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KELLY ELIZABETH ROSS
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BELONGING AND INTENT TO PERSIST IN FIRST-YEAR FIRST-GENERATION COLLEGE STUDENTS

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF
EDUCATIONAL PSYCHOLOGY

BY THE COMMITTEE CONSISTING OF

Dr. Benjamin Heddy, Chair

Dr. Ji Hong

Dr. Mike Crowson

Dr. Nicole Campbell

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Dedication

For Cameron and Carly.

Being your mother has been the greatest privilege of my life and you inspire me every day to do better and be better.

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Abstract

The purpose of this quantitative research was to understand how students at a regional university with a high population of first-generation students experience a sense of belonging and its relationship to intent to persist in their first year of college, as well as potential impacts the COVID-19 pandemic had on their experiences. A cross-sectional survey design was used. The research questions were: 1) To what extent does sense of belonging predict intent to persist?; 2) What is the relationship between generational status and sense of belonging and intent to persist, specifically: a) to what extent does generational status predict sense of belonging? and b) does sense of belonging mediate the relationship between generational status and intent to persist?; 3) Do any of the COVID-19 variables predict sense of belonging and intent to persist?; and 4) Is there a difference in first-generation and non-first-generation students' responses to the COVID-19 variables? Results indicated sense of belonging is a significant predictor of intent to persist, although there were no statistically significant differences based on generational status. Other significant findings include a statistically significant higher sense of belonging among full-time students in comparison to part-time students. The COVID-19 variables demonstrated a predictive relationship to sense of belonging and intent to persist. Interestingly, first-generation students reported higher perceptions of institutional support than their non-first-generation peers. Theoretical and practical implications are discussed, as well as limitations and directions for future research.

Chapter One: Introduction

A successful beginning to a college student's career is critical to attaining a college degree, especially for students that may be the first in their families to go to college. Research has shown that the first year is pivotal for these students (Ishitani, 2006; Terenzini et al., 1996). First-generation students (those without one parent completing a college degree) have more challenges in successfully transitioning to and completing college. The Fall 2020 semester was an even more demanding start to college for all students, as universities pivoted instructional delivery modes from face-to-face to online or hybrid formats and made adjustments to on-campus event policies, residential hall arrangements, and so much more to lessen the spread of the COVID-19 pandemic. The original focus of this dissertation was examining a sense of belonging in first-year, first-generation students and its relationship to academic persistence, but with the concurrence of the COVID-19 pandemic, I expanded it to include first-year students' impressions and experiences of COVID-19 and how it impacted their college experience, including sense of belonging and intent to persist. A sense of belonging has been identified as an important motivational factor in college students' positive academic outcomes, including persistence (Freeman et al., 2007; Hausmann et al., 2009; Layous et al., 2017; Walton et al., 2007; Walton et al., 2011).

This study focused on a less-selective regional college in the mid-South of the United States. This location is essential and relevant to the body of literature on sense of belonging as many previous studies focusing on sense of belonging were completed at more selective four-year colleges, therefore I wanted to expand the understanding of sense of belonging and academic persistence in the institutions where more first-generation students are likely to attend (Engle et al., 2006).

Statement of the Problem

Graduating from college is increasingly important for obtaining financial stability and social mobility (Ma et al., 2016). This is even more true for first-generation students (defined here as students without a parent completing a four-year college degree; Brand & Xie, 2010). First-generation students are not a homogenous group but are more likely to be from lower-income families, be Black or Hispanic, attend college part-time, and live off-campus (Engle et al., 2006). There is an opportunity gap in higher education in the United States with students that are low-income and first-generation being 36% less likely to complete a college degree in six years compared to students who are not low-income or first-generation (Cahalan et al., 2019). Understanding and implementing ways to increase a sense of belonging and persistence is one path to increasing graduation numbers in this population.

According to the Equality of Opportunity Project, the institution where this study was conducted, 9% of students' parents are in the bottom 20% of income, and their mobility rate is in line with the national average of 1.7% (Chetty et al., 2017). According to CollegeNet (2020), 35.7% of the students are considered low-income, with 43% of first-year students receiving Pell Grants, a 48.3% graduation rate, and ranks 183 out of 1500 colleges in social mobility, which is defined on the CollegeNet website as to how well a college helps "economically disadvantaged students" graduate and move students into higher-paying jobs than they would have otherwise without a college degree. The university is also considered a commuter school, with approximately 88% of students living off-campus and 31% of students enrolled part-time (Office of Institutional Research, 2020).

Early data reported the negative impacts and additional stress of COVID-19 in the Fall 2020 semester had fallen heavier on lower-income students, the very students that need a college

degree the most (National Student Clearinghouse Research Center, 2020). A significant decrease in college enrollment not only has a negative impact on the students but communities and society as a whole, as there are fewer qualified people to enter the workforce and make a positive contribution to the economic and social well-being of their communities. For example, this particular university focuses on "transformative education" and encourages growth in areas outside of the academic domain—such as leadership, health and wellness, service learning and civic engagement, global and cultural competencies, and research and scholarly activities. By maintaining this focus, the university can enable students to better contribute to the betterment of their local and global communities.

Purpose of the Study

The purpose of this study was to survey the population of first-year students at a Master's level university that has a high population of non-residential and first-generation students to measure their sense of belonging and its relationship to intent to persist, as well as the impact of COVID-19 on the critical first semester of college.

Significance of the Study

Finding ways to encourage and support college completion for all students is important. This study examined how sense of belonging can influence that goal. Mid-sized regional colleges are purported to be engines of social mobility, and yet this university reported only a 37.2% first-time first-year graduation rate in the six-year period beginning in 2011 (Office of Institutional Research, 2020). This study also investigated the impacts of COVID-19, which has and continues to transform the landscape of higher education. In the earlier days of the pandemic, SimpsonScarborough (2020) reported, "41% of college students say their opinion of their current school has gotten worse as the result of COVID-19" and this was in April 2020. Fast forward to

Fall 2020, 21.7% fewer students enrolled in college after high school compared to 2019 (National Student Clearinghouse Research Center, 2020). Mitigating these declines and keeping students enrolled and on track to degree completion through this COVID-19 era will be a considerable challenge for the near and possibly distant future. Therefore, this study obtained first-year student perceptions from Fall 2020 in relation to COVID-19, including their worries, perception of institutional support, connection to the university, in addition to sense of belonging and intent to persist. If we can better understand the factors that encourage student success, we can develop interventions and practices that incorporate and apply the lessons learned during the pandemic.

Colleges' efforts to increase academic retention often reside in academic support services and advising, as well as student affairs' activities, such as student organizations and special events. My pilot study at this university focused on the difference between residential and non-residential students and their sense of belonging and academic persistence, with participants recruited from first-year students participating in a first-year experience course. Findings showed that students living on campus experienced a higher sense of belonging and there was a significant finding between sense of belonging and intent to persist. This dissertation extended this study to include all first-year students at the university and included the potential impacts of COVID-19.

This current study addressed a gap in the research literature on sense of belonging focused on less selective institutions of higher education, which are more likely to have higher populations of first-generation students and lower retention rates. In addition, this study explored how the COVID-19 pandemic and resulting college adaptations affected students and their sense of belonging and intent to persist.

Definition of Terms

First-Generation (FG): While there are varying definitions of first-generation students in educational literature and various indicators, this study used the definition of students reporting that neither of their parents had completed a college degree at a four-year university. Typically, FG students include students from lower-resourced schools and less represented populations. For that reason, first-generation often is used as an umbrella term for students that do not have the traditional access and social capital that can help them to be successful in college, even if they possess the same academic and intellectual capabilities. I acknowledge that this is not a homogenous group, and each individual demographic included in this study is not representative of the whole group. The intent is to look for commonalities that can assist a large group of students in being successful, not to address the lack of opportunities and structural inequities that may be a factor in higher education.

Non-First-Generation (NFG): For the purpose of this study, NFG students are those that specified having at least one parent obtaining a college degree from a four-year college.

Sense of Belonging, or Belongingness: The construct of sense of belonging will be fully defined in Chapter 2. The construct I will be using includes the concepts of fitting into a community, feeling valued by the community, and a sense of connection to others.

Intent to Persist: This construct attempts to measure a student's intent to persist in their academic journey and ultimately graduate with a degree. In lieu of retention data, intent to persist has been deemed as an acceptable proxy for persistence (Bean, 1980; Braxton et al., 1995; Cabrera et al., 1993; DaDeppo, 2009; Milem & Berger, 1997).

The following four terms are taken from the Higher Education Data Sharing Consortium (HEDS) COVID-19 portion of their survey focused on the impact of COVID-19 on college students (Higher Education Data Sharing Consortium, 2020):

Institutional Support: This construct includes students' perceptions of how well the staff and administration have helped them in adapting to COVID-19 changes, as well as their perceptions of faculty, staff, and administration caring for them.

Student Worries: This construct is a broad umbrella for worries related to college success, including well-being.

Overall Stress: This question asks how much stress they have about the potential consequences of the spread of COVID-19.

Overall Connection: This question asks how connected students feel to the university.

Organization of the Study

In the following chapter, I will summarize the literature related to the construct of a sense of belonging and intent to persist, experiences of first-generation college students, the importance of the first year of college, and finally, the potential impacts of COVID-19. In Chapter 3, I will provide details of the study, including an overview of the research design and details of the research questions and their corresponding hypothesis, processes, and procedures followed in collecting and analyzing data, and descriptions of the instruments and measured variables. In Chapter 4, I will provide the results of the data analysis and interpretation. Finally, Chapter 5 will give further interpretation of the results, the potential theoretical and practical implications, limitations of the study, and future directions of research on first-generation college students' sense of belonging.

Chapter Two: Literature Review

A college education is more important than ever to achieve financial stability and social mobility (Ma et al., 2016). Students who drop out of college before they acquire a degree are often the very students who most need that degree to move forward in the world, such as those that are first-generation. Based on their research, Brand and Xie (2010) argued that lower socioeconomic students who would benefit most from a college degree are the least likely to attain one. In contrast, students with higher socioeconomic status have resources that they can rely on even if they do not complete their degree.

There is an opportunity gap in the United States between first-generation and non-first-generation students (National Center for Education Statistics, 2017). Cahalan et al. (2019) reported if a student is both low-income and FG, they will have a "21% chance of earning a bachelor's degree in six years" versus students who are not low-income or FG that have a 57% chance (p. 129) and these categories very often overlap (Terenzini et al., 1996). Engle and colleagues (Engle et al., 2006) noted that FG students are more likely to be Black or Hispanic, of lower socioeconomic status, attend school part-time, be female, and live off-campus. These overlaps or intersectionality can make the transition to college even more difficult (Ives & Castillo-Montoya, 2020).

There are many reasons that FG students have lower graduation rates than their NFG peers, including the possibility that these students are from lower socio-economic communities with lower-resourced high schools and did not receive the same academic preparation that NFG students receive (Stephens et al., 2012), but as the studies that follow will show, even academically qualified FG students often do not feel comfortable, accepted, or supported in their new college environments. This rate of attrition is a loss to the community as a whole, as it

decreases the potential number of college graduates entering the workforce, not to mention the significant impact it has on the quality of students' future lives. A college degree has been shown to lead to greater income, greater quality of life, and a chance to move up the socioeconomic ladder (Ma et al., 2016).

There are numerous reasons students leave college—including financial, family, or a combination of these—and many of these are generally out of the college's control. However, there are factors that colleges and their faculty and staff can influence, which could increase retention, and identifying those motivating factors is essential to reducing dropout rates. One factor that has been linked to academic motivation and other positive academic outcomes is the need to belong (Freeman et al., 2007; Hausmann et al., 2009; Layous et al., 2017; Walton et al., 2007; Walton et al., 2011).

