CRITICAL COLLEGE PERSISTENCE: AN ASSET-BASED FRAMEWORK FOR
FIRST GENERATION COLLEGE STUDENTS’ PERSISTENCE IN COLLEGE

by

Aisha A. Almond

A dissertation submitted to Johns Hopkins University in conformity with the requirements for
the degree of Doctor of Education

Baltimore, Maryland
April 2023

© 2023 Aisha A. Almond
All rights reserved.
Abstract

A college degree in the United States is crucial for citizen’s earning power and career. There are a group of citizens, first generation college students (FGCS), who are earning degrees at a lower rate than their peers. This dissertation discusses the barriers faced while persisting through college using Bronfenbrenner’s ecological systems theory. A convergent parallel study was conducted to determine additional factors that impact students’ persistence while attending college. Using a transformative research paradigm, sociocultural factors were discovered that could be mitigated by the assets highlighted by participants, first generation college students and full-time college faculty. While there are several college persistence models there still is a gap in the literature and limited research on asset-based frameworks that leverages FGCS’ assets. This dissertation creates a framework named the critical college framework. The framework shows the sociocultural barriers experienced by first generation college students and the assets they possess to persist toward a degree.

Keywords: first generation college student, sociocultural, critical college persistence, transformative research, barriers, assets

Primary Reader: Iris Saltiel
Acknowledgements

We made it! First, I must thank the people who have offered their patience and thoughtfulness, because without them I would not have finished my doctoral degree. I want to thank my advisory committee at Johns Hopkins University, especially my adviser Dr. Iris Saltiel, whose insight and knowledge in scholarly writing guided me through my research (sorry for all those edits!). And, a special thanks to Drs. Yolanda Abel and Camille Bryant, who always gave me expert feedback to produce research with a voice that I am proud of.

My scholarly sisters and brothers of Johns Hopkins University who supported me and was with me to reflect, vent, and write over the last three and half years. To all my faculty and staff at Coppin Academy who held it down while I toiled and labored through this process. I could not have done it without you.

And my biggest thanks to my family, especially my parents, Ron and Phyllis. Your care and prayers worked! Thank you all for all the support you have shown me through this research. For my friends, sorry for missing those birthdays, dinners, and walks while I wrote this dissertation. And to my favorite human, Kevin, thanks for all your support, without which I would have stopped these studies a long time ago. Your belief in me and patience with me has been amazing, and I am better because of you! Thank you for being you.
Dedication

To the first generation college students of past, present, and future, this work is an attempt to ensure you are provided the high class education you deserve, because you are the humans who are first.
# Table of Contents

Abstract ............................................................................................................................................... ii

Acknowledgements ........................................................................................................................ iv

Dedication .......................................................................................................................................... iv

List of Tables ........................................................................................................................................ x

List of Figures ....................................................................................................................................... xi

Executive Summary .......................................................................................................................... 1

Chapter 1: Persistence of First Generation College Students in the United States ........ 3

Introduction .......................................................................................................................................... 4

Ecological Systems Theory ................................................................................................................. 4

Chronosystem: Success Over Time ...................................................................................................... 6

  High School Development ................................................................................................................ 7

  History of Financial Burdens ............................................................................................................. 8

  Cultural Mismatch ............................................................................................................................ 10

Macrosystem: Social and Cultural Values .......................................................................................... 11

  Interdependent Values & Motivations ............................................................................................... 12

  Self-Perceptions of FGCS .................................................................................................................. 16

  Dependence on Family Network ...................................................................................................... 17

Exosystem: Policy and Education Levels ............................................................................................ 19

  Support Programs ............................................................................................................................ 20
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financing College</td>
<td>23</td>
</tr>
<tr>
<td>Parental Educational Level</td>
<td>25</td>
</tr>
<tr>
<td>Mesosystem: Programming &amp; Practices</td>
<td>26</td>
</tr>
<tr>
<td>High School Climate and Culture</td>
<td>27</td>
</tr>
<tr>
<td>Technology in College Access</td>
<td>29</td>
</tr>
<tr>
<td>Sense-making</td>
<td>30</td>
</tr>
<tr>
<td>Microsystem: Personal Factors</td>
<td>31</td>
</tr>
<tr>
<td>College Access</td>
<td>31</td>
</tr>
<tr>
<td>Sense of Belonging</td>
<td>34</td>
</tr>
<tr>
<td>Conclusion</td>
<td>36</td>
</tr>
<tr>
<td>Chapter 2: Needs Assessment</td>
<td>38</td>
</tr>
<tr>
<td>Context of the Study</td>
<td>38</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>39</td>
</tr>
<tr>
<td>Research Design</td>
<td>40</td>
</tr>
<tr>
<td>Methods</td>
<td>42</td>
</tr>
<tr>
<td>Participants</td>
<td>43</td>
</tr>
<tr>
<td>Measures and Instrumentation</td>
<td>43</td>
</tr>
<tr>
<td>Survey</td>
<td>43</td>
</tr>
<tr>
<td>Semi-structured Interviews</td>
<td>44</td>
</tr>
<tr>
<td>Procedure</td>
<td>44</td>
</tr>
</tbody>
</table>
Data Collection ........................................................................................................ 45
Data Analysis ........................................................................................................... 46
Findings and Discussion ............................................................................................. 47
Research Question 1 .................................................................................................. 47
Research Question 2 .................................................................................................. 49
Research Question 3 .................................................................................................. 53
Research Question 4 .................................................................................................. 54
Limitations .................................................................................................................. 56
Conclusion .................................................................................................................. 56
Chapter 3: Persistence of First-Generation College Students in College ............... 58
Key Findings of Needs Assessment ............................................................................. 58
Models on College Persistence .................................................................................. 61
Sociological ................................................................................................................. 61
Organizational and Behavioral ................................................................................... 63
Integrated ................................................................................................................... 64
Cultural ....................................................................................................................... 64
College Persistence Model Comparison ..................................................................... 67
Conclusion .................................................................................................................. 68
Chapter 4: Critical College Persistence Model ......................................................... 70
Introduction ............................................................................................................... 70
List of Tables

Table 1 Research Design Matrix................................................................. 42

Table 2 Examples of Barriers and Assets.................................................. 79
List of Figures

Figure 1. Ecological Systems Theory.................................................................5

Figure 2. Critical College Persistence Model.................................................73
Executive Summary

There are a group of students who are not persisting in college toward a degree at the same rate as their peers. They are known as first generation college students. In the United States, a college degree provides for more opportunities, higher salaries or wages, and increased employability. However, not all citizens have an equitable opportunity to access and earn a college degree. The persistence for first generation college students is not the same as their continuing generation college peers. These students are considered first generation because their parents have not earned at least a bachelor’s degree. They are faced with barriers that can impact their rate to achieve success in college. Using Bronfenbrenner’s ecological system theory, the researcher examined personal, political, social, and cultural factors that make it difficult for first generation college students to get through college. A convergent parallel study was designed to better understand the experiences and feelings of first generation college student, as well as full-time college faculty. Since the research found discussed what keeps students from progressing through college, the researcher used a mixed methods methodology to learn how students were successful. The research questions would determine the relationships and networks students leveraged to be successful on campus. The researcher could get a perspective of the students from the lens of faculty. In addition, the researcher wanted to learn how students connected to the campus and sense of belonging to the college culture.

The data discovered confirmed the barriers first generation college students faced while in college, but it also revealed the assets they possessed to preserver toward a degree. The students shared how faculty, peers, and family supported their efforts. Their confidence and understanding toward college culture improved to better navigate the campus. The faculty shared
similar observations. These participants highlighted the importance to know the students and be a
guide on the campus. They had to share which resources to use and share their college
experiences so they could connect with the students.

A second literature review was conducted to understand the college persistence models
experts may use to develop programming and policy for the matriculation of first generation
college students. The models used behavioral, organizational, sociological, cultural, and
integrated approaches to describe college persistence and attrition. The seminal models started
with Spady (1975) and were expanded to incorporate the cultural aspects of a student. There was
little discussion about a model that explored the resources first generation college students
possess. So, the researcher created a framework called critical college persistence. The
framework acknowledged the most common sociocultural barriers experienced by the students.
In addition, it included the assets the students have to persist through college. The framework
considered the work of Yosso (2005) that discussed an asset-based framework for students of
color to navigate college.

