students with a greater sense of belonging have a greater intention to persist in college. Sense of belonging is strongly related to mental health factors, including stress or depression, in that, sense of belonging promotes more positive mental health (Stebleton et al., 2014). Studies have shown that students with a greater sense of belonging experience stress or depression less frequently (Stebleton et al., 2014). Sense of belonging is also significantly related to academic or classroom engagement and motivation (Kim & Lundberg, 2016; Freeman, Anderman, & Jensen, 2007). Students with a greater sense of belonging are more likely to interact with faculty and have greater levels of academic self-challenge (Kim & Lundberg, 2016).

Social and academic integration are significant parts of the construct of sense of belonging, especially for first-generation students. First-generation students often experience a feeling of isolation on campus due to the several barriers they face (Stebleton & Soria, 2012). However, when social integration is properly nurtured, sense of belonging becomes an innate value within students, and each of the correlations previous mentioned are demonstrated with greater certainty. Studies show that when instruction is executed well, students develop a greater sense of belonging and social integration (Freeman et al., 2007). Further, when students connect well with faculty, they are more likely to be academically motivated and ultimately more successful. Conversely, students who have less significant relationships with faculty are less likely to feel socially integrated and motivated (Freeman et al., 2007). As previously mentioned, students with a greater sense of belonging are more likely to be academically engaged

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(Kim & Lundberg, 2016). These concepts commonly go hand-in-hand because it is the link between sense of belonging and student effort which create a successful scholar.

Academe

As the experiences are much different for first-generation students than those of non-first-generation students, the first year of college is very critical to their retention and persistence (Swecker et al., 2013). Retention can be defined as the continuous enrollment of students from one academic year to the next (Swecker et al., 2013). There are many factors which play a role in student retention such as sense of belonging, campus climate, academic performance, and academic interaction (Museus, 2014; Kim & Lundberg, 2016; Hausmann et al., 2007; Tovar, 2013). Many studies have shown that sense of belonging is positively correlated to retention and intention to persist. When students feel like they belong, they are more inclined to stay. Conversely, when there is a poor campus climate, attrition rates go up because students are more inclined to leave (Tovar, 2013).

First-generation students enter college with an abundance of academic differences and challenges (Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996). They are often less prepared in high school, forcing them to begin college with a disadvantage. Studies show that while more exposure to college is linked to greater critical thinking skills, first-generation students have lower reading comprehension skills than non-first-generation students (Terenzini et al., 1996). Even after the first year, first-generation students still fall behind in comparison to their non-first-generation student counterparts. However,

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scholars have found that more peer, parental and faculty encouragement and concern could improve a student's reading skills (Terenzini et al., 1996).

Further studies suggest that classroom engagement has been shown to be incredibly beneficial for first-generation student success (Pascarella, Pierson, Wolniak, & Terenzini, 2004). When students spend more hours on studying or completing assignments, they are more likely to have positive academic outcomes leading to academic success and retention (Pascarella et al., 2004). First-generation students may find more beneficial enrichment from their academic experiences because of their unique needs and characteristics. Additionally, among first-generation students, academic integration is positively correlated with GPA, indicating that students who are more academically assimilated into their college experience will have greater academic achievement (Próspero & Vohra-Gupta, 2007).

Summary of the Literature Review

The literature review provides relevant research on first-generation students in relation to the many challenges and unique needs of these students. Statistical evidence supports the notion that first-generation college students could be very successful with the right amount and type of support. The literature review also provides the framework that allows this study to be conducted.

The framework includes data from several studies that suggest that many first-generation students often do not reach degree attainment, and that is often due to a lack of

sense of belonging or poor academic experiences during their time at college. When students feel a sense of belonging on their college campus, they are more likely to continue on with their education and reach degree attainment. Additionally, when students are given support through peers, parents, and faculty, they are more likely to succeed. Further research is needed to explore why first-generation students do or do not feel a sense of belonging and how institutions can better support and accommodate these feelings to increase student retention.

<center>**Chapter III**</center>

<center>**Methodology**</center>

Context of the Study

This study was conducted at Rowan University during the spring of 2019. Rowan was established as a normal school, namely Glassboro Normal School, in 1923. In 1992, after two additional name changes and a $100 million donation from Henry and Betty Rowan, Glassboro Normal School became Rowan College of New Jersey. Five years later, Rowan received approval on its university status, and thus, Rowan University was established.