From high school sports to national pride, the desire to belong can be a prodigious and motivating force. According to Baumeister et al. (1995), belonging can be seen as an influence in a variety of societal structures—such as families, religious groups, and political parties. Strayhorn (2018) argued sense of belonging could take on heightened importance in unfamiliar contexts, therefore students with less exposure to college and its culture, such as FG students, may have an even more difficult time determining if they fit in this new environment. The transition from high school to college is a time when all students are forced into an unfamiliar social situation and seek to be accepted. Even though most colleges and universities have support systems in place to assist students in their transition to college—first-year experience programs and orientations, welcome week activities, and extensive student affairs programming—to encourage student engagement and belonging at the university, the gap in retention rates among different groups of college students persists.

In this chapter, I provide the theoretical background and historical context for the construct of belongingness and how it has been examined in educational settings, which have historically focused on K-12 environments. I also define similar constructs in motivational literature and how they relate to a sense of belonging. I then review research that has focused on the university setting, including interventions outlining the malleability of sense of belonging. I discuss the construct of intent to persist and how it relates to retention. The unique challenges that FG students face—and the importance of the first year of college—in terms of setting the foundation for a positive college experience and ultimately retention and graduation are discussed. The challenges and effects of COVID-19 are addressed including how these circumstances potentially interacted and impacted the variables of interest. Finally, I conclude with how my study fits into this body of literature, including its limitations and potential implications.

Theoretical Background

The desire to belong is a basic human need that was linked to motivation in Maslow's Hierarchy of Needs in the middle level of the pyramid under the umbrella of social needs such as love and "belongingness" (Maslow, 1943). Maslow (1943) hypothesized that for humans to grow intellectually and emotionally, they needed to have their basic needs met, such as food and safety. Directly following these basic needs is the need for belongingness. Baumeister et al. (1995) revisited this concept and developed a "belonging hypothesis" that said "human beings have a pervasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships" (p. 497). This provided evidence for the powerful effects the need to belong has on emotion, achievement, cognition, and many other fundamental psychological factors (e.g., the need for achievement, power, intimacy, and approval). Their

comprehensive and systematic review of the evidence supporting their hypothesis argued that belongingness has all of the components of a fundamental human motivation, meaning that belongingness is not derived from other forms of motivation but stands on its own as a motivational construct that has an effect on many different behaviors and long-lasting consequences (Baumeister et al., 1995). Their criteria for this determination included examining the effects of belonging in positive and negative situations, its affective as well as cognitive implications, the negative consequences in its absence, its universal application to all people, as well as its singularity in motivation.

Related Constructs

There are several similar constructs in motivational literature, including a sense of community or fitting in, and belongingness is often used interchangeably with the construct of relatedness, which refers to the connections a person feels for another and contributes to feelings of security and well-being. Relatedness is one of the components of Ryan and Deci's (2000) Self-Determination Theory which postulates that humans need three things to be motivated: autonomy, relatedness, and competency. According to this theory, when these needs are met, people will be more intrinsically motivated and experience a greater sense of well-being. Intrinsically motivated students are naturally motivated by their curiosity and love of learning, not by external rewards, such as grades. Ryan and Deci (2000) demonstrated how students could move along the spectrum of motivation from no motivation at all (amotivation) to intrinsic motivation by finding the optimal combination of competence, autonomy, and relatedness. For example, determining the balance between supporting students' learning and granting them autonomy has been a lingering question in this field of research (Jang et al., 2010; Reeve, 2006).

I believe relatedness or belongingness can stand alone as an essential motivating factor in education, even though it is included in more complex theories of academic motivation.

Mattering is another similar construct, reported by Tovar and Simon (2010) as "both emotionally and cognitively related to a sense of belonging to and with others" (p. 206). According to Strayhorn (2018), belonging is a consequence of mattering, or having the feeling you are valued by others. Schlossberg (1989) compared the constructs of mattering and marginality and determined that, like belonging, they are context-dependent (i.e., a person can feel like they matter at home but not at work). She also argued that times of transition could trigger feelings of marginality or make people question whether or not they matter. Specifically, Schlossberg (1989) indicated that whether a person feels needed or depended upon by others is a distinct characteristic of mattering. Unlike belonging, one can feel they matter too much (i.e., a caregiver who is overwhelmed with their responsibilities).

I believe belonging is different from mattering in that belonging is more about a relationship or a connection to an entity or a group of people—whether a place, a school, a group, or profession—and not so much about one-on-one relationships (although individual relationships contribute to sense of belonging). Baumeister et al. (1995) emphasized that belonging was not a specific connection to an individual person, but rather the "need for frequent personal contacts" and the "perception of a stable relationship" (p. 499). So while both constructs involve a sense of connection, mattering tends to be associated with specific connections, while belonging is associated more with connections in general.

Another construct related to sense of belonging emerging in the literature of student retention is embeddedness. The construct of embeddedness comes from organizational research and has three distinct aspects: the connections a person has to others, how well a person fits in

the environment [job or community], and what the person would have to give up if they left (Krantz et al., 2019). Embeddedness is a broader external assessment of a person's connectedness to a place or group, whereas belonging is an individual assessment. Embeddedness also has been linked to positive outcomes in college students. Krantz et al. (2019) explored the relationship between college embeddedness and first semester GPA and determined that it was an accurate predictor of GPA for first-time first-year students.

All of these constructs include concepts of fitting into a community, feeling valued by the community, and a sense of connection to others. Sense of belonging in this paper will be used to encompass all of these concepts and will be treated as a construct that acts as a "cognitive evaluation that typically leads to an affective response or behavior" (Strayhorn, 2018, p.3). Baumeister and colleagues (Baumeister et al., 1995) argued that this constant assessment of whether or not an individual belongs had both cognitive and emotional consequences on the individual. Notably, individuals' perceptions of a lack of belonging had significant negative effects on psychological and physical well-being. On the other hand, a strong sense of belonging leads to overall greater quality of life throughout an individual's life.

In the early stages of one's life, outside of home and family, an inordinate amount of time is spent in the school setting. Osterman (2000) conducted an extensive review of the empirical research related to sense of belonging in the school environment and found that there was evidence for the broad-reaching impact of sense of belonging (or lack of) in student engagement, motivation, and learning. Goodenow (1993) created and validated the Psychological Sense of School Membership (PSSM) scale, which will be described in further detail later in this paper. Goodenow (1993) defined school belonging as "the extent to which students feel personally accepted, respected, included, and supported by others in the school social environment" (p. 80).

Her studies focused on early adolescents in middle school, asserting this can be a challenging period for students as they undergo developmental and physical changes, and also brought attention to the social nature of school and how it can influence a student's success.

Belonging in College

Similarly, college-aged students are experiencing significant developmental milestones as they leave the K-12 setting and find new independence in their school setting. Since college is a significant transition with high-stakes outcomes, determining factors that increase a student's success, such as creating a sense of belonging, is critical. Tinto (2006) included belongingness as a component in his prominent theory of student integration. He maintained belonging to the university was essential to student retention, and this concept still guides many university retention efforts today. Critics of Tinto argued his theory focused on predominantly White students from high-ranking institutions and is not universally applicable to all college students.

One of the seminal belonging studies in a university setting was Hurtado and Carter (1997), which challenged how Tinto's model of persistence fit (or did not fit in this case) with the Latino college students' experiences and how belonging might influence Latino students' transition to college. For example, NTinto's separation assertion differed from Latino students' need to maintain relationships with family and communities, which contributed to their sense of belonging and successful transition. Their study examined sense of belonging in a group of top-achieving Latino students (n = 272) transitioning into their first year of college. Participants were given three surveys: before first semester, end of first semester, end of second semester, and the following variables were analyzed: college selectivity, sense of belonging to campus, academic self-concept, demographics, experiences of discrimination, and perceptions of racial tension (Hurtado & Carter, 1997). Elements they found positively associated with sense of belonging

included students discussing class outside of the classroom (e.g., study groups), belonging to religious or social organizations, and participating in first-year experiences. Additionally, they found campus belonging may or may not affect retention, so possibly the sense of belonging experienced in smaller settings may be a bigger factor in persistence which could have implications for individual courses (Hurtado & Carter, 1997).

Johnson et al. (2007) conducted a similar study comparing the experiences of different racial groups in relation to sense of belonging. They shared Hurtado and Carter's (1997) concerns with Tinto's work, asserting it puts the burden on the student, not the institution, for creating sense of belonging in students and "does not value culturally supportive alternatives to collegiate participation but instead emphasizes mainstream activities…" (p. 526). Instead of blaming the student for not partaking in traditional college activities, the researchers asserted colleges should look at the reason they are not participating. In later years, Tinto acknowledged this idea and that the challenge of academic persistence or retention is very complex, emphasizing more attention needed to be paid to diverse learners and a broader range of institutional models. In 2017, Tinto (2017) singled out sense of belonging, student self-efficacy, and "perceived value of curriculum" as key considerations in student persistence.

More recently, Ives and Castillo-Montoya (2020) critiqued the assimilation view of college development from a critical theory perspective, arguing that this view discounts or marginalizes aspects of students' cultural backgrounds and, in effect, asks them to reject their native cultures. When in fact, many of these students' cultural attributes could enrich their experiences and help them be more successful. These studies show that traditional models of college development and student engagement do not have the same effects on all groups of

students. Therefore, considering alternative models that will benefit all college students is important to overall college completion rates.

Belonging in the Classroom

In more recent years, studies have expanded the exploration of sense of belonging to go beyond belonging to the university and examined the relationship in terms of academic settings such as the classroom. This is an important context for many students who have increasing obligations outside of class—such as work and family. Baumeister et al. (2002) found a distinct connection between belongingness and cognitive performance in a study that looked at the effects of predicted social exclusion on subjects' intellectual performance and observed "the prospect of social exclusion reduced people's capacity for intelligent thought" in the participants (p. 825). So, a student who is sitting in class, feeling like an outsider, may not be able to cognitively engage as well as their peers, and their motivation to achieve may be derailed. The lack of feeling like they belong may negate any of the positive personal attributes that students have that can contribute to academic success.

Freeman et al. (2007) measured "sense of belonging in college freshman at the classroom and campus levels" specifically to see if "sense of belonging in a specific college class would be associated with adaptive motivational beliefs in relation to the same class" (p. 205). The participants (n = 238) were first-year students at a predominantly White public university in the U.S. Participants filled out questionnaires that measured class belonging, university belonging, professors' pedagogical caring, social acceptance, as well as academic self-efficacy, intrinsic motivation, task value, and perceived instructor characteristics (warmth and openness), student participation, and instructor organization (Freeman et al., 2007). Freeman and colleagues (2007) adapted the PSSM (Goodenow, 1993) as their measure of belonging, and based on their analysis,

they developed four sub-scales which were "class belonging, university belonging, professors' pedagogical caring, and social acceptance" (p. 209). They correlated these with motivational factors from the Motivated Strategies for Learning Questionnaire (MSLQ; Garcia & Pintrich, 1996) and found that sense of belonging "is associated with academic motivation in college-level students, as it is in younger populations" (p. 216). They also identified instructor behaviors that supported a student's sense of belonging and reported "encouragement of student participation and interaction being the most important" (p. 217). By examining the relationship between sense of belonging at a university level and a classroom level, the researchers identified distinct influences of class belonging which point to the importance of this context.

Another group of researchers who examined classroom belonging was Zumbrunn et al. (2014) in a mixed methods study that found belonging affected the relationship between support and motivation. They specifically examined the concept of "supportive classroom environments," noting they have been linked to increased motivation in students (p. 664). Students completed a survey that measured belongingness, self-efficacy, task value, and instructor support. Additionally, the students' instructors completed a survey reporting their perceptions of each student's engagement. The researchers' data analyses found a significant correlation between belonging and engagement, although it was mediated by self-efficacy. Interestingly, the study indicated belongingness was an antecedent to task value and self-efficacy. In the qualitative portion of the study, they addressed the primary question: "How do students describe their belonging perceptions in relation to their classroom experiences?" (Zumbrunn et al., 2014, p. 670). Their findings showed students with higher levels of belonging expressed that their instructors were "enthusiastic, passionate, and caring in the classroom" and "student perceptions of belonging displayed linkages to their levels of motivation in the

course" (Zumbrunn et al., 2014, p. 677). This relationship validated that the support of faculty has a positive effect on belonging, which in turn affects academic motivation.