The framework found sociocultural barriers like family obligations, parent education,
faculty engagement, access to college resources, and sense of belonging. These barriers would
impede students from earning a college degree. However, if the assets of first generation college
students were utilized, the lack of persistence could be lessened. The researcher put forth this
framework and recommendations for high school leadership to better prepare and equip first
generation college students before entering college. It is intended for the framework and
recommendations to be submitted to the Journal of Multicultural Education to add to the research
that is asset-based and can discuss how to improve the persistence of college students.
Chapter 1: Persistence of First Generation College Students in the United States

In the United States, a college degree is essential for successful earning potential and employment opportunities. According to the National Center for Educational Statistics (2018), people aged 25-34 who completed bachelor's degrees or higher had more earning potential and higher employment rates than those without a college degree. In 2020, citizens who earned a bachelor’s degree, had “63% higher ($59,600) median earnings than those who completed high school ($36,600)” (National Center for Education Statistics, 2022, p. 3). Those with some college, but no degree earned less than those with a bachelor's degree (McCallen & Johnson, 2020; Snyder, de Brey, & Dillow, 2019). The discrepancy illustrates the dramatic difference in earnings based on ones' level of education.

Students whose parents have never attained a bachelor's degree are first generation college students (FGCS) (Phillips, Stephens, Townsend, & Goudeau, 2020; Redford & Mulvaney-Hoyer, 2017). These students are in particular danger of suffering from the earnings gap because they do not secure degrees at the same rate as continuing generation college students whose parents have at least a bachelor's degree (Engle & Tinto, 2008). Middle and upper class continuing generation students are six times more likely to complete their college degree than FGCS (Tinto, 1990, 1997). Even when considering the institution type, about only 7% of FGCS would return for a second year compared to 26% of their more advantaged peers (Engle & Tinto, 2008). These rates for first generation college students affects students from all racial and ethnic groups in the United States, with a high percentage of the students coming from low-income families and underrepresented racial and ethnic groups (Engle & Tinto, 2008; Tieken, 2016).
When FGCS attend college but do not receive a degree, they often acquire debt that can impede their future possibilities (Carnevale, Smith, & Strohl, 2013; Loeb & Hurd, 2019). This group of students is at a disadvantage compared to their peers.

**Introduction**

To be prepared for college requires more than academic preparedness (Phillips et al., 2020; Redford & Mulvaney-Hoyer, 2017). Economic and sociocultural factors can impede their progress toward a college degree. Studies have shown that college readiness derives from supportive networks that include family, peers, connections to the campus, and frequent, quality faculty interaction (Reid & Moore, 2008; Schademan & Thompson, 2016).

This chapter will discuss how these factors impact FGCS as they persist through college using Bronfenbrenner's ecological systems theory (Bronfenbrenner, 1994). It is a system's approach examining how various systems prevent equitable degree attainment for FGCS. Bronfenbrenner’s theory uses five systems to explain how relationships and networks impact individuals: the chronosystem, the macrosystem, the exosystem, the mesosystem, and the microsystem (Bronfenbrenner, 1994). Each system will be described in order to show how sociocultural factors affect FGCS persistence in college. Particularly, the ecological systems theory will be applied to an examination of access, matriculation, and degree attainment for FGCS in the United States.

**Ecological Systems Theory**

Bronfenbrenner stated the development of a child is dependent on the relationships in their environment (Bronfenbrenner, 1994; Neal & Neal, 2013). The same concept can be applied when examining the college persistence of first generation college students.
The model (Figure 1) is based on the Bronfenbrenner’s (1994) and Neal and Neal’s (2013) nested ecological theory. The outcomes of FGCS are based on the direct and indirect relationships and interactions they experience.

Figure 1.

*Ecological Systems Theory*

The embedded rings shown within Figure 1 represent various factors related to the students and the interactions students will have with these factors throughout their high school career. To begin, the chronosystem involves the time that passes throughout the development of an individual as they are surrounded by multiple influential experiences (Neal & Neal, 2013). For school children, this would be their passage through the educational system. The macrosystem involves culture, policy, and customs, all of which impact the microsystem structures of family, peers, and schools (Neal & Neal, 2013). This would reflect the FGCS’
interdependent culture and values. Next, the exosystem contains institutions and systems with processes that affect FGCS despite not having direct interaction with them (Neal & Neal, 2013), like the state’s legislative body which controls how to regulate the financial aid process for FGCS families. The mesosystem consists of people from the microsystem interact with one another (Neal & Neal, 2013). Finally, the microsystem is the system where the first generation college student is impacted because of their interaction with particular people in high school (Neal & Neal, 2013). Each environment and structure within these systems affects the successful matriculation of students through college.

**Chronosystem: Success Over Time**

Bronfenbrenner (1994) explained that the chronosystem can be used to look at how a student develops over time based on developmental growth, age, historical events, ideological changes, or movements. Stakeholders and policymakers impact FGCS with the creation of particular policies and programming to improve college persistence. For example, at a large, public Midwest college in the United States, researchers surveyed 5,364 first-time, first-year students, with nearly one-third responding (Soria & Stebleton, 2012) and found there was difference in who returned after the first year. The study showed there was a 55% chance of FGCS returning from year one to year two. That rate was lower than their continuing generation peers, when controlling for demographics like race (Soria & Stebleton 2012). Continuing generation college students have at least one parent with a bachelor’s degree. As the FGCS matriculated through college, they were less likely to persist toward a degree. Considering a FGCS’ transition from high school to college, their experiences during their school career are factors regarded as part of the chronosystem.
High School Development

In the chronosystem, first generation college students reveal how their skills develop over time (Neal & Neal, 2013). The skills required to get into college go beyond academic skills (Engle & Tinto, 2008). High school culture and school personnel influence matriculation from high school to college. Knight and Duncheon (2020) conducted a qualitative study drawn from the Educational Longitudinal Study of 2002 (ELS:2002). Their data was collected from the original study which followed 14,147 students from 687 schools during the years 2004 to 2006. The authors looked at a factor called college-going culture, which describes the priorities of secondary school personnel and resources for “promoting students’ college aspirations, plans, and preparation” (Knight & Duncheon, 2020, p. 316). It was found that the college-going culture, and school climate impacted students’ success when enrolling and persisting in postsecondary education. The study showed that high school students who have a negative college-going culture were likely to persist to college at a rate of 82%, while those with a positive culture persisted at 91%, (Knight & Duncheon, 2020).

Another study conducted by Sáenz and Combs (2015) involved seventeen FGCS high school students from a predominantly Hispanic Early College High School (ECHS) found similar results. The students earned their associate degrees while in high school and reported a school climate and culture that included earning college credit as a significant factor in their success over time. Several respondents reported they were grateful for the opportunity and that the school helped them achieve their goals of college admittance more than if they had not been in the ECHS (Sáenz & Combs, 2015).

Together these studies demonstrate that FGCS who develop skills within college-positive cultures throughout their high school experiences will have a higher persistence rate in college.
The effectiveness of the high school experience in the macrosystem impacts FGCS' attitudes and abilities and will, over time, benefit matriculation through college.

**History of Financial Burdens**

When a high school FGCS desires to attend college, they must develop a plan to finance the endeavor. They and members of their family are unfamiliar with ways and strategies to finance a college education. College can be expensive and financial aid is available to FGCS as a support. However, the financial burdens of college and accessing it can be onerous for FGCS. FGCS are primarily from working-class and low-income families (Becca, 2021; Rice, et al., 2017), unfamiliar with these processes. Therefore, these students are often burdened with additional responsibilities of working to attend college and must balance college expectations and rigors. Due to their economic status, many must work to manage personal or family responsibilities which impact successful academic attainment (Peltz, Bodenlos, Kingery, & Rogge, 2021) or attain financial security (Potter, Jayne & Britt, 2020). The Pell Grant was specifically developed to help toward degree completion for those in lower income brackets (Baum, 2021). But the scholarships and aid can be limiting in the expenses covered. In addition, the processes to finance college can be vague and esoteric for FGCS and their families. Eichelberger, Mattioli, and Foxhoven (2017) noted the importance for FGCS to navigate these financial systems to obtain a degree when they said, "… it is often important for students to have access to financial resources, knowledge, and tools while in college that can help them prioritize their use of limited funds for living and educational expenses while minimizing discretionary spending" (p. 71).