Rowan is currently a Carnegie-classified doctoral research institution serving over 19,000 students at the undergraduate, graduate, and professional levels. There are 12 different colleges and schools within the Rowan community including College of Humanities & Social Sciences, College of Performing Arts, and Rowan University School of Osteopathic Medicine. There are over 200 clubs, organizations, athletic teams and sports clubs (Rowan University, 2017).

Rowan University has also begun an initiative to support first-generation students called Flying First. Flying First is geared towards building a sense of community and enhancing academic success through workshops, programs, support groups and activities. Flying First hopes to provide advocacy and educational, transitional and networking support to students who identify as first-generation ("Flying…", 2018).

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Population and Sample

There are approximately 19,000 students enrolled at Rowan University, and of that number, about 5,000 identify as first-generation students. For this study, the targeted population consisted of the 5,000 undergraduate students that are first-generation students. The desired sample size was 536 students. This number would have provided a confidence level of 95% and a 4% error rate. Upon survey distribution and response collection, 285 surveys were completed, a response rate of 5.7%.

Instrumentation

For this study, I have developed a survey to administer to the participants. The survey was sent via email and responses were collected through Qualtrics. The survey is sectioned into five parts. Section I contains the consent form. Students who selected "no" to the following question were automatically sent to the end of the survey: "I am over 18 years old and agree to participate in this survey." Section II asked subjects to select their first-generation status. Subjects who indicate that they are not a first-generation student were automatically sent to the end of the survey. Section III contained demographic questions, including gender identity, race, class level, household income, GPA, and campus residency. Section IV consisted of multiple choice and open-ended questions related to retention and student experiences. Lastly, section V contained an adapted scale of Sense of Belonging. This scale was created by the researcher but utilized concepts from two previously established scales (Hoffman, Richmond, Morrow, & Salomone, 2002; Ingram, 2012).

The adapted Sense of Belonging scale consisted of 20 items relating to the student's experience. Respondents were asked to rate their agreement with each statement, based on their experience at Rowan University during the current school year. The scale was scored on a 5-point Likert scale, ranging from "Completely Untrue" (1) to "Completely True" (5). From Hoffman et al. (2002), the internal consistency of their original scale was measured using Cronbach alpha, with five subscales measuring different areas of perceived support, comfort, isolation, and understanding. The coefficient alphas were 0.87 for Perceived Peer Support, 0.87 for Perceived Faculty Support/Comfort, 0.90 for Perceived Classroom Comfort, 0.82 for Perceived Isolation, and 0.85 for Empathetic Faculty Understanding, each indicating strong consistency (Hoffman et al., 2002). The internal consistency of the scale from the second source was also measured using Cronbach alpha, with three subscales focused on social belonging, academic belonging, and perceived institutional support. Their alphas were .91, .84, and .82 respectively, also indicating strong consistency (Ingram, 2012).

Data Collection Procedures

Prior to any survey distribution, I have completed the CITI Training, which ensures that all federal or state laws or regulations or Rowan University policies regarding the use of human subjects in research are understood and followed. Additionally, I have received eIRB approval prior to beginning data collection through surveying. The survey was administered via email to first-generation students in March 2019. At the start of the survey, I have provided information about the study through the

consent form. No identifying information was collected on the survey outside of identifying yourself as a first-generation student.

Data Analysis

The independent variables are sense of belonging and demographics. They were measured through the Sense of Belonging index and the survey questions pertaining to first-generation status, gender, race/ethnicity, etc. The dependent variables are intention to persist, academic involvement, and co-curricular involvement. They were measured on the survey through GPA, the number of clubs respondents are involved in on campus, the frequency of campus activity attendance, and similar questions. Questions pertaining to retention were open-ended to identify why respondents chose to stay or leave the institution. Using SPSS, the data was compiled and analyzed. A mediation analysis was also conducted between GPA, sense of belonging, and retention to explore the relationships among each other. Descriptive statistics such as frequencies, standard deviations and means were collected and will be discussed in Chapter IV.