Similarly, in a study of diverse undergraduate STEM students that included five universities and over 1500 student participants, Wilson et al. (2015) investigated the relationship between belonging and academic engagement, and specifically the differences in belonging to a class, an academic major, or the university. They found "consistent and significant links…between belonging at the class level and positive emotional engagement" (Wilson et al., 2015, p. 750). This makes sense because a class is very much a social environment, a place where college students are trying to navigate new and complex relationships. Likewise, positive interactions with faculty have been linked to higher sense of belonging in first-year students (Means & Pyne, 2017; Morrow & Ackermann, 2012).

A more recent study linking belonging to academic achievement was conducted by Farruggia et al. (2018). In their study, sense of belonging was one component of a three-part construct of "academic mindset," which also included academic self-efficacy and academic motivation. While this study measured belonging as a latent construct of academic mindset, the results affirmed belonging had a role in positively affecting academic performance. The study included 1603 first-year students from a diverse population at an urban university, with less than half of the respondents living on campus. The study's findings have implications for regional or commuter college campuses that also have lower first-year student residential rates.

These studies highlight the variable nature of belonging and the influence faculty can have on it in the classroom. While a number of studies were conducted at universities with predominantly White populations (Freeman et al., 2007; Zumbrunn et al., 2014), two of these

studies were at more diverse institutions (Farrugia et al., 2018; Wilson et al., 2015) and all showed sense of belonging had some positive correlation with academic outcomes.

Belonging Interventions and Positive Academic Outcomes

If college students feel like they belong, are they more likely to persist? This is the question Hausmann and colleagues (Hausmann et al. 2009) asked when they looked at belonging and its relationship to persistence in first-year White and Black students. Full-time, first-year, non-transfer Black students (n = 254) and a random sample of their White peers (n = 291) from a "large, public, mid-Atlantic, predominantly white university" were invited to participate in a three-part survey. The researchers wanted to see if a subjective sense of belonging was positively related to student persistence in White and Black first-year college students and if an intervention could have a positive impact. The intervention included notes from university administrators and gifts (with university insignia) sent to participants in the experimental group. The study measured financial difficulty, encouragement from family/friends, interaction with peers, interactions with faculty, faculty concern, academic development, sense of belonging, institutional commitment, goal commitment, and intentions to persist (Hausmann et al., 2009, pp. 657-658). Hausmann et al. (2009) found "evidence to support the inclusion of students' subjective sense of belonging as a unique factor in a complex model of student persistence" (p. 665), but the intervention only had an effect on White students. Peer-group interactions and academic development had a positive impact on sense of belonging for both groups.

Another study reported positive associations with peer interactions. Morrow and Ackermann (2012) examined "intention to persist and retention of first-year students" and the relationship to sense of belonging. An online survey was distributed to 960 first-year undergraduate students. The participants (n = 156) were 51% White and 30% Black. They

measured sense of belonging, academic attitudes, and intention to persist. Their hypothesis that "higher levels of sense of belonging (peer support, faculty support, classroom comfort) and lower levels of perceived isolation would be related to self-reported intention to persist as well as actual second-year retention" was partially confirmed in that overall sense of belonging was not significantly related to intention to persist, although the sub-scale of faculty support did show a significant relationship (Morrow & Ackermann, 2012, p. 484). In examining second-year retention, peer support emerged as a significant predictor. For this population, faculty support and peer support had the most significant impact on intention to persist and retention, respectively.

One way to help FG students transition to college is to help them recognize that the characteristics that make them different can also help them be successful. Stephens et al. (2014) investigated whether an intervention that illuminated how FG students' differences from their peers can be an asset would positively influence schooling. There were 147 participants, 66 of which were FG, and 81 were NFG. Students were randomly assigned to one of two groups. In the experimental group, a diverse student panel talked about how they succeeded in the context of their background (e.g., "My parents didn't go to college, but I found out my advisor could help me"). In the control group, a diverse student panel talked about how they were successful without mentioning background (e.g., "Go to class," Stephens et al., 2014, p. 944). Participants completed a short survey after the panel and at the end of the school year. GPAs of participants were obtained as well. In this study, the intervention had a positive effect on both groups, and results indicated that an "understanding how people's different backgrounds matter is a powerful insight that can improve all students' transition to the novel context of university life" (Stephens et al., 2014, p. 951). By creating alternative models of college success beyond those designed for

the traditional middle-class college student, colleges may be able to help all students find their own path.

Walton and colleagues studied the relationship between belongingness and academic achievement at a private university in the northeastern U.S. in two experiments (Walton et al. 2007). Participants included 36 Black students and 34 White students. In the first experiment, two groups were asked to name eight friends (or two friends) who would be a good fit in the computer science field. There was also a control group that did not have to name friends but give characteristics of who might fit in the field. The researchers measured sense of academic fit, completion of an academic advising task, and activation of race-related cognitions. In this experiment, both groups found the task difficult, but only the racial minority group felt it a threat to their fit and potential. Experiment 2 involved a multi-stage experimental intervention with 25 Black and 30 White first-year students. The intervention tried to mitigate belonging uncertainty by assuring them the uncertainty was normal and temporary, and the results indicated this "made Black 'students' sense of fit less dependent on the quality of their day, increased their engagement in achievement behavior (e.g., time spent studying) and it seems, improved their GPA" (Walton & Cohen, 2007, p. 93). This study substantiated the fact that not all students experience sense of belonging in the same way.

Walton and Cohen (2011) conducted "a brief social belonging intervention" that hypothesized the intervention would have positive effects on African Americans' GPA and overall positive benefits, including health. Participants were European Americans (n = 43) and African Americans (n = 49) randomly assigned to a control or treatment group. In the intervention, an experimental group read a text written by seniors talking about how they struggled with belonging and adversity but then overcame it. The participants then wrote about

the message, how it applied to them and then video-taped a message for future first-year students (thus internalizing the message). The control group did the same, but it was about other issues. The African Americans in the treatment group had higher GPAs than those in the control group and those across campus. According to surveys taken in the following week, the intervention protected the treatment group from the ups and downs due to daily stresses/adversity. In addition, it seemed to have a lasting effect over three years, which offers promising evidence for the use of belonging interventions to promote enduring student success.

Walton et al. (2011) introduced the concept of "mere belonging" in their study that looked at small units of interaction which they define as "an entryway to social relationship—a small cue of social connection to another person or group in a performance domain" and explored how this impacted undergraduates' achievement motivation in four different experiments (Walton et al., 2011, p. 514). Drawing from Self-Determination Theory, the authors studied how even a suggestion of social connectedness could influence students' motivation and goals. In each of the experiments, the participants were led to believe they had some connection with another person in an "achievement domain." For example, in the second experiment, participants were told they shared a birthday with someone who was a math major. The manipulation led to greater motivation in the subject domain where there was a social connection. Their experiments gave evidence that "the mere sense of social connectedness enhances achievement motivation" (Walton et al., 2011, p. 529). This evidence points to the malleable nature of belonging and provides worthwhile motives for determining more ways to increase it.

Yeager et al. (2016) built their study based on this malleable nature of sense of belonging by using "lay theories" to positively impact students' perception of belonging before they started

college, theorizing that by providing students with theories about why they might struggle in college before they encounter the struggles, the students will be more likely to persist. Participants were high school seniors from diverse charter schools who were planning on attending college and were placed in either a control or experimental group across three different interventions. There were 3 experiments (n = 584, n = 7,335, and n = 1,592, respectively) using separate interventions (including social belonging and growth-mindset). The results indicated increased enrollment and cumulative first-year GPAs among participants. These intervention studies are evidence that sense of belonging is a malleable trait in which college faculty and staff could affect to increase positive academic outcomes such as persistence.

First-Generation Students

First-generation students have been the focus of educational research in higher education for many years. Ives and Castillo-Montoya (2020) reported that while this group comprises one-third of U.S. college students, their completion rate is 56% compared to 74% of NFG students [in a six-year period]. Unfortunately, many FG college students do not make it to the starting gate. Engle et al. (2006) asserted that only 47% of FG high school students enroll in any post-secondary education, compared to 85% of their NFG peers. This issue of access is beyond the scope of this paper but further illustrates the barriers these students face and the importance of creating a positive and supportive learning environment when they arrive at college to promote success.

Academic Preparation

Terenzini et al. (1996) explored the unique challenges FG students have in college due to the fact they are more likely to come from low-income families, be less academically prepared for college work, and take longer to complete a degree in comparison to NFG students. Over

twenty years later, Jury et al. (2017) emphasized that these challenges persisted for FG students who have higher rates of self-reported depression and isolation and lower GPAs than their NFG counterparts. Engle et al. (2006) argued that these students are less likely to have a curriculum in high school that prepares them academically and less encouragement to take advanced courses. Ives and Castillo-Montoya (2020) asserted that only 18% of FG students had taken AP classes compared to 44% of their NFG peers, indicating they were at an academic disadvantage prior to even stepping foot on campus, making the transition even more challenging, especially when they were navigating the unfamiliar college culture.

Cultural Mismatch

Stephens et al. (2012) argued there is a "cultural mismatch" between FG and NFG students. The message colleges send to students is often that they are in charge and are expected to navigate the system independently from enrollment to choosing their major to seeking out help if needed. This goes against the cultural norms of many FG students who may have a cultural "interdependent model of self," which has conditioned them to be less assertive and independent. These students often come from a cultural background that expects them to sacrifice their own wants and desires for the good of the family, especially in difficult times.

This interdependence can extend to the learning environment as well. Ives and Castillo-Montoya (2020) pointed out FG students are "prosocial academic learners" and may prefer to learn in a community but may not feel as comfortable seeking out opportunities with other students. Inkelas et al. (2007) proposed that faculty may need to create more opportunities for this sort of interaction to take place. In the classroom, FG students may feel less comfortable speaking up or seeking help, or doing anything that makes them stand apart from others. This can be misinterpreted as a lack of engagement, when in fact, they are uncomfortable in this assertive

action. Even in the classroom, students are expected to contribute in a way that goes against an interdependent cultural model, making them feel even more out of place in this new environment. Overall, Ives and Castillo-Montoya (2020) stressed that both FG and NFG students expect to be more independent at college, but NFG students understand this means asking for help, whereas FG students interpret this to mean making it on their own.

These studies attested to the reality that the traditional culture of college can be a challenge to FG students, which often feel like they are outsiders and are missing out on important information other students seem to know. For example, being assertive and speaking up in class are expected and sometimes necessary to succeed in college. The majority of studies they examined were framed in a way that emphasizes FG students assimilating to college culture instead of examining the culture itself. Ives and Castillo-Montoya (2020) suggested instructors take the approach of capitalizing on the unique cultural aspects that FG students bring to college—such as learning in a community, creating authentic and relevant learning experiences, and providing more structured collaborative experiences. A more inclusive approach to helping FG students honors the variety and cultures of this population that they bring to college. This framework reframes FG students from being passive recipients of the college's knowledge and services to active agents contributing their own valuable knowledge and insight to the academic community, which could result in positive changes in the institution.

First-Generation First-Year College Students

I have described the unique challenges of first-generation students. Among all students, the first year is a pivotal point. This focus on FG first-year students has the possibility of providing key insights that may help improve retention rates and academic achievement for all students. In their qualitative study, Means and Pyne (2017) followed ten FG, low-income

students through their first year across multiple institutions, seeking to understand how "institutional support structures" affected their sense of belonging, which included everything from scholarship services to student organizations. The researchers conducted three semi-structured interviews over a 10-month period, including prior to college, end of the first semester, and end of the second semester. Eight of the ten participants were students of color, and several indicated that connections to multicultural offices and organizations positively affected their sense of belonging. One significant result was the powerful influence of faculty characteristics of behaviors that affected sense of belonging positively and negatively. While many pointed to specific positive faculty behaviors that made them feel more at home in the classroom, they seemed to be more susceptible to interpreting certain behaviors negatively, emphasizing the need for faculty to be aware of the importance of belonging in the classroom.