In 2008, there was a financial crisis in the United States. Due to the economic changes, it was harder for families to get financing for college with high college costs and fewer private loan
opportunities to fund college (Arnold, Lu, & Armstrong, 2012). One aspect of financial aid is completing the Financial Application for Federal Student Aid (FAFSA) used by the federal government to assign financial aid to those who qualify. The jargon filled application is hard to navigate because it is online, long and complicated. Researchers have found extraneous language can turn off students from completing the application (Kantrowitz, 2011; Taylor & Bicak, 2020; Taylor & Manor, 2021). The extra steps impede FGCS from financing college, which lowers their chances of persistence.

Over the years, there have been several attempts by colleges, state and local governments to provide additional aid for high school students to attend college at a higher rate and decrease their attrition rates due to finances. Financial aid given to FGCS is mostly need-based. However, some states have begun to offer merit scholarships as additional fund sources. For example, Georgia and New York high school students have the HOPE scholarship and the Regents' scholarship, respectively (Doyle, 2006). Doyle (2006) conducted a study to measure the likelihood of a state adopting a merit-based scholarship program. After examining educational policy and political motives over twelve years, he found states were more likely to offer merit-based scholarships due to their lower educational attainment and continuation rates. This was an effort to increase degree holders among their citizens. Although Doyle (2006) did not specifically examine the educational attainment or continuation rates of FGCS, they are a population with lower educational attainment and continuation rates (Engle & Tinto, 2008; Redford & Mulvaney-Hoyer, 2017). Therefore, over time, states with merit-based scholarships for FGCS can be beneficial for their persistence. Universities and states should consider alternative financing options to maintain desired persistence and retention rates.
Cultural Mismatch

As FGCS set their sights to attend and persist through college, their academic and social development is a factor during the transition (Arnold et al., 2012). Early in their lives, FGCS develop and learn from experiences, messages, values, and behaviors taught by their families and environments (Bandura, 1986). Consequently, FGCS’ learning and experiences are different than their non-FGCS (Phillips et al., 2020). Many of their families may not discuss going to college or other postsecondary school options. FGCS tend to have a more interdependent culture, which differs from the middle-class, independent college culture (Stephens, Townsend, Markus, & Phillips, 2012). For example, FGCS’ motivations to earn a degree comes from the intention to elevate their family and community (Hecht, Priniski, Tibbetts & Harackiewicz, 2021). FGCS intertwine their family and community, whereas middle-class culture can be more individualized in motivations and intentions. The difference of values between the student and college is called a cultural mismatch (Huerta & Fishman, 2014).

When there is no mitigating cultural structures or systems in place for FGCS when they arrive to college, a cultural dissonance impacts students’ college years and matriculation. Plus, cultural dissonance contributes to the stressors and feelings of academic incompetence (Harackiewicz et al., 2014). An experimental study from Stephens, Townsend, Markus, and Phillips (2012) looked at eighty-four FGCS and non-FGCS during their first year in college to measure the change in cortisol levels when students received welcome letters from the university. To do this, researchers sent two different letters with varying messages to students. The independent themed welcome letter used phrases like “learning by exploring personal interests” or “creating your own intellectual journey” and an interdependent themed welcome (Stephens et al., 2012, p. 1390). The interdependent letter used phrases like “connecting with fellow students
and faculty” or “participating in collaborative research” (Stephens et al., 2012, p. 1390). Once students read the letters, they had to give a five-minute speech about their college goals. Researchers found FGCS had higher cortisol levels compared to continuing generation student when the university presented them with independent norms and values (Stephens, et al., 2012).

Researchers have studied the construct of cultural mismatch to understand its impact on FGCS and found adverse effects and emotional complications on the FGCS over time (Chang, et al., 2020; Sladek, et al., 2020). When students feel discomfort and unconnected, they are unable to perform at high rates without experiencing negative effects. These students can lose confidence, therefore feel they are not worthy or incapable of earning a college degree. Since these factors influence student school, it would benefit students for an IHE to have culturally appropriate and reinforcing experiences, values, and language to support a college-going culture so that stress from the independent nature of colleges can be reduced.

**Macrosystem: Social and Cultural Values**

In the macrosystem, cultural and social values impact interactions, relationships, and structures for children (Arnold et al., 2012; Neal & Neal, 2013). It is important to recognize these values are negotiated over one’s lifetime. The adopted or taught cultural and social values influence the interactions of a FGCS in various environments. For instance, families of FGCS have more interdependent values and relationships which they use to navigate different environments (Stephens, et al., 2012). All FGCS, including ethnically and racially underrepresented FGCS, often possess these interdependent values. These cultural and social values impact their matriculation through college.
One factor influencing matriculation is that college campuses possess a more independent culture. Stephens et al. (2012) found that an individual's actions determine one's success while attending college. Another factor is the familial and community motivations FGCS use to matriculate through college, which later may transform into distractions (Blackwell & Pinder, 2014; Mitchell & Jaeger, 2018). The cultural and social values of specific locations impact FGCS matriculation, like in the Appalachian Region of the United States. The cultural and social values shared among citizens in the Appalachian Region are interdependent in nature (Grant & Roberts, 2022). Their networks support their success in college.

**Interdependent Values & Motivations**

FGCS often possess interdependent cultural and social values while continuing generation college students have more independent values, which help them matriculate through college (Phillips et al., 2020). In other words, continuing generation college students tend to believe their success depends on them rather than the support of friends, family, and others. Stephens et al. (2012) studied 261 university administrators from the top 50 national universities and the top 25 liberal arts colleges. Using three different experiments, the researchers found administrators and faculty identified their campuses as having the traits of an independent culture and expected students to find their own ways while navigating college (Stephens et al., 2012).

Because colleges and universities operate with middle-class independent norms, FGCS benefit when they learn the language, models, and strategies to succeed while in college (Stephens et al., 2012).

Examining student motivators used to complete their degrees is important. FGCS' motivations to earn a degree are grounded in interdependent mindsets, demonstrating that this cultural trait is not just a barrier to matriculation but a potential solution. Interdependent
motivations include family and community approval, family responsibility, and family support. For example, students might have earning a degree as a goal so that they can support family upon graduation or be a role model for the community (Thompson, Johnson-Jennings & Nitzarim, 2013). For this reason, there is added pressure to complete a degree compounded by the rigors of academic priorities and personal demands.

A university's values, systems, and faculty interactions with FGCS affect knowledge acquisition and academic skills needed to earn a degree or can motivate students to continue college through to completion. For example, Harackiewicz and colleagues (2014) completed a research study with 154 FGCS and 644 continuing generation students. The FGCS included 3.2% as African American, 7.1% Hispanic, 1.3% Native American, 88.4% as White or Asian. These students performed better in a gateway biology course and had higher second-semester biology retention due to participating in a values affirmation writing intervention held at the college. The randomized, double-blind intervention study had students complete two value affirmation (VA) or controlled writing assignments. The values included possessing artistic ability, relationships with family and friends, a good sense of humor, and acquiring new information. The instructors incorporated the students' helpfulness and usefulness motivations in the coursework, and the first-year students performed in the course more confidently. For instance, the FGCS were more likely to enroll in a second course than their continuing generation peers after the VA intervention. The FGCS was 66.2%, and continuing generation college students were 77.7% more likely to enroll in a second course. However, after the VA condition, FGCS were 85.7% more likely to enroll in the second course, and continuing generation college students were 74.8% likely to enroll (Harackiewicz et al., 2014). Providing
FGCS, which includes students of color, with intentional instruction acknowledging their motivations can help with their matriculation in college.

The pressure of community and family may be daunting for FGCS, but they still use them as resources. A small, descriptive phenomenological study was conducted about five Hispanic undergraduate students in the McNair Postbaccalaureate Achievement Program. Even though this study only examined five Hispanic students, the McNair program traditionally focuses on all underrepresented FGCS. The FGCS revealed they relied on their non-college educated families and the McNair Postbaccalaureate Achievement Program faculty to support their progress (Olive, 2010; Vaughan, Dorn, Rose, Ward & Hauck, 2020). For example, they remarked about the encouragement they received from school administrators to go onto to earn a graduate degree inspired hope and belief in their skills to complete a degree. Also, they received help from their families (Olive, 2010). For example, one participant relied on his spouse’s encouragement to complete the program.

Regardless of race or ethnicity, all FGCS are faced with difficulties while in college. Their values sometimes conflict with the university’s values which interrupts successful matriculation. Fortunately, when connections are made, FGCS may complete a degree which influences the retention rate.