Chapter IV

Findings

Profile of the Sample

Subjects for the quantitative study were selected from a list provided by the First-Generation Task Force at Rowan University. When conducting this study, I was able to obtain 285 responses. The demographic portion of the survey was optional for subjects to participate in. Table 1 provides a further breakdown of the respondent's demographic characteristics.

Analysis of the Data

Sense of belonging. A sense of belonging scale was created using existing measures from Hoffman et al. (2002) and Ingram (2012). The adapted scale had an alpha value of .916, indicating strong internal consistency. Using the adapted index, respondents were asked to rate their agreement of 20 statements based on their experiences at Rowan University. The scores ranged from 1 to 5, with "1" indicating very low sense of belonging and "5" indicating very high sense of belonging. Scores were determined based on the respondent's average of the 20 items. Four of the items were reverse coded for the purpose of this study.

Table 1

Characteristics of First-Generation Students

Variable	*N (%)*
Total Participants	285 (100)
Participants' gender	
Female	197 (69.1)
Male	77 (27.0)
Transgender	2 (0.7)
Participants' race/ethnicity	
White	161 (56.5)
Hispanic	58 (19.6)
African-American	28 (9.8)
Multiracial	16 (5.6)
Asian	14 (4.9)
Native American	0 (0.0)
Participants' parent/guardian income	
Less than $15,000	25 (8.8)
$15,000-$29,999	48 (16.8)
$30,000-$39,999	29 (10.2)
$40,000-$59,999	39 (13.7)
$60,000-$79,999	30 (10.5)
$80,000-$99,999	30 (10.5)
$100,000-$149,999	26 (9.1)
$150,000-$199,999	3 (1.1)
$200,000 or higher	2 (0.7)
Unknown	47 (16.5)
Participants' employment status	
I have an on-campus job	50 (17.5)
I have an off-campus job	140 (49.1)
I have jobs both on- and off-campus	30 (10.5)
I am currently unemployed	65 (22.8)
Participants' transfer enrollment status	
Transferred into Rowan University	134 (47.0)
Did not transfer into Rowan University	145 (50.9)
Participants' current residence	
On-campus housing	110 (38.6)
Off-campus housing	168 (58.9)

As previously indicated, Table 1 displays respondent demographics. To understand the sample more deeply, it should be noted that almost 50% of respondents are transfer students, nearly 70% identified as female, and the majority of the respondents identified themselves as White. The demographic portion also asked participants to identify their employment and housing statuses. These were particularly relevant since these were factors that affect sense of belonging.

Table 2 displays the item means and standard deviations of each item in the survey. The item with the lowest averaged score (M=3.02) was item five: "I feel comfortable seeking help from my professors and advisors for non-academic related things (e.g. socializing, personal problems, etc.)." The item with the highest averaged score (M=4.33) was item 13: "I feel that my racial/gender/sexual orientation identities are supported by the community."

Table 2

Sense of Belonging Index (N=285)

Item	M	SD
1. Members of the Rowan community are friendly to me.	4.22	0.761
2. I feel comfortable seeking help from my professors and advisors for academic related things (e.g. registration, course-load, classwork, etc.).	4.02	1.029
3. I feel that people do not like or accept me here. [a]	4.03	1.063
4. I feel comfortable contributing during class.	3.83	1.025
5. I feel comfortable seeking help from my professors and advisors for non-academic related things (e.g. socializing, personal problems, etc.).	3.02	1.323
6. Rowan University is committed to fostering an environment in which students like me can be successful.	3.89	0.976
7. It has been difficult to connect with other students at Rowan. [a]	3.41	1.221
8. I am proud to be a Rowan University student.	4.20	1.007
9. I am able to connect with members of the Rowan community who share the same identities as me.	3.66	1.116
10. I feel comfortable asking my classmates/peers for help and/or working with them on school assignments.	3.86	1.118
11. I am treated with as much respect as other students.	4.31	0.838
12. I feel that I am able to openly express my true identity(ies) on Rowan's campus.	4.13	0.998
13. I feel that my racial/gender/sexual orientation identities are supported by the community.	4.33	0.906
14. Members of the Rowan community have made me question whether I should be here. [a]	4.03	1.207
15. I feel comfortable offering my classmates/peers help on school assignments.	4.17	0.987
16. I feel that my contributions are valued.	3.98	0.975
17. I feel like I belong at Rowan University.	3.99	1.036
18. I have developed personal and/or social relationships with my classmates/peers.	3.76	1.238
19. I wish I were at a different college/university. [a]	3.85	1.247
20. There's at least one professor or other professional at Rowan University I can talk to if I have a problem.	3.64	1.383

a. Item reverse-scored.