The authors followed Terrell Strayhorn's conceptual framework to better understand sense of belonging on college and university campuses which argues that sense of belonging is "essential to address before higher education leaders and educators can address other goals" (Means & Pyne, 2017, p. 910). Two important findings were, first, students' sense of not belonging began before they even came to campus, by their perceptions of cues from their community and significant adults in their lives and, second, these perceptions were confirmed when they arrived on campus and felt they were surrounded by middle-class students that were confident, as they struggled to navigate their new surroundings on their own (Means & Pyne, 2017, p. 917).

Terenzini et al. (1996) demonstrated as well that in addition to the latter years of high school (and the advantages of bridge programs), the first year for FG students' success is critical and that additional attention needs to be given to this time period. Ishitani (2006) stated, "the risk

of departure for FG students waned over time after the second year" and cited the lowest-income students as being the most at risk of not persisting after the first year (pp. 873-876). This critical first year will be the focus of this study to better understand factors that can increase retention for FG students in particular. One challenge in understanding is the variance in how belonging has been measured thus far by the use of varying instruments, which makes it hard to generalize findings across college populations.

Measuring Belongingness

As mentioned previously, Goodenow (1993) examined belonging in K-12 settings (urban and suburban) and ultimately created and validated the Psychological Sense of School Membership (PSSM) which is often adapted in university study settings (Freeman et al., 2007; Pittman & Richmond, 2007; Zumbrunn et al., 2014). The main construct of this instrument is the sense of belonging students have to their individual schools, which is assessed using 18 items rated on a 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree. Sample items include: "Other students in this school take my opinion seriously" and "The teachers here respect me" (Goodenow, 1993, p. 84). Reliability for the PSSM was conducted separately for suburban and urban populations (middle school students), which resulted in .88 and .84 Cronbach's alpha, respectively. Construct validity for the PSSM was conducted through analysis of variances for different sub-populations to see if they varied in hypothesized ways, such as females having higher sense of belonging than males, and found the correlations related as expected.

Another measure of belonging often seen in studies is Bollen and Hoyle's (1990) Sense of Belonging Scale, which is the first part of their Perceived Cohesion Scale (PCS) (Hausmann et al., 2009; Hurtado & Carter, 1997; Johnson et al., 2007). The other construct Bollen and Hoyle (1990) included in the PCS was feelings of morale. They defined perceived cohesion as

encompassing “an individual’s sense of belonging to a particular group and his or her feelings of morale associated with membership in the group” (Bollen & Hoyle, 1990, p. 482). This three-statement scale contains three questions: “I feel a sense of belonging to [name of institution], I feel that I am a member of [name of the institution], and I see myself as part of [name of the institution]” ranked on an 11-point Likert scale from 0 = strongly disagree to 10 = strongly agree (Bollen & Hoyle, 1990), although, in later studies by other researchers, the scale is condensed to a 5-point Likert scale. They used confirmatory factor analysis with two different groups of individuals to test the instrument. They reported the chi-square test was not statistically significant, indicating a good fit. Of note, the sense of belonging measure is one component of the scale, which was shown to highly correlate with the other construct of feelings of morale, but Bollen and Hoyle (1990) determined they were distinct constructs. This uni-dimensional measure (or some variation of) is often seen in belonging studies.

More recently, Gopalan and Brady (2020) used data from a national data set that measured belonging using the one-item measure of “I feel that I am a part of [name of college]” on a Likert scale ranging from 1 = strongly disagree to 5 = strongly agree (p. 2). While this study was groundbreaking in that the researchers were able to examine belonging on a national scale by accessing data from 2020, Gopalan and Brady (2020) acknowledged the inadequacy of this unidimensional measure. Nonetheless, their findings contributed to the understanding of belonging, in particular in a community college setting. Unexpectedly, they found that FG students had an overall higher sense of belonging at community colleges than at four-year institutions. This finding validates the importance of setting in generalizing findings of prominent belonging studies. Because the PSSM has the most consistent empirical evidence, I will use this instrument to measure belongingness in my study.

Pilot Study

I conducted a pilot study at this same university to understand how first-year students experienced a sense of belonging in relation to motivation and academic persistence. In this mixed-methods study, participants were recruited from first-year experience courses in Fall 2018 and Fall 2019. In the qualitative analysis, participants seemed to identify belonging as a general sense of feeling cared about and comfortable in the classroom and on campus. In the quantitative portion, an invitation to complete the survey was sent to approximately 200 students in the first-year experience courses, and there were 52 complete responses. The survey instrument used was the Psychological Sense of School Membership (PSSM; Goodenow, 1993), and the main demographic variable studied was residential status. Findings showed that students living on campus experienced a higher sense of belonging ($n = 19$, mean = 4.03) than those living off-campus ($n = 33$, mean = 3.74), with $t(50) = 2.19$, $p = .03$, $d = .65$. (Ross & Heddy, 2020). There was a significant finding between sense of belonging and intent to persist. The results of a simple linear regression indicated that sense of belonging predicted intent to persist, $F(1,50) = 11.18$, $p < .005$, with an R^2 of .18 indicating that 18% of the variation in intent to persist was explained by sense of belonging (Ross & Heddy, 2020). This dissertation extended this study by recruiting all first-year students at the university, analyzing other demographic variables, as well as examining potential impacts of COVID-19.

COVID-19 and First-Year Students

This study was conducted in Fall 2020 during the COVID-19 pandemic, and as a result, campuses and classes at the university were much different than a typical college year. Most student affairs-type activities were either changed to a virtual format or canceled. To accommodate safe distancing, in-person classes were reduced in capacity, and many had an

additional “extended section” where students could attend class virtually. When classes were held in person, students and faculty were required to wear masks and maintain social distance.

Nationally, colleges and universities have reported drastic decreases in enrollment due to COVID-19 (National Student Clearinghouse Research Center, 2020). Unfortunately, the largest percentage of this decrease may be among lower-income students (National Student Clearinghouse Research Center, 2020). As mentioned earlier, this group of students is more likely to need a college degree to experience upward economic mobility (Brand & Xie, 2010).

The Higher Education Data Sharing Consortium (HEDS) administered and provided surveys to measure the impact of COVID-19 on students. In their preliminary report on Spring 2020 responses, they found the top factors affecting students intent to return were 1) “Students’ sense of connection with their institution” and 2) “Students’ sense of the support they are getting from their institution during COVID-19” and 3) “Students’ concern about the impact of COVID-19 on their lives and education” (Higher Education Data Sharing Consortium, 2020, p. 7).

This data included responses from approximately 20,000 students across 40 institutions (including private and public, small and large institutions, as well as community colleges). I adapted the HEDS COVID-19 survey to obtain and measure four different variables: institutional support, student worries, overall stress, and overall connection (See Appendix C for full survey).

Significance of this Study

This study will contribute to the body of knowledge regarding first-generation first-year students and the relationship between their sense of belonging and persistence by examining these students at an institution that traditionally has a higher population of FG students. Engle et al. (2006) determined that FG students were more likely to enroll at “less selective two-year or four-year colleges” even if they would meet the admission requirements of more selective

colleges (p. 17). This is in part due to lack of knowledge or encouragement to attend these more selective colleges, but also Ives and Castillo-Montoya (2020) observed that this population is more likely to choose to stay closer to home, choose colleges where they think they can work as well as attend class and live at home in many cases.

While there has been an increasing number of studies related to belonging and college adjustment and success, many studies focused on belonging have occurred at selective to highly selective public and private universities with high residential rates where fewer lower-income students find themselves. Understanding how students experience sense of belonging in the schools that currently have the largest percentage of this group and schools that have fewer students living on campus is important so that faculty and administrators can better serve this large portion of the college population.

Because FG students often choose to live at home out of choice or necessity and because they often work in addition to attend classes (Ives & Castillo-Montoya, 2020), coming to campus for activities is sometimes just not an option for college students, and thus, they miss out on opportunities to connect with others and develop sense of belonging through more traditional avenues. In my previous study (Ross & Heddy, 2020), there was a significant relationship between sense of belonging and residential status among participants. In this quantitative study of 52 first-year students at the same university, there was a significant regression equation found, $F(1,50) = 11.18$, $p < .005$, with an R^2 of .18, with on-campus students having an average mean of 4.03 and off-campus students, 3.74. As several studies have shown, living on campus has significant benefits that students will miss out on if they live off-campus, as many underrepresented students do. Pascarella et al. (2004) pointed out FG students were less likely to live on campus and consequently "had lower levels of extracurricular involvement and

interaction with peers in non-course contexts" (p. 276) which kept them from benefitting fully from the college experience. Johnson et al. (2007) looked at the issue of living on campus and found that across racial groups, living on campus in a residential hall has a positive effect on students' sense of belonging, which makes sense given the efforts by colleges to support students in these environments through residential advisors and community building activities. Identifying factors that can increase sense of belonging in all students, whether they live on campus or not, is essential for student success, and one area where all students find themselves is in the classroom. Gaining a better understanding of what contributes to sense of belonging in the classroom can provide guidance for college administrators and faculty on how to develop strategies and/or interventions that can be implemented to increase or sustain sense of belonging.

The transition to college can be negatively influenced by a student's sense that they do not belong. The magnitude of this influence can vary based on the individual student and their individual circumstances, aptitudes, and beliefs that they bring with them. Universities and colleges need to examine barriers to success in order to increase retention rates and academic success of all students, but especially to students that come to college at a disadvantage, either real or perceived, by creating a safe and welcoming learning environment for all. This pervasive desire to belong can disrupt the motivation of students who otherwise could be successful and result in lower retention and graduation rates.

The impact of belonging on a college student's academic motivation and persistence has been examined in a variety of contexts and across different populations. The results indicate a greater struggle with belonging among FG students for many reasons, some of which may be socio-economic status, cultural differences, or lack of academic preparation. A variety of interventions have shown promising results in increasing sense of belonging (Hausmann et al.,

2009; Stephens et al., 2012; Walton et al., 2007; Walton & Cohen, 2011; Yeager et al., 2016). These interventions included what Harackiewicz and Priniski (2018) refer to as "saying-is-believing exercises," where students write a message in their own words in order to internalize the message. The messages across these interventions included how differences can be beneficial, how difficulty in adapting to college is normal and re-emphasizing student values. These types of interventions would be relatively easy to implement into a classroom curriculum, in particular a first-year experience program.

Other belonging studies in postsecondary settings focus on belonging at a university level, which fits the popular culture model of going to college, but since access to college has increased, the demographics have changed, and many students don't fit into this outdated view of college students. FG students are less likely to live on campus and more likely to work full or part-time, so looking at smaller settings such as the classroom is highly beneficial. Given the consistent challenge of negotiating the classroom environments and the indication that supportive faculty can have a significant influence on belonging (Means & Pyne, 2017), it seems worthwhile to explore further how belonging can be increased in the classroom and educate faculty on the importance of the classroom environment (beyond instruction) in student belonging and retention.

Another important contribution is the insight into the potential effects of the COVID-19 pandemic on college outcomes. The National Student Clearinghouse Research Center (2020) reported that first-year enrollment among high school graduates was 21.7% less in 2020 than it was in 2019. This decline was significantly higher among lower-resourced schools and schools with a higher percentage of minority students (National Student Clearinghouse Research Center, 2020).

Research Questions

Based on my search of the literature and knowledge of the target variables, the following research questions were generated:

1. To what extent does sense of belonging predict intent to persist?
2. What is the relationship between generational status and sense of belonging and intent to persist, specifically:
    a) To what extent does generational status predict sense of belonging?
    b) Does sense of belonging mediate the relationship between generational status and intent to persist?
3. Do any of the COVID variables (institutional support, student worries, overall stress, and overall connection) predict sense of belonging and intent to persist?"
4. Is there a difference in first-generation and non-first-generation students' responses to the COVID variables (institutional support, student worries, overall stress, and overall connection)?