Another study of 80 FGCS who self-identified as Latinos at a university in southwest California participated in open-answer interviews (Kouyoumdjian, Guzmán, Garcia, & Talavera-Bustillos, 2017). Researchers found that family and interconnectedness were motivators for degree completion (Kouyoumdjian et al., 2017). The participants in that study explained how they "wanted to make their parents proud" (Kouyoumdjian et al., 2017, p. 68) and why they were their reason for attending college to earn a degree. When universities and colleges consider the
interdependent motivations of FGCS, they have more success in courses. In the same study, participants expressed their need for programs at the college that provided supportive relationships they could rely on during their college career. (Kouyoumdjian et al., 2017).

In a study that involved four underrepresented, undergraduate students enrolled in the agricultural education degree at a predominately white institution (PWI) in the southeastern United States found students had interdependent motivations that shaped their pathways while attending college. The qualitative study discovered themes like “Motivated and Involved Students in High School” and “Positive Influence of Adults in Participants’ Lives “(Bullock, Morgan & Warner, 2021, p. 191). Using semi-structured interviews by the researcher, the participants spoke about the high school personnel and programming available to them that encouraged their decisions to persist in the agricultural education program. The students gave examples of teachers who gave feedback on their writing skills, which increased their awareness and consciousness around college skills necessary to be successful in the college major. For instance, the student said, “And she [high school English teacher] helped me kind of just understand cause I can do things but sometimes I just get so much in my own head that I’m just like, I can’t make a decision” (Bullock, Morgan & Warner, 2021, p. 191).

The aforementioned studies results demonstrated that the interconnectedness desired by FGCS could help them overcome social and cultural barriers. This value should be reflected in the culture of colleges and utilized to help ensure FGCS with pathways to success and persistence (Yosso, 2005). Not only are the relationships and networks around FGCS important, but their self-perception also perpetuates or impeded success in college.
Self-Perceptions of FGCS

The cultural and social connections, like community expectations, family dynamics and responsibilities, or peer relationships valued by many FGCS are related to enrollment and persistence through college. Unfortunately, these same rich, positive connections can also present challenges. Challenges include additional pressure from family or community to complete a degree, family members not understanding the college culture, or needing to take care of the family while enrolled. Additionally, with increased pressure, students' self-perceptions are shaped by these conflicting expectations placed on FGCS (Longmire-Avital & Miller-Dyce, 2015). Therefore, relationships and interconnectedness between and among FGCS are crucial for degree attainment.

Longmire-Avital and Miller-Dyce (2015) conducted a study looking at FGCS attending a Historically Black College in the mid-Atlantic United States. Fifty FGCS and 84 non-FGCS participated, with nearly 90% identifying as African or African American and the remainder identifying as Caribbean, West Indian, Biracial, Black, Hispanic, or Latino. The study looked at several measures, such as students' perception of social status and family socioeconomic status (SES). Results found that FGCSs had lower GPAs and a lower perception of academic ability than their non-FGCS peers. In comparison, the non-FGCS were more concerned with other social capital factors like social ability and appearance (Longmire-Avital & Miller-Dyce, 2015). In comparison, FGCS were more concerned about self-perceptions and familial perceptions. Other studies have examined academic self-perception where FGCS selected STEM majors due to high self-awareness while attending high school.

One study drew data from the High School Longitudinal Study (HSLS) of 2009, conducted by Jiang, Simpkins, and Eccles (2020). The analytic sample of 14,040 students
included those who took math and science courses while in high school plus those enrolled in college. Caucasians (57%), Hispanics (15%), African Americans (9%), Asians (9%), and Native Americans, Pacific Islanders, and more than one race (10%) made up the sample. This study looked at STEM outcomes over seven years by measuring the correlation between motivational belief, subject value, and interest (Jiang, Simpkins, & Eccles, 2020) and GPA in high school STEM courses and choosing a STEM major in college. They found that mathematics motivational beliefs related to STEM courses were attributed to high GPAs in high school but not a predictor of a STEM major in college.

On the contrary, science motivational belief courses were predictors for high GPAs, and students continued into STEM majors in college (Jiang, Simpkins & Eccles, 2020). For FGCS, the researchers found they had lower science and mathematics GPA, lower self-concept ability, and did not take as many STEM courses or declare a STEM major during college. Nevertheless, FGCS majored in STEM courses in college when they had a higher subject value and interest in science in high school. The social and cultural beliefs FGCS have of themselves impact their college trajectories.

**Dependence on Family Network**

The cultural and social values of FGCS are often cultivated based on the environment they grew with and those values can impact their college matriculation (McCollough, 2020). For example, in the rural and urban areas of the United States, FGCS experience barriers that result from lower socioeconomic statuses, lower degree attainment by parents, and an underdeveloped high school curriculum (Byun, Meece, & Irvin, 2012). However, the close-knit culture in rural communities supports students in building networks and relationships early in high school. These community networks mimic the interconnected support FGCS need to matriculate through
college (Byun et al., 2012; Nelson, 2019) and could be a resource for colleges looking to increase rural-student retention and degree completion.

Rural FGCS may come from working-class families where tight family and community bonds support matriculation (Longwell-Grice & Longwell-Grice, 2008; Stephens, Townsend, & Dittmann, 2019). McCollogh (2020) discovered through a study of 12 FGCS at a small, faith-based private midwestern university in the United States that rural FGCS use their cultural and social relationships while matriculating through college. In semi-structured, one-on-one interviews, researchers heard students discuss how their immediate and extended families' emotional and financial support impacted their college academic success. One participant expressed how the familial support pushed her to persist after several semesters (McCollogh, 2020). Another first generation college student from the same study explained that they used their community support once they got to college. Several students mentioned they relied on their high school counselor to help them navigate academic and financial barriers while in college. Others used community support when their families were unavailable or did not know something (McCulloh, 2020). The relationships and beliefs shared with rural FGCS play a part in their school success.

The network and values used to support FGCS go beyond academic support. The network and values support their emotional needs while matriculating through college (Sims & Ferrare, 2021). In contrast, if the relationships and values developed are not positive, their confidence and desire to persist through college will be affected. Despite these students' academic preparedness, they often change trajectories due to their family and community's closeness, resulting in them choosing to stay home and not go away for college (Goldman, 2019).
However, researchers Morton, Ramirez, Meece, Demetriou, and Panter (2018) found that rural students' social capital and perceived barriers were significant issues for the college success of FGCS in rural areas. Their study included a focus group of twenty-nine high school students with a 3.67 GPA average in a pre-college program at a large university in the southeastern United States. Ten students were from a rural high school in the same southeastern state. Researchers found that these FGCS expected the relationships and value of interconnectedness from the personnel in their school. They expected support and guidance from counselors just as they had had in high school. Without that same access to support, they were unsure if they had what it took to succeed in college (Morton, Ramirez, Meece, Demetriou, & Panter, 2018).

The familial experiences and practices can differ from a university's traditions and norms which exemplifies the cultural mismatch FGCS cope with while earning a degree. Students in those situations tend to have educational and managing difficulties due to the mismatch (Hutchison, 2017). With FGCS' motivations residing in a desire to help their family or community, getting a college degree can be burdensome to some students. FGCS' cultural and social networks include family, high school personnel, or community role models who offer support throughout their college experiences in place of faculty at universities (Ricks & Warren, 2021). Because higher education cultural values, policy, and programming can impact the academic success of FGCS, it is essential to look at the exosystem, where policy and programming live.

**Exosystem: Policy and Education Levels**

The exosystem incorporates factors that influence students, despite students not being a part of the interactions (Bronfenbrenner, 1994; Neal & Neal, 2013). This could be a parent’s employment, school boards, or the neighborhood or community the student lives in. Although,
these environments affect a student’s development, the student has no control over the relationships or outcomes from these environments. Society’s dominant culture and values influence the policy and program affecting minority groups without consideration of their culture, values, and beliefs (Arnold et al., 2012). Policies and programs regarding college access and opportunity, finances for college, and the alignment of high school and college curriculum can impede FGCS from progressing through college (Castleman, Owen, & Page, 2016; Eichelberger, Mattioli, & Foxhoven, 2017; Page & Scott-Clayton, 2016; Yavuz, 2016). Federal, state, and local policies and programs have been developed and implemented in response to those barriers to FGCS. However, these policies and programs may not align with perceptions about FGCS’ beliefs, values, culture, and needs (Behrens, 2021; Cox, 2016). Thus, FGCS are offered policies and programs that might not be beneficial for their academic and social development in college (Tierney & Venegas, 2009).