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I calculated the individual combined mean scores on all 20 questions for each participant. The results of the study show that 53.0% of respondents scored a 4.0 or greater. Another 36.8% of respondents scored between a 3.0 and 3.99. Cumulatively, there are 89.8% of first-generation students who have indicated a moderate to high sense of belonging at Rowan University. The lowest score on the sense of belonging index was one individual who scored a 1.75, indicating very low sense of belonging for that particular respondent. These frequencies are displayed in Table 3.

Table 3

Participants' Combined Mean Score Frequencies
of Sense of Belonging Index

Score Range	N (%)
1.00-1.99	3 (1.1)
2.00-2.99	26 (9.1)
3.00-3.99	114 (40.0)
4.00-4.99	137 (48.0)
5.00	5 (1.8)

Success in college. Collegiate success is often dependent upon several factors of the college experience. Many believe success to be graduation rates, but it is important to consider what experiences create such a successful graduate. Co-curricular involvement and GPA are typical measures which help define a successful scholar. In the present study, the survey asked students about these items to gain understanding from the lens of

a first-generation student. Given their lack of college preparation, we should consider what factors impact these levels of success for them.

Students were asked questions pertaining to each of these factors including club involvement, GPA, and perception of first-generation status on college success. Frequency tables were completed for each of these factors. Data for club involvement found that 38.6% of respondents have zero club involvement, as seen in Table 4. Students who responded "zero" to that particular question were then asked what prevents them from participating in clubs. Table 5 shows that 57.3% of students with zero club involvement indicated that the greatest prevention to involvement is their lack of time for such activities. Further research is needed to identify what else these students spend their time on so that better accommodations and support can be provided for their lack of time.

Table 4

How many clubs/organizations are you involved in on campus?

	N (%)
Zero	110 (38.6)
1	64 (22.5)
2	55 (19.3)
3	31 (10.9)
4 or more	25 (8.8)

Table 5

What has prevented you from joining a club/organization?

	N (%)
Meetings are held at inconvenient locations	4 (3.6)
Do not have time for clubs/organizations	63 (57.3)
Meetings are held at inconvenient times	19 (17.3)
No current clubs/organizations on campus interest me	8 (7.3)
Not interested in joining any clubs, regardless of the type	16 (14.5)

Additionally, Table 6 shows the respondents' reported grade point averages. Data for GPA indicated that 40% of respondents reported a GPA of 3.5 or higher. An added 33% of students reported a GPA between 3.0-3.499, totaling to 73% of first-generation students with a reported GPA of 3.0 or greater. Further, 35% of students selected "yes," indicating that they believe that being a first-generation student has negatively impacted their ability to be successful in college, as shown in Table 7. These findings will be discussed further in Chapter V.

Table 6
Reported Grade Point Averages

	N (%)
Below 2.0	6 (2.1)
2.0-2.499	11 (3.9)
2.5-2.999	43 (15.1)
3.0-3.499	95 (33.3)
3.5-3.999	103 (36.1)
4.0	10 (3.5)
Missing	17 (6.0)

Table 7

Do you believe that being a first-generation student has negatively impacted your ability to be successful in college?

	N (%)
Yes	100 (35.1)
No	185 (64.9)

Retention. Students were asked, "How likely are you to return to Rowan University next semester?" There were four responses a student could choose from: *Very likely, somewhat likely, not likely,* and *N/A-graduating*. Display logic was embedded into the survey so that students would answer a specific, individual question depending on which response the student chose. Students who selected *very likely* were then asked, "What aspects of your college experience have made you want to stay?" Students who selected *somewhat likely* or *not likely* were asked, "What aspects of your college

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experience have made you consider leaving?" Students who selected *N/A-graduating* were asked, "What aspects of your college experience have made you continue your education here at Rowan, rather than a different institution?" The purpose of these questions was to identify themes regarding why or why not a student chose to persist at Rowan University.