Hypotheses

1. To what extent does sense of belonging predict intent to persist?

I hypothesize that sense of belonging will positively predict intent to persist based on the results from previous studies linking a sense of belonging to persistence and intent to persist (Hausmann et al., 2009; Heddy & Ross, 2020; Morrow & Ackermann, 2012). Hausmann et al. (2009) reported sense of belonging had "a direct, positive effect on students' institutional commitment, and significant indirect effects on intentions to persist and actual persistence" (p. 665). In addition, my initial study (Ross & Heddy, 2020) at this university showed a significant relationship between sense of belonging and intent to persist. In that study, the results of a simple

linear regression indicated that sense of belonging predicted intent to persist, $F(1,50) = 11.18$, $p < .005$, with an R^2 of 18 indicating that 18% of the variation in intent to persist was explained by sense of belonging.

2. To investigate the relationship between first-generation students and sense of belonging and intent to persist, I will address in two parts:

    a) To what extent does generational status predict sense of belonging?

    b) Does sense of belonging mediate the relationship between generational status and intent to persist?

I hypothesize that generational status will predict sense of belonging, with a higher sense of belonging predicted for NFG students as compared to FG students, based on previous studies linking a lower sense of belonging with FG students (Gopalan & Brady, 2020; Jury, 2017). Additionally, studies have shown FG students struggle more to adjust to college culture, which could contribute to lower sense of belonging (Ives & Castillo-Montoya, 2020; Means & Pyne, 2017; Stephens et al., 2012). I predict that sense of belonging will mediate the relationship between generational status and intent to persist, with a sense of belonging increasing the relationship. This hypothesis is based on previous studies showing a sense of belonging's influence on positive academic outcomes (Farrugia et al. 2018; Freeman et al., 2007; Hausmann et al., 2009; Means & Pyne, 2017; Morrow & Ackerman, 2012; Wilson et al., 2015; Zumbrunn et al., 2014). Several interventions increased sense of belonging in first-generation and/or non-majority students (Stephens et al., 2014; Walton et al., 2011; Yeager et al., 2016).

3. Did any of the COVID variables (institutional support, student worries, overall stress, and overall connection) predict sense of belonging and intent to persist?

Two of the variables included in the COVID-19 survey are measuring or incorporating similar constructs as sense of belonging, so I anticipate there will be a positive correlation in regard to institutional support and overall connection. For example, connection is often included in measurements of sense of belonging, and caring has been shown to also influence students' perceptions of belonging (Ross & Heddy, 2020). Because sense of belonging has shown to be lessened in periods of stress or transition (Strayhorn, 2018), I predict there will be a negative predictive relationship between student worries and overall stress and sense of belonging and intent to persist.

4. Is there a difference in first-generation and non-first-generation students' responses to the COVID variables (institutional support, student worries, overall stress, and overall connection)?

Preliminary data shows that first-generation students may be more negatively affected by the COVID-19 pandemic. In a recent report from the National Student Clearinghouse Research Center, while overall enrollment for the Fall 2020 semester declined, enrollment of high-school students from low-income high schools immediately upon graduation was down 29.2% compared to the 16.9% decline among higher-income schools (National Student Clearinghouse Research Center, 2020), and community college rates among this population declined the most at 30.3%. As stated previously, low-income students are much more likely to be first-generation (Terenzini et al., 1996). Shapiro stated, "low-income students are stopping out for very different reasons—for financial reasons, or because they've been hit more directly by the health impact of Covid-19. It will be much harder for them to recover" (Hoover, 2020). Based on this preliminary data, I predict that first-generation students will have more negative responses than their non-first-generation peers.

Conclusion

I intend to expand the understanding of the relationship between students' sense of belonging and intent to persist by focusing on first-year students in a university with a high population of first-generation students. The purpose of the study will be to investigate the predictive relationship between sense of belonging and intent to persist, the role of generational status in this relationship, and the effects of COVID-19 on sense of belonging and intent to persist. Furthermore, environmental and demographic variables will be assessed to determine their impact on study findings.

Chapter 3: Methodology

The purpose of this research was to understand how students at a regional university with a high population of first-generation (FG) students experienced sense of belonging and its relationship to intent to persist in their first year of college, which is a critical point for many students (Ishitani, 2006; Terenzini et al., 1996). The study also explored the potential effects of the COVID-19 pandemic on sense of belonging and intent to persist.

Research Design

A cross-sectional survey design was used. The survey was administered after the mid-point of the first semester. At this point, any initial novelty effect ("honeymoon period") of being in college had likely waned, and most students would have a good idea of how they were performing academically and formed impressions of their fit into their new environment (Mullendore & Hatch, 2000). The survey included the Psychological Sense of School Membership with 18 questions (PSSM; Goodenow, 1993) to measure a sense of belonging, a set of four questions to assess intent to persist, one question to measure intent to transfer, and a set of questions pertaining to their COVID-19 experiences and the resulting on-campus restrictions and adjustments to course delivery methods and campus activities. The COVID-19 questions asked students to rate their perceptions of institutional support, student worries, overall stress, and overall connection to the university (Higher Education Data Sharing Consortium, 2020).

Participants and Context

A purposive sampling method was implemented, and participants were recruited via email from first-year students at a mid-size regional university in the mid-South. The email was sent through the Office of Academic Affairs to 2745 students identified by the Office of Information Technology as first-year students mid-semester in Fall 2020 and a follow-up

reminder was sent a week later. The only requirement to participate was that students were at least 18 years of age at the time of the study and in their first semester of college.

The setting of this study was a unique contribution to this body of literature. This regional university is located in a suburb of a large metropolitan city. The Carnegie classification for this institution is very high undergraduate, four-year, large, primarily nonresidential, Master's Colleges & Universities: Larger Programs (Indiana University Center for Postsecondary Research, 2017). This institution serves about 14,000 students (Spring 2020), with the majority undergraduate and approximately 30% of students enrolled part-time. Approximately 70% of students are from the surrounding metropolitan area, with approximately 54% Caucasian, 8% Black, 12% Hispanic, followed by 10% mixed ethnicity, 3% American Indian, 4% Asian, and 5% International (with 4% not declared). A score of 20 on the ACT is the minimum requirement for acceptance, although there are alternative routes to acceptance. The average ACT of accepted students is 21.4. In addition, 40% of students qualified for Pell Grants (2011-2015). The first-year first-time retention rate is approximately 65%. Approximately 71% of first-time students live off-campus, and 91% of undergraduates live off-campus (Office of Institutional Research, 2018).

Instruments and Measures

Sense of Belonging. I used the Psychological Sense of School Membership (PSSM) scale (Goodenow, 1993), which was used in the pilot study (Ross & Heddy, 2020). The Psychological Sense of School Membership (PSSM; Goodenow, 1993) had a Cronbach's alpha of .88 and has been adapted for other university populations (Freeman et al., 2007; Zumbrunn et al., 2014). The instrument consists of 18 items rated on a 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree. Sample items include: "Other students in this school take my

opinion seriously" and "The teachers here respect me" (Goodenow, 1993, p. 84). The full survey is in Appendix A.

Intent to Persist. Intent to persist was measured using the following three questions adapted from Pascarella and Terenzini's (1980) Educational Commitment Scale (Dwyer, 2017, p. 328): "It is not important for me to graduate from [University] (reverse coded)"; "I am confident I made the right decision to attend [University]" and "I will complete my bachelor's degree at [University]." These statements were used by Hausmann et al. (2009) (alpha = .79). I added the following question: "It is important to me to complete my bachelor's degree" to gain a sense of the importance of college completion, agnostic of college choice. This additional item loaded onto a single factor with the other three items. The items displayed loadings from .66 to .84 (alpha = .65). All of these questions were scored on a 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree. This instrument, along with the intent to transfer question, is in Appendix B.

Intent to Transfer. I added an additional question to measure students' intent to transfer. This was measured with a single item: "I will transfer to another university to complete my degree." This question was scored on a 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree.

COVID-19 Variables. The following four variables were adapted from the HEDS COVID-19 Student Survey (Higher Education Data Sharing Consortium, 2020). The entire adapted measure is in Appendix C.

Institutional Support. There were three questions that comprised this measure: "Overall, the staff and administration at [university] have done a good job helping students adapt to the changes at the institution brought on by the spread of COVID-19," "Overall, staff and

administration at [university] have shown care and concern for me as they respond to the spread of COVID-19," and "Overall, faculty at [university] have shown care and concern for me as they make changes in their courses in response to COVID-19." These questions were scored on a 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree. These three questions loaded onto one component with item values ranging from .85 to .92 (alpha = .74).

***Student Worries*.** There was one question that asked students to rate their worry on seven items which covered academic, social, and environmental concerns. Examples of potential student concerns include "Doing well in college now that many or all of your courses are online," "Losing friendships and social connections now that classes are online," and "Having enough to eat every day." These items were rated on a 5-point Likert scale from 0 = never to 4 = always (alpha = .86).

***Overall Stress*.** This one item subscale included the question, "Overall, how much stress are you feeling about the potential consequences of the spread of COVID-19?" This was rated on a 3-point Likert scale from 0 = little or none to 2 = a great deal.

***Overall Connection*.** This one item subscale included the question "Overall, how connected do you feel to [university]?" This question was rated on a 5-point Likert scale from 0 = no connection to 5 = very strong connection.

Demographics. A demographics survey was included to determine the first-generation status of the students, as well as other demographic data to include: age, living situation (on or off campus), race, and gender. This scale was placed at the end of the survey to protect against stereotype threat (Steele & Aronson, 1995). Demographic categories mirrored the demographic data collected from the university to determine how representative the study sample is of the university population. This demographic data was also used to determine any potential individual

differences based on these distinctions, as FG students are not a homogenous group (Ives & Castillo-Montoya, 2020). Determination of first-generation status was based on the following question: "What is the highest level of education that either of your parents completed?" The full demographic survey is in Appendix D.

Procedure

Upon securing approval from the university's Institutional Review Board, an email blast was sent to all first-year students through the Office of Academic Affairs. The first blast was sent mid-Fall semester, and a follow-up reminder blast was sent a week after the first.

The students who agreed to participate were directed to a Qualtrics survey which included an Informed Consent form to complete, and if they selected "I Agree to Participate," they were redirected to complete the survey which included the sense of belonging (PSSM) scale, the intent to persist measures, the intent to transfer measure, the set of COVID-19 questions, followed by the demographic questions. As an incentive for completion, students had the opportunity to be redirected to a separate survey to be entered into a drawing for a $25 Amazon gift. They were informed that one Amazon gift card would be given for every 50 participants.

Analysis

Preliminary data analysis included screening for normality, skewness, and kurtosis, as well as looking for any outliers. Composite scores were calculated for sense of belonging, intent to persist, institutional support, and student worries by creating a mean score for all items within the measure. All reverse-coded items were re-coded. Demographic frequencies were conducted, and means comparisons for all variables based on demographic groups were computed.

Research Question 1. To answer this question, I ran a simple linear regression with intent to persist as the dependent variable and sense of belonging as the independent variable.

Research Question 2. To answer the first part of the question, I conducted a simple linear regression with generational status as the independent variable and sense of belonging as the dependent variable. To answer the second part of the question, a multiple regression model was to be conducted if there was a significant correlation on the first part of the analysis. Multiple models would have been created to determine if the interaction with sense of belonging and generational status adds significance to the predictive value of generational status and intent to persist.

Research Question 3. To answer this research question, two hierarchical multiple linear regressions were conducted with student worries and overall stress entered as independent variables in the first step, and institutional support and overall connection entered as independent variables in the next step. The reasoning for this sequence was to see the difference between the negative factors (student worries and overall stress) and the positive factors (institutional support and overall connection). Sense of belonging was the dependent variable in the first regression analysis, and intent to persist was the dependent variable in the second regression analysis.

Research Question 4. To answer the final research question, I conducted a series of independent samples t-tests with generational status as the independent variable and institutional support, student worries, overall stress, and overall connection as the dependent variables to determine if there were any significant differences.

Chapter 4: Research Results

Data Screening and Descriptive Statistics

Before conducting data analysis, the data were screened for incomplete responses, normality, and outliers. There were 107 responses, 12 of which were 5-77% incomplete and removed from the data set, leaving a total of 95 complete participant responses. Of the 95 remaining participants, there were four participants who left one response out of the data set blank. These were coded as missing values. All reported test results were 2-tailed. All data screening, descriptive statistics, and advanced statistical analysis were conducted using SPSS 26 software.