Support Programs

One government-funded program intended to support the recruitment and retention of low-income and underserved minorities in college is the TRIO system of programs. The TRIO programs include Upward Bound, Ronald McNair Post-Baccalaureate, Talent Search, and more, which are all designed to support high school students through graduate school (Graham, 2011; McElroy & Armesto, 1998; Vaughan et al., 2020). Often, FGCS are working class and underserved ethnic minorities (Stephens et al., 2012) so the programs aim to help develop FGCS and increase academic success and social interactions once they are on campus. The Upward Bound programs are high-school based programs funded by the federal Department of Education, and they aim to increase the likelihood of low-income students attaining college and graduate degrees (U.S. Department of Education, 2017). However, Upward Bound and TRIO
programs have had mixed success for its participants (Burkheimer, Riccobono, & Wisenbaker, 1979; Hexter, 1990; McElroy & Armesto, 1998; Quinn, Cornelius-White, MacGregor & Uribe-Zarain, 2019; Ramrathan, Manik & Pillay, 2007).

One such example of this can be seen through graduation and attrition rates. These rates are not consistent through all implemented programs across the United States. Seftor, Mamun, and Schirm (2009) collected data in 2003 and 2004 from 67 Upward Bound projects in the United States and the District of Columbia that operated for at least three years after October 1992. Seven to nine years after completing the Upward Bound program, the researchers evaluated the programs and found little impact on students’ success in completing a degree. Zero percent of FGCS’ were likely to persist through a 4-year degree. They found those students who took an algebra course in 9th grade or had at least a 2.5 GPA increased their likelihood to earn a bachelor’s degree by 7% and 3% respectively. The program seemed to support students who exhibited solid academic skills in mathematics. Moreover, the associated college preparatory program for disadvantaged youth did not have significant impact on students attending a two-year, four-year, or vocational program after their high graduation. About 81% of the treatment group enrolled in college, however, there was no significant difference between them and the non-treatment group, in which 79% of students enrolled in college (Seftor, Mamun & Schirm, 2009).

Lam, Srivatsan, Doverspike, Vesalo, and Mawasha (2005) conducted a 10-year study with the University of Akron's Upward Bound STEM program. Over a third of participants were female, and nearly two-thirds were African American. The participants were all below the poverty line or identified as FGCS. One hundred percent of the participants had graduated from high school, 94% enrolled in college, and 66% entered a STEM career major. The students in the
program were able to experience college advising to ensure aligned major matriculation. In addition, the learning environments fostered in the summer program empowered students to continue to the university upon graduation.

There are support programs geared toward STEM majors for FGCS. Because of the opportunities found in STEM careers, many programs aim to encourage FGCS to major in STEM fields. Curtin and colleagues (2004) found low rates of FGCS in STEM majors in college are not due to disinterest but to FGCS' need for STEM-supporting knowledge, skills, and attitudes. The research showed some advancement for FGCS once taking advantage of the TRIO programs. The conclusion was drawn that these programs did not fully meet the students' needs since the students were not consulted by leaders with the programs' expansion (Curtain et al., 2004).

Furthermore, these studies found finances played a role in the students' degree attainment (Curtain et al., 2004; Lam et al., 2005; Rodriguez, Rhodes, & Aguirre, 2015). Rodriguez, Rhodes and Aguirre (2005) discussed the limitations of Upward Bound programs in their literature review. One limitation was students' funding needs regardless of the academic training and assistance for students (Rodriquez, Rhodes, & Aguirre, 2005).

Although there are documented successes for the students in these Trio programs, they neglect to account for the socio-cultural or emotional barriers faced by FGCS when pursuing college degrees (Aydin, 2017; Baum, 2021; Tello & Lonn, 2017; Quinn, Cornelius-White, MacGregor, & Uribe-Zarain, X, 2019). Additionally, financial barriers are not addressed adequately.
Financing College

The federal government has promoted policies aimed at mitigating higher education financial barriers for FGCS. One reason for this is FGCS must determine how to pay non-tuition college expenses out of pocket (Baum, 2021; Becca, 2021). Some FGCS have additional financial responsibilities like taking care of family members and duties, repaying loans for dropped courses, or needing to work while in college (Caruth, 2018; House, Neal, & Kolb, 2020; McNaughtan, Brower, & Overton, 2019). Since it appears FGCS may have to work, they are less time to connect with the campus.

Researchers reviewed self-reported and institutional data from 103 FGCS undergraduate students at a large, mid-Atlantic, public university who withdrew during their senior year (Hunt, Boyd, Gast, Mitchell, & Wilson, 2012). They found no significance based on gender or entry status amongst both FGCS and non-FGCS. However, they did find African Americans and Hispanics were over-represented in the group of FGCS who withdrew. Sixty percent of FGCS who withdrew were African American or Hispanic, compared to 44% of non-FGCS. Of all students in the study, 42% of FGCS reported financial issues influenced their decision to drop out in their senior year (Hunt et al., 2012). This data indicates that even though the government makes financial provisions for students as a major recruitment and retention method, these funds do not necessarily translate to degree attainment.

Research shows when FGCS are presented with additional financial payment options there are higher enrollment and persistence rates for FGCS (McNaughtan et al., 2019). Some institutions have successfully implemented Loan Repayment Assistance Programs. These loans are student-need loans, so the money can be used for tuition, room, board, and supplies. Upon graduation, students repay their loans based on their income level (McNaughtan et al., 2019).
One study with 441 survey respondents at private, faith-based institutions were impacted by these loans (McNaughtan et al., 2019). A third of the sample group was FGCS and over a third of them came from homes that earned less than $50,000. Over 40% of the students stated the loan repayment assistance program influenced their decision to enroll in college. Of note, FGCS were twice as likely to be aware of the program's existence. The authors of the study concluded FGCS need a variety of financial aid to support their needs and to aid them in overcoming other barriers (McNaughtan, 2019).

Because of these needs and successes, it might be logical to think a first step to increased persistence might be improving financial literacy. However, that has not been demonstrated through research. Eitel and Martin (2009) conducted a mixed-methods study examining how financial literacy impacts female FGCS persistence at a Texas university. Over 200 students participated in the survey, and thirty-nine participated in a focus group. The average participant age was 24, about half were White, one-third were freshmen, and three out of every five were employed. Using the Jump$tart Survey, which scores individuals on their financial literacy understanding, researchers found no significant difference between students who took a personal finance course in high school or college and those who did not. However, through focus group interviews, they discovered that graduated participants felt the college financial assistance process was challenging to navigate and the university expected the students to pay for their education. But the students were unable to do so. Additionally, the students left the institution because of the university’s inability to provide them with the financial aid support needed. One participant emphasized "Monetary constraints and lack of financial support led to forced compromise of career goals and increased the time to complete the undergraduate degree" (Eitel & Martin, 2009, p. 7). Another participant reported that she had to work and take off a few
semesters because of her father's financial aid mismanagement (Eitel & Martin, 2009). This study implies that simply offering financial literacy classes to FGCS is not as beneficial as offering financial planning which was guidance on how to pay for college over a sustained period of time. Or, financial aid workshops designed by the university.

FGCS' financial need is a barrier to degree completion. It is important to understand FGCS’ basic financial needs and barriers in order to develop programming for financing college (Balzer Carr & London, 2020). Working within the exosystem level is an essential way to gain improvements for the college experiences of FGCS. Stakeholders must be involved designing financial aid programs, perhaps it gives the developers knowledge and empathy necessary to create a program provides the financial resources so that a university will witness increases in retention and degree attainment rates.

**Parental Educational Level**

Parental education level is a factor for students going to college. If a student’s parents do not have a degree, they are beleaguered in their ability to help students navigate the college process (Kantamneni, McCain, Shada, Hellwege, & Tate, 2018; Mitchall & Jaeger, 2018). For example, parents may be unable to explain or support their children in navigating how to engage and interact with faculty and staff on campus or how to connect with resources and social networks on the college campus (Huerta & Fishman, 2014). Additionally, when parents have not experienced college themselves, they may also not be able to support their students’ academic challenges.