Several common themes were seen in the responses to these questions. Cost was a large factor for a student's decision to persist or not. For most, the low tuition rate was what gave students the opportunity to stay. The words "cheap" and "affordable" were written quite often. For others, the cost was still too great a barrier for them to overcome.

The level of support was also an important factor for students to consider. Students felt that their academic and personal support levels were very high. Their transitions and challenges seemed less intimidating and easier to overcome when they had someone to turn to for help. A student was quoted saying, "Rowan is a campus that genuinely cares about its students well-being and academic success and that is what makes me want to stay at Rowan." These students were confident in persisting at Rowan University. Conversely, there were a few students who opposed this thought, indicating that they did not receive enough support. These students have considered leaving this institution. One student wrote that their reason for leaving was due to "the lack of support and community, and the lack of help with the typical college paperwork for students who have no idea what they're doing."

There were other noteworthy themes in regards to the retention findings. When asked why students would stay, some indicated a sense of belonging with the campus community: "I love most of my classes. I am very comfortable at Rowan. I feel very at home here." Others indicated that their degree would allow them to reach their future goals and persistence was necessary. Students mentioned that their positive relationships between friends, faculty/staff, and other acquaintances have impacted their decision to stay: "I've loved my professors and the friendships that I've made. The campus is awesome and my experience has been amazing." Further, the classes offered and the raw education that students are able to obtain was another important reason to persist. Other less significant themes for this question include comfortability within the institution, activities and opportunities offered, job opportunities on campus and their workplace environments, as well as reasons that are more personal to the student's individual needs.

When asked why graduating students have continued their education at Rowan University rather than another institution, several themes were similar to those above. Here, students mentioned the respect of the university in comparison to others, the convenience of the choice (easier to stay than to leave and potentially start over), and the welcoming environment of the campus community. Conversely, students who responded in terms of wanting to leave have indicated an unwelcoming environment. This concept focused on unfriendliness of students, the inability to find the right fit with a particular group or the institution as a whole, and the controversial divides, politically and racially, that occur on campus. Others indicated a lack of support, lack of preparation, and several personal reasons regarding the lack of versatility for that particular student's needs.

Mediation analysis. A mediation analysis was completed to investigate the changes of Sense of Belonging on retention when GPA is taken into consideration, and whether or not those changes are significant. To complete this analysis, three simple regressions were conducted as follows: X→M, X→Y, and M→Y, where X the independent variable, M is the mediator, and Y is the outcome. Figure 1 details the variables in the analysis. Researchers have concluded that for a mediation analysis to be successful, a significant relationship must exist between X, Y and M. If any of these relationships do not exist, it is concluded that the mediation is not possible or unlikely, and thus, the mediation is rejected (Baron & Kenny, 1986).

In the present study, the first regression tested the effect of sense of belonging on retention. The results showed that sense of belonging had no significant relationship with retention. The second regression tested the effect of sense of belonging on GPA. The results indicated that there is a positive relationship between the variables. Additionally, sense of belonging explains 1.1% of the variance in GPA, and this is statistically significant at the $p<.05$ level. This means that 1.1% of the differences in GPA are due to how much sense of belonging a student has. Finally, a regression of GPA on retention was completed. This test indicated that no relationship exists between these variables either. Given the insignificance of two out of three relationships, it was concluded that a mediation is not likely in this study. This indicates that the effect of sense of belonging on retention is neither significant, nor mediated by GPA.
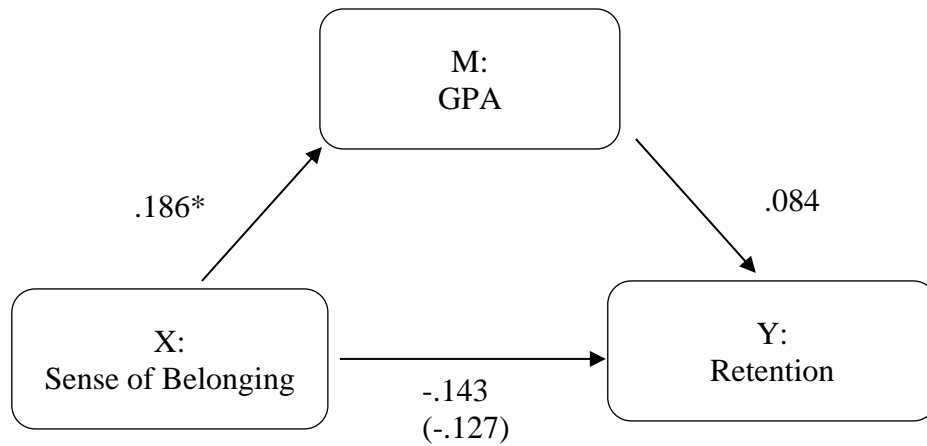
Figure 1. Mediation model showing the effect of sense of belonging (independent
variable) on retention (outcome) with mediation by GPA (mediator).
*p<.05