Table 1 shows the Cronbach's alpha for each measure, as well as the means, standard deviations, number of items, skewness, and kurtosis. All skewness and kurtosis values were less than or equal to an absolute value of 3, indicating that I could assume normality in the remainder of my analysis (Tabachnick et al., 2007). Participant demographics, along with the comparative university data (if available) is found in Table 2.

Table 1

Means, Standard Deviations and Other Descriptive Information

Scale	Alpha	*M*	*SD*	n	No. of Items	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
Sense of belonging	.92	2.89	0.69	95*	18	-0.74	0.25	0.41	0.49
Intent to persist	.65	3.44	0.70	95*	4	-1.66	0.25	2.76	0.49
Intent to transfer		0.95	1.23	95	1	1.11	.25	.21	.49
Student worries	.74	1.69	0.87	95	7	0.52	0.25	0.06	0.49
Institutional support	.86	3.18	0.87	95	3	-0.96	0.25	0.09	0.49
Overall stress		1.36	0.67	95	1	-0.57	0.25	-0.69	0.50
Overall connection		2.22	1.05	95	1	0.10	0.25	-0.48	0.49

*There were two outliers in the intent to persist participant responses and one outlier in sense of belonging participant responses (i.e., zs >3), and those values were retained. There was no change in statistically significant variances found in tests run with those cases removed, so they were retained as assumed they were valid representations of the participant data.

Table 2

Participant Demographics

Demographic variable	n	Percentage	*College comparison
Age			
18-24	89	93.70	
25+	6	6.30	
Enrollment status			
Full-time	83	87.40	67.1
Part-time	12	12.60	32.9
Residential status			
On campus	22	23.2	29.0
Off campus, with roommates or alone	26	27.4	
Off campus, with family	47	49.5	71.0
Employment status			
Not employed	28	29.5	
Employed, less than 20 hours	32	33.7	
Employed, more than 20 hours	35	36.8	
Gender			
Female	81	85.3	59.3
Male	12	12.6	40.7
Other	2	2.1	
Generational status			
First-generation	49	51.6	
Non-first-generation	46	48.4	
Ethnicity			
White (non-Hispanic)	53	44.8	54.2
American Indian or Alaskan Native	3	3.2	3.3
Asian	4	4.2	3.9
Black or African-American	9	9.5	8.4
Latino/a	8	8.4	11.6
Mixed ethnicity	8	8.4	9.8
White and American Indian or Alaskan Native	8	8.4	
White and Latino/a	2	2.1	

*If available, comparison demographic data was provided from the university (Office of Institutional Research, 2020).

Means Comparisons. Initial data analysis included means comparisons across all demographic groups on each variable as detailed in Table 3. Significant differences mean differences were found as a function of: enrollment status, gender, and generational status. Full-time and part-time students reported differences on three measures, as shown in Table 4. Differences across gender groups were found on two measures: institutional support and intent to persist. Generational status differences found on the institutional support measure will be addressed in Research Question 4. All other means comparisons based on demographics were not significant.

Full and Part-Time Students. There were significant means differences found between full-time and part-time students on three measures: sense of belonging, intent to persist, and overall connection. As outlined in Table 4, full-time students reported higher scores on these three variables than part-time students in independent samples t-tests. Due to a violation of Levene's test for homogeneity of variances, a t-test not assuming homogenous variances was computed for the t-test of intent to persist means. Additionally, the effect sizes for all the differences were found to approach or exceed Cohen's (1988) convention for a large effect (d = .80), indicating full-time students' higher sense of belonging, overall connection, and intent to persist is a meaningful variance.

Table 3

Group Means on Primary Measures

Demographic	Sense of belonging	Intent to persist	Student worries	Institutional support	Overall stress	Overall connection
Part-time student (12)	2.38	2.73	1.92	2.81	1.55	1.42
Full-time student (83)	2.96	3.55	1.66	3.23	1.33	2.34
On campus (22)	2.72	3.34	1.74	2.83	1.38	2.32
Off campus, with roommates and alone (26)	3.02	3.58	1.83	3.37	1.36	2.35
Off campus, with family (47)	2.90	3.42	1.60	3.23	1.35	2.11
Not Employed (28)	2.85	3.38	1.57	3.10	1.48	2.11
Employed less than 20 hours (32)	3.00	3.53	1.65	3.12	1.33	2.41
Employed more than 20 hours (35)	2.82	3.41	1.83	3.31	1.29	2.14
White (53)	2.87	3.41	1.64	3.29	1.32	2.16
American Indian or Alaska Native (3)	2.54	3.25	2.10	2.00	2.00	2.00
Asian (4)	2.85	3.44	2.64	3.67	1.25	2.25
Black or African American (9)	2.74	3.19	2.00	3.04	1.56	2.11
Latino/a (8)	3.27	3.88	1.86	3.29	1.38	2.63
Mixed Ethnicity (8)	2.88	3.53	1.57	3.54	1.13	2.50
White and American Indian or Alaskan Native (8)	3.05	3.34	1.20	2.67	1.29	2.25
White and Latino (2)	2.69	4.00	1.21	2.00	2.00	2.00
Female (81)	2.93	3.51	1.67	3.23	1.35	2.23
Male (12)	2.74	3.19	1.76	3.06	1.33	2.17
Other (2)	2.22	2.13	2.07	1.67	2.00	2.00
First Generation (49)	2.93	3.58	1.73	3.39	1.34	2.37
Non First Generation (46)	2.85	3.29	1.655	2.96	1.38	2.07

Table 4

Significant Means Differences Based on Enrollment Status

Measure	Full-time (83) *M*	Part-time (12) *M*	*t*(93)	*p*	*d*
Sense of belonging	2.96	2.38	2.828	.006	.77
Intent to persist	3.55	2.73	2.449*	.031	.92
Overall connection	2.34	1.42	2.942	.004	1.05

*Equal variances not assumed.

Gender identification. There were several significant means differences found between students identifying as other gender and those identifying as female or male on two variables: institutional support and intent persist. The One-way ANOVA examining institutional support between the three groups indicated the means were significantly different, F (2, 92) = 3.452, p =.036, η^2 = .07. The Tukey's post-hoc HSD indicated a significant difference between other and female (p =.031) while there was a non-significant difference between male and female (p = .776). This indicates that perceptions of institutional support were not significantly different between the male (*M* = 3.06) and female participants (*M* = 3.24), but the female participants' perceptions of institutional support were significantly higher than those students identifying as other gender (*M* = 1.67). The One-way ANOVA test indicated significant differences between the intent to persist scores for the three groups F (2,92) = 5.23, p = .007, η^2 = 10. The Tukey's post-hoc HSD indicated the greatest difference was between female and other (p = .013). This indicates that participants' intent to persist as was not significantly different between the male (*M* = 3.19) and female participants (*M* = 3.51), but the female participants' intent to persist was significantly higher than those students identifying as other gender (*M* = 2.13). Additionally,

these differences indicated medium (institutional support) to large effect size (intent to persist) according to Cohen's (1988) convention. These findings specified students identifying as female reported statistically significant higher scores on perceptions of institutional support and intent to persist than students identifying as other.

Correlation of all Variables

As reported in Table 5, there were significant correlations between sense of belonging and all the other variables. Similarly, overall connection was significantly correlated with all other variables besides overall stress. These findings supported the preliminary studies reporting the potential negative impacts COVID-19 can have on college students, and specifically first-year students. The findings also validated the importance of perceptions of institutional support in students' developing a sense of belonging and promoting an intent to persist.

Table 5

Pearson Correlation Coefficients

	Sense of belonging	Intent to persist	Institutional support	Student worries	Overall stress	Overall connection
Sense of belonging	—					
Intent to persist	.55**	—				
Institutional support	.57**	.32**	—			
Student worries	-.23*	-0.14	-0.14	—		
Overall stress	-.24*	-0.04	-.36**	.40**	—	
Overall connection	.70**	.45**	.38**	-.23*	-0.08	—

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Finally, only 12% of students indicated an intent to transfer to another university to complete their degree, while 70% strongly disagree or disagreed with this statement, leaving 18% of students answering neither disagree nor agree.

Primary Results

Research Question 1

Research Question 1 was, "To what extent does sense of belonging predict intent to persist?" A linear regression analysis was conducted to examine the prediction of intent to persist due to sense of belonging. A significant regression equation was found ($F (1, 93) = 40.00$, $p < .000$), adjusted $R^2 = .293$. This result showed sense of belonging is a significant predictor of intent to persist, and multiple R squared indicated 30% of the variation in this sample.

Research Question 2

Research Question 2 had two parts. The first part of the question was, "To what extent does generational status predict sense of belonging?" To answer the first part of the research question, I conducted a simple regression analysis using SPSS. In addition, to determine the amount of variance (R^2), I ran an F test to determine if the variation is significant. Preliminary analysis on demographic differences indicated no significant difference between first-generation (FG) and non-first-generation (NFG) students related to sense of belonging ($t = .590$, $df = 93$, $p = .557$). The planned linear regression analysis confirmed this lack of predictive relationship: ($F (1, 93) = .348$, $p = .557$), with an R^2 of .004. The second part of the question is, "Does sense of belonging mediate the relationship between generational status and intent to persist?" Because there was not a significant relationship between sense of belonging and generational status, sense of belonging cannot be assumed to be a mediator of the relationship between generational status and intent to persist (Tabachnick et al.,2007).

Research Question 3

Research Question 3 was, "Did any of the COVID variables (institutional support, student worries, overall stress, and overall connection) predict sense of belonging and intent to persist?" To answer this question, I conducted 2 two-step hierarchical multiple regression with student worries and overall stress in Step 1, and institutional support and overall connection were entered in Step 2 as independent variables. In the first analysis, sense of belonging was the dependent variable, and intent to persist was the dependent variable in the second analysis.

The first step in the first analysis (sense of belonging) yielded a significant regression equation ($F(2,89) = 3.982$, $p = .022$, adjusted $R^2 = .062$). With the addition of institutional support and overall connection, the second model yielded the regression equation ($F(2,89) = 34.802$, $p < .000$, adjusted $R^2 = .598$). The R^2 change from step one to step two was .533 indicating that the addition of these two variables explained an additional 53% of the variation in sense of belonging.

The first step in the second analysis (intent to persist) was not significant ($F(2, 89) = 1.195$, $p = .307$, adjusted $R^2 = .004$). With the addition of institutional support and overall connection, the second model yielded the regression equation ($F(2,89) = 6.926$, $p < .000$, adjusted $R^2 = .207$). The R^2 change from step 1 to step 2 was .215 ($F = 12.352$, $p < .000$) indicating that the change was statistically significant with the addition of these two variables, explaining an additional 21% of the variation in intent to persist.

Both of these analyses indicated that the negative predictors (overall stress and student worries) were less impactful on sense of belonging and intent to persist than the positive predictors (institutional support and overall connection) as shown in Table 6, as well as a

summary of the hierarchical regression analysis, including the unstandardized and standardized regression coefficients for all variables.

Table 6

Summary of Hierarchical Regression Analysis for COVID Variables Predicting Sense of Belonging and Intent to Persist

Variable	B	SE B	β
		Sense of Belonging	
Step 1			
Student worries	-.176	.111	-.175
Overall Stress	-.169	.112	-.167
Step 2			
Student worries	-.043	.074	-.043
Overall stress	-.061	.079	-.061
Institutional support	.311	.078	.309**
Overall connection	.590	.075	.581**
		Intent to Persist	
Step 1			
Student worries	-.169	.112	-.172
Overall stress	.034	.113	.034
Step 2			
Student worries	-.083	.102	-.085
Overall stress	.092	.108	.093
Institutional support	.169	.107	.172
Overall connection	.383	.103	.386**

**p < .001

Research Question 4

Research Question 4 was, "Is there a difference in perceptions of COVID-19 responses between first-generation and non-first generation first-year students (institutional support, student worries, overall stress, and overall connection)?" As noted in Table 7, there was a significant mean difference between first-generation and non-first-generation students in the perceptions of institutional support. Due to a violation of Levene's test for homogeneity of variances, a t-test not assuming homogenous variances was computed for the t-test of institutional support. These findings show that first-generation students had similar reported scores of overall stress and student worries as their non-first-generation peers. First-generation students had higher reported scores on perception of institutional support and overall connection than their non-first-generation peers, although only institutional support was statistically significant.