Mitchall and Jaeger (2008) conducted a qualitative study of seven low-income FGCS in their first and second years at a four-year college. Like previous studies have shown, students said their parents’ input motivated them to go to college. In addition, this parental support and
advice positively impacted their self-confidence in attending college and graduating. However, students also expressed their parents' lack of a bachelor's degree made them feel isolated or unaware of how to gain college access. Even though students felt confident attending college, they felt insecure (Mitchell & Jaeger, 2008).

A study conducted by Kilgo, Phillips, Martin, Campbell, Pascarella, and Arminio (2018) followed 2257 students in three cohorts over four years after 2006. Using the Collegiate Assessment of Academic Proficiency, an assessment for college readiness, it was determined a parent's educational level impacted student's critical thinking skills over four years. The students whose parents had completed a degree had significantly higher critical thinking skills scores on the assessment than those students whose parents had two years of college. Students with parents who had no college experience, demonstrated the lowest critical thinking skill gains (Kilgo et al., 2018).

Tello and Lonn (2017) stated, "For non-FGCS, parents are the most common source of cultural and social capital regarding ways to navigate academia and college life" (p. 350). As shown in the studies above, students' networks, which includes their parents, are an essential asset to their success, however, parents are not the only source of influence.

**Mesosystem: Programming & Practices**

The stakeholders who influence and are interconnected and shape the student’s experiences are in the mesosystem. These people are directly involved in a student’s development, like teachers, school counselors, college faculty, doctors, and parents, and their engagement with one another impact the student’s growth (Bronfenbrenner, 1994). FGCS' values, beliefs, or language impact their behaviors and mindset while they matriculate through college (Arnold et al., 2012), and these are learned from various sources in the mesosystem to
make up their cultural capital (Arnold et al., 2012; Bourdieu, 2011; Coleman, 1988). The influence of a student's support network is often directly influenced by their social class (Phillips et al., 2020;), which has been shown to ultimately influence how successful FGCS will be in college (Bassett, Brosnan, Southgate, & Lempp, 2019). Perhaps most importantly, parental support and involvement throughout high school and beyond is a factor that promotes FGCS persistence in college (Mitchall & Jaeger, 2018).

**High School Climate and Culture**

Another factor in the mesosystem is the culture and climate of FGCS's high schools. Knight and Duncheon (2020) found that high school culture and climate impact student matriculation to and through college. Particularly, they noted high school climate and college-going culture predict college success. These climates and cultures are defined by how students interact with personnel, the rigors of instruction, and the frequency of and ability for students to interact with a counselor to discuss college. Additionally, the researchers found that a school's safety and extracurricular opportunities increased students' persistence and enrollment in college (Knight & Duncheon, 2020).

High school counselors also contribute to FGCS success when supported by a college-bound culture. Counselors have shown they support students by explaining the worth of a degree, supporting students with the application and enrollment process, and involving parents (McCarron & Inkelas, 2006; Tieken, 2016). Researchers have discovered that along with rigorous courses and an optimistic high school climate, supportive high school teachers and counselors impact college acceptance rates and college success regardless of student race or ethnicity (Edmunds et al., 2010; Knight & Duncheon, 2020).
Some high schools have become early college high schools. These are schools where students are exposed to rigorous college-level coursework, college counseling, and resources while preparing for college. These schools are designed to help students experience college life, courses, and responsibility, all while earning an associate degree and high school diploma (Sáenz & Combs, 2015). Sáenz and Combs (2015) conducted a study of such a school in a large urban area through interviews and surveys with enrolled seniors. They found the opportunity to obtain credits while in high school eased student financial burdens, provided a safe learning environment, and increased student confidence to continue into college (Sáenz & Combs, 2015).

Lile, Ottusch, Jones, and Richards (2018) studied ten similar high schools in the Northwestern United States. Through mixed methods study, using focus groups and an online survey, they found these schools provided students with college-like experiences on both high school and college campuses while taking college courses. These experiences provided students with insight and understanding about what it means to be a college student (Lile et al., 2018). These dual enrollment programs can be instrumental in helping students understand the responsibilities and behaviors expected of a college student.

Another study found similar results in an examination of 285 students who were randomly selected to enroll in two North Carolina early college high schools (Edmunds, et al., 2010). Students from the treatment group (students who attended the ECHS) increased their interactions with college facilities, built strong teacher-student relationships, and experienced academic supports than those students from the control group. For example, 23% of the treatment group took Algebra II in the ninth grade compared to only 3% of non-treatment students who took Algebra II course in the ninth grade. Based on surveys and interviews, they found students better understood college expectations (Edmunds, et al., 2010).
The high school impacts college success for first-generation college students. The high school climate and college-going" culture of first-generation college students is a predictor of college success (Knight & Duncheon, 2020). The school's climate and college-going culture describe how students interact with personnel, the rigors of instruction, and students visiting a counselor to discuss college. Knight and Duncheon (2020) found that the school's safety and extracurricular opportunities increased the students' persistence and enrolling in college. High school counselors contributed to the success when preparing FGCS. Counselors supported students by explaining the worth of a degree, supporting students with the process, and involving parents (McCarron & Inkelas, 2006; Tieken, 2016). The rigor of courses, an optimistic high school climate, and supportive high school teachers and counselors will impact the college acceptance rates and college success regardless of race (Edmunds et al., 2010; Knight & Duncheon, 2020). While many policies and programs exist as barriers at the chrono, macro, and exosystem levels, there are many mediators at the mesosystem level. For FGCS, the high school experience and the faculty and staff they encounter can proactively make a difference in college success.

**Technology in College Access**

The COVID-19 Pandemic, that began in 2019, initiated many changes and upgrades to technology use in the K-12 educational system. Technology use in schools has increased access to information for many under-served populations. In addition, technology supports academics and improves parent engagement in schools. The parental relationship is a valuable resource for FGCS in college access and matriculation (Daniel et al., 2009; Kantamneni et al., 2018). Therefore, parents' interaction with technology to gain knowledge and understanding for
the college process is a resource for high schools and colleges to increase student engagement and college retention.

**Sense-making**

To navigate the K-12 educational system and higher education system, leaders are faced with a complex system with undefined solutions to many issues in the United States (Onorato, 2013). With the new complexities, there has been little change to policies for every student to succeed in the system (Mehlhorn, 2015). So, leaders can make sense of their context and organization to develop solutions for every student to thrive in our U.S. educational system. Students making sense of the college process is a resource for high schools and colleges to increase student engagement and college retention. In addition, a deeper understanding the perspectives of stakeholders’ who aid FGCS through college, would be an essential effort toward improving persistence and graduation rates. A framework, sense-making, is centering meanings and understanding to make actions toward change (Weick, Sutcliffe & Obstfeld, 2005).

Sense-making is centering meanings and understanding to make actions toward change (Weick, Sutcliffe & Obstfeld, 2005). Weick, (1995) argues in sense-making actions will create the environment a person finds themselves in, as similarly, with FGCS accessing and persisting through college. They may have the understanding that they should take the SAT to gain access to the school of their choice. So, families and students will allocate resources multiple times to ensure a competitive score. This can create undue stress and frustration on the student and family by being unaware that some IHEs offer test-optional opportunities or a sliding scale with the GPA and SAT score is beneficial. Therefore, actions of individuals impact the environment and future consequences.
Microsystem: Personal Factors

Students’ direct interaction with the social and physical environment impacts their development (Bronfenbrenner, 1994). For example, interactions with teachers, families, and peers while experiencing activities inside and outside of school support FGCS while in college (Arnold et al. 2012). Bourdieu (2011) discusses the theory of social capital as “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships…” (p.86) to elicit success in their environment or community. The person needs to be “connected to the right people” or “know the right people” to support success. Young people can learn the right behaviors and attitudes necessary for successful college matriculation (Schwartz, Kanchewa, Rhodes, Gowdy, Horn, et al., 2018) while in high school or in college.

College Access

The summer after graduation from high school, FGCS face many obstacles that impact their enrollment into college. Because of financial gaps or limited academic advising, students will delay their enrollment, pick a less rigorous school than academic ability, or forgo attendance (Castleman & Page, 2014). Another issue is completing paperwork such as scheduling, financial aid, housing applications, or placement tests (Castleman & Page, 2014). Without support from family or the lack of access to high school counselors since they graduated, students will not follow through with these college access steps to attend school the fall after graduation.