Correlation analysis. Several bivariate correlations were conducted as part of the

analysis. As a result of the rejected mediation analysis pertaining to GPA, retention and

sense of belonging, a deeper examination of the index was completed. Correlations

between the individual items in the index, retention and GPA were run in an attempt to

identify what aspects of sense of belonging impact a student's decision to persist or their

ability to perform well academically. The results illustrated six items were statistically

significant to GPA and four items were statistically significant to retention. See tables

4.8 and 4.9.

When examining these items, all six items were positively correlated to GPA.

Further, these results indicate that first-generation students at Rowan University are more

likely to have higher GPA's when the following things occur:

a. Members of the Rowan community are friendly to the student

b. The student feels comfortable seeking help from their professors and advisors for academic related things (e.g. registration, course-load, classwork, etc.)

c. The student feels comfortable contributing during class.

d. Members of the community do not make the student question their worth.

e. The student feels comfortable offering their classmates/peers help on school assignments.

f. The student feels that their contributions are valued.

Conversely, the four items related to retention were significantly, negatively correlated. This finding contrasts other outcomes of this study. Sense of belonging scores were relatively high, and reported rates of intention to persist were also high. However, the item correlation analysis indicated that as their respective scores increased, their intention to persist decreased.

Additionally, as previously discussed, there is focus on collegiate success and what factors define or predict such success. It is also important to consider how these factors impact the primary variables in the study. A third and fourth set of correlation analyses, as shown in table 10, were completed to identify relationships between success factors, GPA, and sense of belonging. The results indicate that club involvement is positively correlated to GPA, and this is statistically significant at the $p<.05$ level. Further, first-generation perception is positively correlated to both GPA and sense of

belonging, and these are also statistically significant at the p<.001 level. This will be

further discussed in Chapter V.

Table 8

Correlations between Sense of Belonging Indicators and GPA

Variable		GPA
Members of the Rowan community are friendly to me.	Pearson's r	.122*
	Sig. (2-tailed)	0.047
	N	268
I feel comfortable seeking help from my professors and advisors for academic related things (e.g. registration, course-load, classwork, etc.).	Pearson's r	.215***
	Sig. (2-tailed)	0.000
	N	268
I feel comfortable contributing during class.	Pearson's r	.139*
	Sig. (2-tailed)	0.023
	N	268
Members of the Rowan community have made me question whether I should be here.[a]	Pearson's r	.148*
	Sig. (2-tailed)	0.016
	N	268
I feel comfortable offering my classmates/peers help on school assignments.	Pearson's r	.136*
	Sig. (2-tailed)	0.026
	N	268
I feel that my contributions are valued.	Pearson's r	.146*
	Sig. (2-tailed)	0.017
	N	268

a. Item reverse-scored.
*p< 0.05 level; ***p<0.001 level

Table 9

Correlations between Sense of Belonging Indicators and Retention

Variable		Retention
I am proud to be a Rowan University student.	Pearson's r	-.121*
	Sig. (2-tailed)	0.043
	N	282
Members of the Rowan community have made me question whether I should be here.[a]	Pearson's r	-.143*
	Sig. (2-tailed)	0.016
	N	282
I feel like I belong at Rowan University.	Pearson's r	-.137*
	Sig. (2-tailed)	0.022
	N	282
I wish I were at a different college/university.[a]	Pearson's r	-.164**
	Sig. (2-tailed)	0.006
	N	282