Table 7

COVID Variable Means Differences Based on Generational Status

COVID variable	First-generation	Non first-generation	*t*(93)	*p*	Cohen's *d*
Institutional support	3.3878	2.9565	2.467*	.015	.51
Student worries	1.7318	1.6522	.442	.659	.09
Overall stress	1.3404	1.3778	-0.265	.792	.06
Overall connection	2.3673	2.0652	1.404	1.64	.29

*Equal variances not assumed.

Chapter 5: Discussion

This dissertation was a quantitative study exploring the relationship between sense of belonging and intent to persist and potential effects of the COVID-19 pandemic among first-year first-generation students (although demographic groups were also analyzed distinctly). The design was a cross-sectional survey administered in the eighth week of the Fall 2020 semester. The results of the study confirmed that a sense of belonging predicted an intent to persist, although there was no significant difference between the first-generation and non-first-generation students among these participants. In addition to the differences in the COVID variables related to generational status, there were significant mean differences found in two demographic variables—enrollment status and gender. There were also significant correlations between sense of belonging with all other variables measured.

In this chapter, I will provide a summary of the findings in relation to each research question, followed by how the findings support previous sense of belonging research in college students and potential theoretical implications from findings related to COVID. I will then review how the findings can inform future practices for colleges to nurture a sense of belonging and support first-generation students. I will then discuss the problems with the nature of self-reported data and potential environmental factors that can limit the generalizability of the findings. Finally, I will lay out potential topics for future research to further broaden the understanding of how a sense of belonging can increase college students' academic motivation as well as how colleges can create an environment that supports all students and provides clear pathways to success.

Research Question 1

In Research Question 1, I investigated if sense of belonging was a significant predictor of intent to persist, and my hypothesis was confirmed, with 30% of the variance in intent to persist

explained by sense of belonging. This finding demonstrates the benefits of increasing a sense of belonging in college students, as an increased sense of belonging can contribute to a student's intent to persist.

Research Question 2

In Research Question 2a, I explored the relationship between a sense of belonging in first-generation and non-first-generation students and had predicted a higher sense of belonging in the non-first-generation group. This hypothesis was not supported. In this group of participants, there was only a slight difference in sense of belonging between first-generation and non-first generation students, and it was not significant. This could partly be because of the nature of the institution, which serves a higher population of FG students. For example, the sample in this population was almost evenly split between first-generation and non-first generation students. The institution was significant to the study because many studies on sense of belonging occur at more selective institutions, so I wanted to explore if the same result would be replicated at a less selective institution. In contradiction to a previous study at this institution (Ross & Heddy, 2020), residential status did not have a statistically significant difference either, and the average mean was actually higher for students living off-campus (with roommates and alone) than on-campus, which is the opposite of the previous finding. This could be attributed to the COVID restrictions in place on campus, which severely limited student face-to-face interaction. Most student events were converted to a virtual format or canceled. The only statistically significant difference on the sense of belonging measure based on demographics was among full-time and part-time students. Full-time students had a higher average score than part-time students, indicating they experienced a higher sense of belonging than students who only went to school part-time. In the second part of Research Question 2b, I planned to determine if

sense of belonging mediated the relationship between generational status and intent to persist. According to Tabachnick et al. (2007), the assumptions of a mediation analysis must include a significant relationship between the dependent variable (intent to persist) and the independent variable (generational status) as well as the mediator variable (sense of belonging). Since there was no significant relationship between generational status and sense of belonging, this analysis was not conducted, and thus, this hypothesis was not supported.

As discussed above, this could be due to the characteristics of the institution with a higher first-generation population and less selective entrance requirements. For example, students may feel like they fit better with their peers if they perceive they are more similar to their peers. In addition, there is an emphasis on student-centered learning at the institution, which may result in higher perceptions of belonging. In Ross and Heddy (2020), students indicated that they felt cared about by their faculty, as well as staff members, at this institution.

Research Question 3

In Research Question 3, I explored the impacts of COVID-19 on sense of belonging and intent to persist by conducting two multiple hierarchical regression equations with two sets of predictors. The first set of predictors entered were the anticipated negative predictors—student worries and overall stress. The second set of predictors were the anticipated positive predictors—institutional support and overall connection. Both of these analyses indicated that the negative predictors (overall stress and student worries) were less impactful on sense of belonging and intent to persist than the positive predictors (institutional support and overall connection).

Research Question 4

In Research Question 4, I examined if there were differences in perceptions of COVID-19 responses between first-generation and non-first-generation first-year students using the

variables adapted from the COVID-19 survey (institutional support, student worries, overall stress, and overall connection). There was only one significant mean difference between first-generation and non-first-generation students, and that was in the perceptions of institutional support. Interestingly, first-generation students had a higher perception of institutional support than non-first-generation. The three questions in this variable included perceptions of how well staff and administration have helped students adapt to changes due to COVID-19 and how much care and concern they have felt from staff, administration, and faculty. It could be that non-first-generation students had higher expectations going into college, based on their parental or familial experiences with college, whereas first-generation students had lower or no expectations regarding these concepts going into college.

Theoretical Implications

Overall, results supported research linking the importance of sense of belonging as an important motivational construct in higher education outcomes due to the statistically significant correlations with all of the other variables (positive and negative correlations) and the impact sense of belonging had on intent to persist. The confirmed hypothesis that sense of belonging can predict intent to persist adds to the body of literature on how creating a sense of belonging can improve college students' persistence. In relation to belongingness being a fundamental need linked to motivation (Maslow, 1943), the negative correlations with overall stress and student worries (which included the basic needs of food and shelter) illustrated that relationship.

Because of COVID-19, the traditional support systems in place to engender a sense of belonging such as student affairs programming (Welcome Week, Homecoming, etc.) either had to be converted to a virtual format or canceled. Did these COVID-19 adjustments lower students' sense of belonging? This study cannot answer this question, but Ross and Heddy (2020) reported

the average mean for sense of belonging was 3.84 for a group of first-year students at this same university. In this study, the overall average for sense of belonging was 2.89 overall, which is significantly lower, although not statistically meaningful. These numbers do suggest that COVID-19 could have impacted students' sense of belonging, but without longitudinal data, this relationship cannot be proven.

Reasons for a decrease in sense of belonging due to COVID-19 could be the lack of basic needs being met or the lack of a sense of connectedness among students. There was a 70% correlation significant at the .01 level between sense of belonging and overall connection. Baumeister et al. (1995) argued belonging was a "need for frequent personal contacts," not necessarily a connection to just one person (p. 499). At this university, administrators strived to create as many opportunities for contact as possible given the limitations of COVID-19 through the continuation of in-person classes and smaller class sizes, although this effort was hindered by the necessity of mask wearing and social distancing. The scores on overall connection were lower than the sense of belonging scores, but we know that connection is just one part of a sense of belonging, albeit an important one. Walton et al. (2011) posited that even a small perception of social connectedness could positively impact academic motivation.

A sense of being cared about or valued is another component of sense of belonging, and perhaps this can be seen in the relatively high scores of institutional support. In a number of studies, faculty support was shown to be a significant factor in sense of belonging in first-year students (Means & Pyne, 2017; Morrow & Ackermann, 2012). Freeman and colleagues (2007) found that faculty behaviors that encouraged interaction and participation supported a student's sense of belonging, and Zumbrunn et al. (2014) demonstrated students who reported their instructors were "enthusiastic, passionate, and caring in the classroom" had a higher sense of

belonging. Means and Pyne (2017), in their qualitative study, found that connections to multicultural offices and certain faculty characteristics increased a sense of belonging in their participants (8 of 10 were students of color). While there was a lack of on-campus activity, the efforts made by student support offices to reach out to students through digital means, in combination with supportive faculty characteristics, could have contributed to the higher scores of institutional support above the national average (HEDS, 2020).

Maybe the "cultural mismatch" that Stephens et al. (2012) ascribed to the differences between first-generation and non-first generation students in their college experiences was lessened by the more flexible academic policies highly encouraged by administration and the pro-active communication to students throughout the semester. This could be evidenced by the unexpected significant finding that the first-generation students scored higher on perceptions of institutional support than their non-first-generation peers. Stephens et al. (2012) argued FG students have a more "interdependent model of self" based on their culture, which conditions them to be less assertive and independent. Even though both groups of students expect to be more independent at college, Ives and Castillo-Montoya (2020) explained that FG students interpret that to mean they will be on their own, while NFG students understand this means they will need to ask for help. So, when COVID-19 hit college campuses, and campuses made extensive efforts to communicate and assist students in this unusual time, FG students may have been surprised by this, and thus their reported higher perceptions of institutional support.

The fact that there was not a significant difference in sense of belonging between first-generation and non-first-generation students contradicts previous studies that demonstrated there was a difference between these groups in their sense of belonging (Ives and Castillo-Montoya, 2020; Means & Pyne, 2017; Ross & Heddy, 2020). One potential reason for this is that there are

more first-generation students in this setting than in the more prominent educational settings. Nearly 50% of respondents identified as first-generation. This could suggest that the type of institution could have a greater impact and should be considered in theories regarding sense of belonging. Intuitively this makes sense that students would feel less sense of belonging at an institution where they felt they were more different than their peers (i.e., surrounded by more first-generation students). One recent study presented findings that first-generation students at community colleges had a higher sense of belonging than first-generation students at four-year institutions (Gopalan & Brady, 2020). These institutional differences have theoretical implications for sense of belonging at higher education institutions and limit generalizations across them.

Another potential reason is a decrease in sense of belonging of non-first-generation students due to the COVID-19 pandemic accommodations. As mentioned previously, COVID-19 accommodations halted or drastically modified many of the traditional campus activities that more "traditional" students may have anticipated. Without the anticipated wrap-around of college life, non-first-generation students may have found themselves feeling more out of place than they would have in a normal semester. Strayhorn (2018) argued unfamiliar contexts might heighten the importance of a sense of belonging, and I would contend all students, especially first-year students, found themselves in an unfamiliar context in Fall 2020.

Another interesting finding is that in this study residential status did not make a difference in the students' sense of belonging, which contradicts a previous study at this university which showed on-campus students had a higher sense of belonging than off-campus students (Ross & Heddy, 2020). In this study, the opposite was true, with the average mean sense of belonging score of off-campus participants (living with roommates or alone) higher than

students living on-campus as well as off-campus (living at home). While these differences were not statistically significant, I think they are probably attributed to the COVID-19 restrictions in place on campus that severely limited in-person interactions in the classroom as well as out of the classroom. There were very few regular campus events to attend on campus. Most of them were virtual, so even those students living on campus attended events alone in front of their computer.

One demographic that did reflect statistically significant differences in sense of belonging was enrollment status. The students who were enrolled full-time had a higher sense of belonging than those who were enrolled part-time. Engle and colleagues (Engle et al., 2006) articulated first-generation students are more likely to be part-time students. There is a bigger challenge in instilling a sense of belonging in students who are not attached to the university in the same way as full-time students. These students may be part-time for financial limitations or have full-time jobs and/or family responsibilities, which inherently decreases their capacity for engaging with school. With the practical implications of COVID-19 (e.g., remote work, childcare issues), more students likely found themselves in a situation with less capacity for engaging with school, even if they are full-time students.

Another group of students which had statistically significant differences were students who identified as other gender. Their difference was not in a sense of belonging, but in their perceptions of institutional support and intent to persist. While this was a very small number of students, their lower scores on these two variables warrant attention, even with the consideration of the implications of COVID-19. This finding is reminiscent of the seminal work of Hurtado and Carter (1997), which brought attention to the different college experiences of Hispanic students in comparison to their White peers, which widened the field of sense of belonging

research to include a non-majority group who experienced college in a very different way than traditional college students. I think this finding emphasizes the importance of acknowledging differences among college students and adapting plans of success and retention to include all students.