In Kalamazoo, MI, Tacket, Pasatta, and Pauken (2018) conducted a study. The College and Career Action Network (CACAN) created a pilot program of 66 student FGCS and non-FGCS participants. The program provided counseling and advising through group meetings, individual meetings, text reminders, and a college visit to guide students through the college
process to ensure enrollment in the fall after their high school graduation. For the fall enrollment, 50 total participants, 13 disengaged participants, and 73 participants in the comparison group enrolled in Kalamazoo Community College or Western Michigan University (Tacket, Pasatta, & Pauken, 2018). With the specific, guided support, there was a more significant number for fall college enrollment. As FGCS navigate the college process, they need advice from college faculty. The student's perceived support and frequency with college faculty are indicators of students' success (Schademan & Thompson, 2016).

Faculty engagement requires students to have a meaningful connection and collaborate with the faculty for non-academic activities (McCallen & Johnson, 2020; Rutter, Day, Gonzalez, Chlup & Gonzalez, 2020). FGCS's engagement with faculty, staff, and campus connections impacts a college's retention rate (Tinto, 1990). Tinto purports that the frequency and quality of interaction between faculty and peers build a community for students. Furthermore, he asserts that the faculty's appearance of availability opens the door for students to want to connect beyond the classroom. College faculty are on-campus advocates who can help the students navigate the campus (Huerta & Fishman, 2014; Schademan & Thompson, 2016). Bickerstaff, Barragan, and Rucks-Ahidiana (2017) learned from 97 semi-structured interviews of community college students in a state representing rural, suburban, and urban students how a student's confidence increased because of positive, meaningful interactions with faculty over their time in college.

Faculty engagement influences the matriculation of the FGCS. Developing a support network with emotional and academic services for them proved helpful in college (Lindstrom, Pas, & Bradshaw, C., 2016; Sáenz & Combs, 2015). This engagement promotes the students' confidence and builds the networks needed to navigate the college culture. Conversely, faculty
not intentionally engaging students prevents FGCS from being successful. Collier & Morgan (2008) conducted group interviews and 15 faculty member focus groups at Portland State University.

They concluded that FGCS had difficulty understanding the faculty expectations in the syllabus as the "college student role" (p. 426) or having difficulty engaging faculty for help. Recognizing these topics as critical aspects of the college experience, faculty should consider the potential apathy witnessed, which may stem from the lack of support. Faculty could consider having to engage with FGCS directly. Furthermore, explicitly teaching FGCS how to use the syllabus and other resources to support their class.

Collier and Morgan (2008), Lindstrom, Pas, and Bradshaw (2016), and Sáenz and Combs (2015) all describe how the relationship with faculty determines the success of the students. The policies, interventions, and programs described above support the various needs of FGCS. These needs vary because they come from various locations around the country, economic status, and social classes. Direct influence from faculty and counselors is a part of the microsystem. These relationships in this system are significant components in the educational experience for FGCS' academic success and persistence in college.

FGCS generally depend on their families for support, whether financial, emotional, or cultural (Moschetti & Hudley, 2015). The students rely on their families with better quality feedback compared to their continuing-generation students, whose parents have acquired at least a bachelor's degree (Palbusa & Gauvain, 2017). Communication with family was a predictor of a higher first-year grade point average (GPA) in a study with 201 FGCS, including 66.3% female, 35.2% Asian, 37.5% Latino, 14.8% white, and 4.1% African American, and 8.4% other or no response at a public university in Southern California (Palbusa & Gauvain, 2017). Parental
influence even translated to FGCS' educational aspirations whether they attended a 2-year or 4-year college or university (McCarron & Inkelas, 2006). Familial support plays a significant role in the matriculation of FGCS. These needs vary because they come from various locations around the country, economic status, and social classes. They needed someone who could help those who had experienced college and could influence students in the college experience.

**Sense of Belonging**

FGCS' matriculation may also be affected by academic self-efficacy or belief in their academic skills, organization of study time, or work while in college (Arana, Castañeda-Sound, Blanchard, & Aguilar, 2011; Aydin, 2017). Arana et al. (2011) conducted focus groups and interviews of 33 FGCS at a small, private Hispanic Serving Institution (HSI) in the southwestern part of the United States. They found that unexpected family issues impacted students' motivation and mental state. In addition to utilizing their familial support, they cited enthusiastic faculty and staff, one-to-one support, availability of resources, and quality instruction encouraged their academic career (Arana et al., 2011). Finally, a student who had not persisted in earning a degree expressed a need to feel connected to the campus through culture.

A second study of 139 African American college students from a large-urban university discovered how a sense of belonging and faculty mentorship supported the student's persistence to a second semester (Thomas, Wolters, Horn, & Kennedy, 2014). Another study conducted by Dika and D'Amico (2016) at a Southwestern United States university using survey and institutional data from three cohorts of FGCS with physical sciences, engineering, math, and computer sciences (PEMC) STEM-major and non-STEM related majors to measure persistence in college. Rather than relationships and faculty interaction, GPA predicted the academic fit and persistence for PEMC-STEM majors.
The researchers argued the importance of early support in the first semester for FGCS. Furthermore, they cited the students' perceived mathematics preparation in the PEMC-STEM majors and their academic integration as other factors for success. FGCS's sense of belonging and connectedness will impact their academic self-efficacy, which will persist for four years in college (House et al., 2020; Phillips et al., 2020). Without exposure to a college experience, FGCS may not successfully enroll in college after high school graduation. Even the integration into campus life shows promise for better results for FGCS.

Woosley and Shepler (2011), at a medium-sized Midwest public university, presented how 804 first-time first-year students, of which 58% were women, and the majority were white, showed issues with a sense of belonging. The campus environment was a factor researchers found for academic integration into the university (Woosley & Shepler, 2011). Campus-wide resources and safe, positive college environments create a sense of belonging for FGCS (Huerta & Fishman, 2014). In addition, the creation of campus resources, specific academic intervention, or participation in college preparation programs predicts a better GPA and sense of belonging to campus (Harackiewicz et al., 2014; Huerta & Fishman, 2014; Woosley & Shepler, 2011).

Although Bronfenbrenner (1994) considered the interactions between various stakeholders and students, the review has some validity that will influence a student's academic success. First, the theory speaks about humans in general. School environments include students, teachers, parents, college faculty, and the associations between and among these groups. Moreover, a deeper look at these relationships influences an FGCS's successful acquisition of a college degree.
Conclusion

The factors that affect the persistence of FGCS in college include significant categories: personal factors, cultural and social capital, policy and programming, cultural and social values, and educational development. Using Bronfenbrenner's ecological system theory, the researcher looked at the factors as an interconnected and dependent system (Bronfenbrenner, 1994) on the dominant middle-class culture. There is a group of college students, first generation college students, where particular factors affect how they earn a college degree differently.

First-generation college students do not have parents who have earned at least a bachelor's degree (Covarrubias, Valle, Laiduc & Azmitia, 2019; Nguyen & Nguyen, 2018). Factors from the mesosystem and microsystem are more accessible and actionable for research. The family dynamic, even though their parent had not attended college, does position the students for college success. Although their parents may be unaware of college values, language, and norms, FGCS consider their families as a source of encouragement or comfort (Capannola & Johnson, 2022). While FGCS are in high school, the culture and climate can indicate their success. A high school context incorporating a college-going culture that includes rigorous coursework, school safety, or extracurricular programming increases college enrollment and, more than likely, persistence (Conley, 2013; Duncheon & Relles, 2019; Knight & Duncheon, 2020). Campus connection and a sense of belonging were factors discovered during the literature review. The feelings FGCS have regarding the campus and the culture while attending college impacted their persistence (Duenas & Gloria, 2020; Gopalan & Brady, 2020). In another study where authors defined FGCS as having parents with no college education, Museus & Chang (2021) found that students felt more validated depending on particular campus environments.
Therefore, they would have a greater sense of belonging. Nonetheless, FGCS must be part of the campus and activities to feel that the college supports them.