a. Item reverse-scored.
*p< 0.05 level; **p<0.01 level

Table 10

Correlations between Success Factors, GPA and Sense of Belonging

Variable		GPA	Sense of Belonging
How many clubs/organizations are you involved in on campus?	Pearson's r	.126*	.078
	Sig. (2-tailed)	.040	.188
	N	268	285
Do you believe that being a first-generation student has negatively impacted your ability to be successful in college?	Pearson's r	.215**	.288**
	Sig. (2-tailed)	.000	.000
	N	268	285

*p< 0.05 level; **p<0.01 level

Chapter V

Summary, Conclusions, and Recommendations

Summary

The study explored the relationships between sense of belonging and academic success for first-generation students at Rowan University. The study was designed to assess how perceived sense of belonging impacted GPA, and how the combined efforts of sense of belonging and GPA effected retention. Quantitative data were collected through a survey, including questions pertaining to their college academic experiences, their campus involvement, an adapted sense of belonging scale, and demographics. The survey was sent to approximately 5,000 students at Rowan University, all whom identify as a first-generation student. Of the 5,000 students, 285 completed the survey. The data collected were analyzed through the Statistical Package for the Social Sciences (SPSS) software as a way to identify relationships between the variables and answer the research questions.

Research Questions

1. What impact does the construct of sense of belonging have on a first-generation student's academic success?

2. How does the combination of first-generation status and GPA contribute to retention?

Discussion of the Findings

The primary variables in this study were sense of belonging, GPA, and retention. Based on several analyses, it can be concluded that the majority of first-generation students feel a moderate to high sense of belonging at Rowan University. Of the items in the index, those with higher mean scores suggested characteristics such as respect, friendliness, and support within the community. Conversely, the items with the lower mean scores suggested difficulty in making connections with peers, as well as a level of discomfort with faculty in regards to discussing the student's personal life. A relevant distinction within faculty connections is necessary for discussion. Students have indicated comfort in building an *academic* relationship with their professors; however, the results indicate that students do not feel as comfortable with building *personal* relationships with faculty. Further, it is important to note that the score of the item with the lowest mean was a 3.02 out of 5. This value still indicates a moderate level of sense of belonging. However, it is possible that although a perceived positive environment exists within the Rowan community, a slight barrier to build peer and faculty relationships also exists for first-generation students. Prior studies have shown that first-generation students often enter college with a sense of isolation, so it is possible that a learning curve to build said relationships exists (Stebleton & Soria, 2012). Nonetheless, further research is needed to identify if those barriers are truly prevalent and what those barriers might be.

To answer research question 1, sense of belonging was regressed onto GPA. Regression analyses showed a positive association between sense of belonging and GPA,

indicating that students who feel like they belong are more likely to have a higher GPA than those who do not feel like they belong. Additionally, 40% of students reported a GPA of 3.5 or higher. In relation to the findings, there were six index indicators that directly contributed to a higher GPA. Two of those indicators were classroom engagement and connections with faculty. These findings are supported by previous research, where scholars found that sense of belonging is significantly related to a student's level of engagement within the classroom and their relationships with faculty (Freeman et al., 2007; Kim & Lundberg, 2016; Pascarella et al., 2004).

In this study, GPA was also compared to other variables to identify additional relationships regarding the success of first-generation students at Rowan University. GPA was positively correlated with club involvement. Nearly one-fourth of the respondents indicated an absence of time as the primary reason for their lack of club involvement. Additionally, the data analysis demonstrated that 35% of students believe that their status as a first-generation student negatively impacts their ability to be successful in college. Earlier studies have shown that first-generation students often miss out on several opportunities of campus and community engagement because of the barriers they face (Stebleton & Soria, 2012; EAB Student Affairs Forum, 2016). More research is needed to understand why students maintain a negative perception of their ability for success. Further, these findings suggest a gap in accommodation and support for first-generation students. In order for these students to thrive and feel successful, the institution must meet them where they are at. Recommendations for this will be discussed in the respective section later.