The predictive relationship between sense of belonging and intent to persist was supported in this study and was correlated similarly with the other variables, with two significant correlations. Unsurprisingly, institutional support and intent to persist were significantly correlated, along with intent to persist and overall connection. Morrow and Ackerman (2012) found that faculty and peer support had the most significant impact on intent to persist, which resonates with the institutional support and overall connection correlations.

The theoretical implications due to COVID-19 are complex and far-reaching. The factors evaluated in the COVID-19 portion of the survey are already impactful issues for many first-generation students (in particular, low-income), but they have been exaggerated or magnified by this crisis. For example, one of the questions addressed access to technology, and one thing that became evident as colleges scrambled to put courses online is that many of their students did not have adequate technology resources to sufficiently participate in an online course, including a laptop (many students access their classes through their smartphone) and a Wi-Fi connection. Many colleges, this one included, expanded their Wi-Fi access to parking lots, so students could sit in their cars to "attend" their virtual classes. Educational theorists should expand their research to include virtual environments and the restrictions that come with them to ensure they are inclusive of all students. Early data shows how the COVID-19 pandemic has negatively affected students' perceptions of their colleges and online classes, with 63% of students saying online classes are worse than in-person classes (SimpsonScarborough, 2020).

Practical Implications

The findings from this study have several practical implications, including 1) continuing and/or increasing efforts to create positive learning environments that support all students; 2) emphasizing to faculty the important role they can play in increasing a student's sense of belonging and why that is important, and 3) incorporating lessons learned in COVID-19 which may be of benefit to first-generation students and ultimately to all students.

Continuing to support students' sense of belonging in college is a potential pathway to encourage positive academic outcomes, in particular, persistence of all students. And there are several strategies to increase a sense of belonging supported by this research. The first strategy is to exhibit caring for students as indicated in institutional support. As mentioned previously, these questions concerned faculty, staff, and administration, clearly expanding the impact of all people who come into contact with students, either virtually or in person. Because much of the communication was virtual this year, it is important to note the effect these communications had on students' perceptions of institutional support. Most colleges are sensitive to crafting their official messages to students, but more informal correspondences could be considered as well in increasing students' sense of belonging. This time of crisis could be a time to reimagine traditional support structures to create a more inclusive environment for all students. For example, the increased use of and normalizing of video-conferencing tools has expanded access to student support services that many students may not have been able to engage with previously because of work or family obligations, such as counseling services and sessions offered by other student organizations.

The emphasis on creating and supporting online learning environments is critical as well. At this institution, some of the faculty forced to teach online had never even used the schools'

LMS before and were scrambling to learn the technology, convert their classes, and be even more accommodating and available to their students. Making sure all faculty are trained and supported in online learning environments can increase positive learning outcomes across the board, as students are entering a world where technological competencies are critical and learning to communicate through virtual means, i.e., web conferencing tools, will only help them in their future careers.

In terms of COVID-19, the consequences for first-generation students are critical, and it is yet to be seen if this setback can be recovered. As mentioned previously, a higher proportion of first-generation students are likely to have stopped out for reasons that will make it harder for them to return than their non-first-generation peers. Targeted outreach and communication with these students should be prioritized by colleges, and efforts made to re-engage these students academically need to be progressive and go beyond typical recruitment emails and advertising. They will join an already large population of some-college, no-degree students that universities find challenging to re-engage. One thing that is clear from this study is the importance of feeling supported, cared about, and that feeling of connection—in other words, the socio-emotional components that may be overlooked in traditional marketing.

Potential Limitations and Threats to Validity

As with all research, there are several limitations to the study. The first and most significant limitation is inherent in the cross-sectional design, which gives a snapshot of the participants' perceptions at one moment of time and therefore cannot fully or adequately address the nuances of their experiences. Not only does this one-time measure not account for changes in participants' circumstances that may influence their responses, but it does not account for environmental conditions and, in this time of COVID-19, would be particularly relevant. For

example, a participant could have had a particularly bad morning which could negatively skew their response or vice versa. To gain a more robust understanding of a sense of belonging and its relationship to persistence, a longitudinal study would be needed. Finally, because the study is not an experimental design, any causal relationship found between variables is less valid.

Another limitation is the self-reported nature of the data. Self-reported data is also subject to the participants' mental state at that given moment and environmental factors that could influence their answers, thus introducing bias into the data. The more subjective nature of self-reported data makes it less reliable and valid due to the tendency to present oneself in a more desirable manner or to produce the answer that one thinks is more socially acceptable (Van de Mortel, 2008).

The measures themselves can limit the generalizability since there has been inconsistent use of measuring sense of belonging. While the PSSM measure has shown to be reliable in a college population, it does not provide the more complex insights needed to account for environmental differences as seen in this study versus studies in more selective institutions. Even though intent to persist has been shown to be an acceptable proxy for actual persistence, it does not provide an actual measure of persistence. Enrollment records would be needed to gain a more accurate comparison of belonging scores and actual persistence but were not able to be obtained for this study.

While the participants were a representative sample in terms of ethnicity, enrollment status, and residential status, they were not in terms of gender. There was an exceptionally high rate of female participants. Porter and Whitcomb (2005) reported females respond at higher rates than males, which could skew the results by not adequately representing the sample population.

Finally, the study does not account for the myriad reasons a student may not persist in their college career. Chief among these reasons may be financial concerns (Hong et al., 2011; Longwell-Grice et al., 2016). While there may be reciprocal relationships between financial concerns, sense of belonging, and persistence, those relationships are not explored in this study, and therefore the scope of conclusions regarding academic persistence is limited.

Future Directions

I think there are several areas for future research that would advance the understanding of a sense of belonging in educational psychology, including fine-turning the measurement of sense of belonging in college students, further exploration of making college culture and processes more transparent for first-generation students, expanding research on web-conferencing and how sense of belonging can be cultivated in an online learning environment.

Validation studies of more complex sense of belonging measures could provide more nuanced data that might help researchers parse out the differences that occur across institutions. For example, Hoffmann et al. (2002) created a sense of belonging scale that found five factors contributing to the construct: perceived peer support, perceived faculty support/comfort, perceived classroom comfort, perceived isolation, and empathetic faculty understanding (p. 248). Validating this survey across institutions of demographically different college populations and selectivity could provide more opportunities to generalize sense of belonging outcomes in college students.

There is a body of research regarding first-generation students and how to increase their success by examining opportunity gaps, in particular the "unwritten rules" of college that many non-first-generation students may already know, but it would be worthwhile to study how college messaging effects this "cultural mismatch" so that it can be addressed in a more

thoughtful way. For example, will a more proactive and caring approach in university and faculty communications make a difference in students' perceptions of institutional support and sense of belonging? Future research could explore how college communications and processes are interpreted by students from different backgrounds.

The COVID-19 pandemic, in general, has opened opportunities for research on web-conferencing platforms in education, as they have in nine short (long) months become used widely, even by the most technically reluctant faculty members. Researching how these platforms can best be used to facilitate learning and positive learning experiences will help students succeed. This is especially important for the first-generation population of college students that may have been more negatively impacted by the pandemic.

The COVID-19 experience has also brought more attention to how learning online can be different and how isolating it can be, as students and instructors from kindergarten to college scrambled to adjust to virtual instruction. While many colleges plan to resume in-person learning, some students may find the online route was better for them in terms of flexibility. There is a body of research on student engagement in online learning environments, in particular as a positive academic indicator of motivation and learning, but less about college students' sense of belonging in this environment. Understanding sense of belonging in the online environment and determining if it has the same impact on intent to persist could be critical to increase student outcomes in this educational setting. Even if there is not a pandemic or other emergency reasons students are taking online classes, many students who are working and/or going back to school will find themselves needing the convenience and flexibility of online classes to successfully complete their degree.

Conclusion

This study expanded the literature on the relationship sense of belonging has with intent to persist and how first-year students have experienced the COVID-19 pandemic. Making college more accessible and achievable for first-year first-generation students is critical for their social well-being and economic mobility. Finding ways to do this is always important, especially now that higher education is in a period of declining enrollment and losing proportionately more lower-income students. Increasing the understanding of what leads to a greater sense of belonging can lead to increased efforts on behalf of colleges to implement belonging interventions, which will give all students a better chance of success.

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Appendices

Appendix A: The Psychological Sense of School Membership (PSSM) Scale

Instructions: Answer the following questions based on the 5-point Likert scale:

1. Strongly disagree
2. Somewhat disagree
3. Neither agree nor disagree
4. Somewhat agree
5. Strongly agree

1. I feel like a real part of [university].
2. People at [university] notice when I'm good at something.
3. It is hard for people like me to be accepted at [university].*
4. Other students at [university] take my opinions seriously.
5. Most instructors at [university] are interested in me.
6. Sometimes I feel as if I don't belong at [university].*
7. There's at least one instructor or staff member at [university] I can talk to if I have a problem.
8. People at [university] are friendly to me.
9. Instructors at [university] are not interested in people like me.*
10. I am included in lots of activities at [university].
11. I am treated with as much respect as other students.
12. I feel very different from most other students at [university].*
13. I can really be myself at [university].
14. The instructors at [university] respect me.
15. People at [university] know I can do good work.
16. I wish I were at a different school.*
17. I feel proud of belonging to [university].
18. Other students here at [university] like the way I am.

*Reverse-coded

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Appendix B: Intent to Persist and Intent to Transfer

Instructions: Answer the following questions based on the 5-point Likert scale:

1. Strongly disagree
2. Somewhat disagree
3. Neither agree nor disagree
4. Somewhat agree
5. Strongly agree

Intent to Persist

1. It is not important for me to graduate from [university].
2. I am confident I made the right decision to attend [university].
3. I intend to complete my degree at [university].
4. It is important to me to complete my bachelor's degree.

Intent to Transfer

1. I will transfer to another university to complete my degree.

Appendix C: COVID-19

Adapted from **HEDS COVID-19 Institutional Response Student Survey**
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Institutional Support

Overall, the staff and administration at [university] have done a good job helping students adapt to the changes at the institution brought on by the spread of COVID-19.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree nor disagree
4. Somewhat agree
5. Strongly agree

Overall, staff and administration at [university] have shown care and concern for me as they respond to the spread of COVID-19.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree nor disagree
4. Somewhat agree
5. Strongly agree

Overall, faculty at [university] have shown care and concern for me as they make changes in their courses in response to COVID-19.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree nor disagree
4. Somewhat agree
5. Strongly agree

Student Worries

Given the changes at [university] caused by the spread of COVID-19, how often do you worry about the following:

	Never	Sometimes	About half the time	Most of the time	Always
Doing well in college now that many or all of your courses are online.	○	○	○	○	○
Losing friendships and social connections now that classes are online.	○	○	○	○	○
Accessing and successfully using the technology needed for your online classes.	○	○	○	○	○
Having access to health care.	○	○	○	○	○
Paying your bills (i.e. tuition, loans, rent, internet access, medical).	○	○	○	○	○
Having a safe and secure place to sleep every night.	○	○	○	○	○
Having enough to eat every day.	○	○	○	○	○

Overall Stress

Overall, how much stress are you feeling about the potential consequences of the spread of COVID-19?

1. Little or none
2. Some
3. A great deal

Overall Connection

How connected do you feel to [university]?

1. No connection
2. Very little connection
3. Some connection
4. Strong connection
5. Very strong connection

Appendix D: Demographics

What is your age?

- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65 or older

Which best describes you?

- Full-time student
- Part-time student

Where do you live?

- On the [university] campus
- Off campus, with family
- Off campus, alone or with roommates

Are you taking Success Central?

- Yes
- No

Are you currently employed or working?

- Yes, less than 20 hours a week
- Yes, more than 20 hours a week
- No

Choose one or more ethnicity that you consider yourself to be:

- White (non-Hispanic)
- Latino/a
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Mixed Ethnicity
- Other

What is your gender?

- Male
- Female
- Other

What is the highest level of education that either of your parents completed?

- Some high school
- High school
- Some college
- 2-year college
- 4-year college
- Some graduate school
- Graduate/Advanced Degree
- Unknown