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To answer research question 2, a mediation analysis was attempted to compare the relationships between sense of belonging, GPA, and retention. The analysis showed that neither sense of belonging nor GPA were associated with retention. Further analyses were conducted to better understand why students may or may not choose to persist, as well as what factors are correlated with retention with statistical significance. Several themes were discovered when studying reasons for retention including cost, level of support, relationships with others, education, overall environment and fit/sense of belonging. While sense of belonging was not correlated with retention, there were similarities between retention themes and the characteristics of higher mean scores of the index. The data suggests that a welcoming environment among the campus and community is essential to first-generation students' sense of belonging and intentions to persist. Support also appeared to be relevant and quite crucial for both variables.

Additionally, correlation analyses between retention and individual index items were completed. The characteristics of the items included a sense of Rowan pride and belonging, as well as perceived student worth. Each of these were shown to have negative relationships, indicating that as intention to persist increases, the item characteristic decreases. The retention findings in this study simultaneously challenge and support prior research. The themes identified in the present study are identified as reasons and/or barriers to persist in college (EAB Student Affairs Forum, 2016; Hausmann, Schofield, & Woods, 2007; Kim & Lundberg, 2016; Stebleton & Soria, 2012; Tovar et al., 2009; Tovar, 2013). However, unlike the present study, several scholars have found that

retention is correlated to sense of belonging, campus climate, and academia (Museus, 2014; Kim & Lundberg, 2016; Hausmann et al., 2007; Tovar, 2013).

Conclusions

This study suggests that first-generation college students generally feel a sense of belonging at Rowan University, and many of them perform well, academically. Sense of belonging and GPA are positively correlated, indicating that as the likelihood of high sense of belonging increases, so does the likelihood of a high GPA. Further, while retention is not correlated with these variables, data still demonstrates that students are very likely to persist at Rowan University. Potential barriers to retention include cost, level of support, and overall environment of the campus and community. However, while these factors could be barriers to some, they can also serve as motivators for other students.

In regards to the first-generation student profile, there were a few similarities between those in the present study and the profile of students from prior research including barriers to success. Financial constraint is one common barrier for first-generation students. This was expected as finances are often a concern for first-generation students (Stebleton & Soria, 2012). Prior studies indicated that first-generation students often obtain employment while in college to help support themselves and their families. In the present study, 49.1% of students have an off-campus job, 17.5% have an on-campus job, and 10.5% have both, totaling to 77.1% of students who spend a portion of their weekly schedule maintaining some form of on- and/or off-campus employment.

Further, nearly 25% of students reported not having time for club involvement. These students have expectations to uphold to maintain their family obligations, and, as expected, it appears to hinder their ability to socially integrate with the campus community. One recommendation could be made to increase better on-campus employment opportunities so that students can simultaneously integrate with the community and maintain those obligations. Additionally, 35% of the students believe that being a first-generation student negatively impacts their ability to be successful. Maintaining this perception is likely a mental strain on the student, however, further research is needed to investigate this more. Nearly 50% of the respondents are transfer students. This demographic was not particularly considered in this study, and therefore should also be investigated further. Given that so many students were transfer students, it could be useful to see how the intersectionality of transfer and first-generation identities impact student success.

Recommendations for Practice

Based upon the findings and conclusions of the researcher, the following suggestions for practice are presented:

1. Continue to expand resources, including opening a Flying First office (an expansion of the task force) with a full staff for first-generation students. This will allow a consistent stream of resources and full dedication to this population.
2. Continue to hold and create spaces where students feel comfortable interacting with members of the campus and community.

3. Ensure that students' contributions are heard and valued in all settings of the institution by creating welcoming, positive, and engaging spaces.

4. Enhance the practices of faculty/advisors to ensure consistent communication to students, as well provide more positive support to students.

5. Offer more online classes so that students can redistribute their time for obligations.

Recommendations for Further Research

Based upon the findings and conclusions of the researcher, the following suggestions for practice are presented:

1. A study to explore potential barriers for first-generation students to build peer and/or faculty relationships.

2. An investigation of the intersectionality of the transfer and first-generation student identities.

3. An examination regarding the mental impact of negative perception of ability for success among first-generation students.

4. A further study could explore what first-generation students spend time on so that practices to accommodate their time constraint could be enhanced.

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