After the literature review, there is a need to understand better how relationships between and among first generation college students, their families, and college faculty impact earning a college degree. Because of these relationships, FGCS can persist to a college degree. In addition, while FGCS attend college, their social and cultural capital are also utilized. A needs assessment was conducted to explore FGCS’:

1. Perceived barriers and resources available for college access and persistence toward a degree
2. Social capital and cultural capital impact their persistence in college
3. Sense of belonging while attending college
4. Frequency, type, and quality of faculty engagement

These students have unique experiences, and their voices would give insight into their academic and social integration when attending college. The needs assessment offered the researcher an opportunity to extend the knowledge and research that may present a counter-narrative to the current expert (Ravitch, 2014) understanding of college persistence of FGCS. The data discovered may advance alternative solutions for first-generation college students' college persistence. Furthermore, high schools, colleges, and universities may learn how to better support first generation, college students.
Chapter 2: Needs Assessment

College readiness goes beyond academic preparedness and includes emotional fortitude (Hammermeister, Mount, Jordan, Briggs, & Galm, 2020; Reid, & Moore, 2008), therefore the goal of the needs assessment was to learn about the perceived barriers and supports understood by FGCS and full-time college or university faculty that affect FGCS from earning a college degree. College readiness includes an expansion of FGCS's non-cognitive skills and experiences for successful navigation of a college campus and adeptness to the academic rigors of college (Kniess, Buschlen, & Chang, 2020; Yosso, 2005). Barriers are sociocultural and economic. This chapter will describe the context of the study, the research questions, participants, data collection methods, and instruments. Furthermore, the chapter will summarize the findings to expand on the theories and factors presented in the literature review.

Context of the Study

Sociocultural factors such as the cultural and social capital of FGCS and families affect how successful students are in college. These factors include the networks FGCS have developed before attending college and the interplay of their parents' or guardians' knowledge of college culture's language, norms, and values (Bourdieu, 2011; Coleman, 2011; Jackson, 2008). Another factor is a lack of faculty engagement to support students in navigating the campus and resources, building relationships, or serving as mentors for college academic skills (Schademan & Thompson, 2016). Without these crucial relationships, FGCS miss out on essential skills and opportunities acquired in those relationships as they go through school (Cabrera, Castañeda, Nora, & Hengstler, 1992 & Longwell-Grice et al., 2008). In addition, Tinto's theory of retention asserts that the motivation for completing a degree is the student's connection and engagement with the college through its academic and social environment (Tinto, 1990 & 2008). Lastly, the
difference in a student's and college culture creates issues with a sense of belonging as the students attempt to adapt to the new culture and matriculate (Rice et al., 2017).

Since the research discusses these barriers, it was essential to learn if they are the same from a student and faculty perspective. The researcher recruited three FGCS and three full-time faculty members from colleges and universities for the needs assessment. Due to limitations from the COVID-19 pandemic, social media, the applications WhatsApp and LinkedIn, were used from February through April 2021 to recruit participants. The results would expand on previously discovered factors or uncover additional factors that impact their college experiences.

**Purpose of the Study**

Social class, race and ethnicity, and gender can define the social and cultural capital of FGCS, therefore impacting the success of their college matriculation (Nelson, 2019). Social capital describes the development and access to peer and college faculty relationships, familial support, building networks, and navigating college resources and campuses for matriculation of college for FGCS compared to their non-FGCS peers (Bandura, 1986; Rogošić & Baranović, 2016; Sáenz & Combs, 2015). Cultural capital describes the person’s understanding of language, values, and norms of a particular social class to characterize how they will integrate into society (McDonough, Korn, & Yamasaki, 1997).

The study aimed to determine if there were other factors underrepresented, minority FGCS and full-time faculty perceived as barriers and resources while matriculating through college. The results are expected to inform high school leadership, university leaders, educators, and policy makers on ways to prepare FGCS while in high school and how colleges and universities may improve their retention and degree completion rates with FGCS. To understand perceived barriers and resources for the persistence of FGCS to degree attainment, the researcher
developed several research questions. The research questions were designed to meet the study's goals and determined the study research design, methods, and analysis (Onwuegbuzie & Leech, 2006). The research questions were:

RQ1: How do FGCS and faculty describe their relationships on campus?
RQ 2: What resources and support networks do FGCS utilize or need to earn a college degree?
RQ 3: How do FGCS describe their connection to the college campus and resources?
RQ 4: What challenges do FGCS experience when earning a college degree?

The study used a mixed-methods methodology incorporating quantitative and qualitative data sources. The questions support the purpose of the study (Creswell & Clark, 2017; Onwuegbuzie & Leech, 2006).

**Research Design**

This study was designed to better understand the academic, social and cultural experiences that influences FGCS’ matriculation toward a college degree. The study design was a convergent parallel design to explain further the perceived resources and barriers for FGCS (Creswell & Plano-Clark, 2017). In addition, a transformative research paradigm was considered when creating the design. The transformative research paradigm (Ravitch, 2014) allowed the researcher to account for marginalized populations so the results could be added to the body of research and make a difference for the community. In research, it is crucial to involve stakeholders to describe their narratives and experiences that influence the current narrative (Banks, 2015). The researcher intended to provide the context for the past and current persistence factors available in the research. Subsequently, the study’s design had a specific purpose to use qualitative and quantitative data in way that could transform the FGCS experience (Mertens,
The researcher collected the quantitative data from questionnaires and surveys to understand their experiences. Then, semi-structured interviews were conducted to understand the perspectives and reasons for the participants’ answers (Tashakkori & Teddlie, 1998). There was a triangulation of data.

To garner a diverse participant pool, the researcher elected to use social media to recruit the participants of the study following approval from the JHU Homewood (eHIRB #32102). The recruitment letter to recruit full-time faculty can be found in Appendix A and the recruitment letter to recruit FGCS can be found in Appendix B. The quantitative data was collected from six participants and four of the six participants consented to the semi-structured interview. Three FGCS completed a survey that included demographic questions to confirm their educational status as a FGCS. Three full-time faculty completed a questionnaire to measure the amount of time and type of interactions between FGCS inside and outside the classroom. Then those who completed the questionnaire or survey were asked to participate in a semi-structured interview.

The questions were meant to gather data to expand on the current theories and research about the barriers faced by FGCS (Tashakkori & Teddlie, 2021). A research design matrix (Table 1) displays the research questions and the alignment among the interview questions.

Table 1.

Research Matrix
Methods

In this section, the researcher discusses the instruments and measures used, methods, participants, data collection, and data analysis. With an eHIRB approval (#12302), the researcher was able to begin the mixed methods study. Quantitative data was collected using a questionnaire with the participants. Three FGCS and three full-time faculty joined the study using WhatsApp and LinkedIn. Participants completed a questionnaire. Qualitative data from semi-structured interviews were collected. Since the research in the literature review revealed sociocultural barriers, the researcher wanted to use a convergent parallel design mixed-methods study to get a deeper understanding of what FGCS experience (Creswell & Plano-Clark, 2017). Semi-structured interviews allowed participants to share stories and experiences that a questionnaire or survey may not have captured. The first research question measured the construct of a sense of belonging. Research questions two and four measured the constructs of social and cultural capital. Research question three measured the sense of belonging and connection to the campus.
Participants

The participants in the needs assessment included FGCS and full-time college faculty. Every FGCS agreed to complete the survey, and two participated in the interview. One FGCS attended and graduated from a private, elite 4-year university in the northwestern United States with a bachelor’s degree and was in a doctoral program. The second FGCS was a senior and attended a private 4-year university in the northeast United States. Furthermore, the last FGCS participant attended a historically black college/university (HBCU) in Maryland and ultimately earned a doctorate. There were three full-time university faculty who participated in the study.

One faculty member was from a comprehensive, predominately white institution (PWI), and the second faculty member was from a comprehensive HBCU in Maryland. The third full-time faculty member was from a community college. The three full-time faculty completed the questionnaire, and two participated in the interview.

Measures and Instrumentation

Survey

The full-time faculty shared demographic information to confirm their college experience using a researcher-made instrument. The participants were asked questions like: In what ways have you interacted with FGCS; When do you work most with FGCS? as shown in Appendix C. This instrument measured the perceived barriers and resources from a faculty member's perspective.

The FGCS participants completed the Native American Collective Pursuits of Education (NACOPE) questionnaire (Thompson et al., 2013). The instrument assessed FGCS' sense of belonging and cultural mismatch while in college. Since the questionnaire was developed to use with Native American students, the researcher requested and received the author's permission to
remove words like Native American or tribal to make the questionnaire more universal for any race or ethnicity, as shown in Appendix D. For example, *I feel different at college than at home on my reservation/ in my tribal community* was changed to *I feel different at college than at home in my community*. Two of the three subscales, "community connection" and "separation and alienation," were used. The 37-question questionnaire used a 5-point Likert Scale with responses from *Strongly Agree* to *Strongly Disagree*. The Coefficient alpha was .88 for the Separation and Alienation subscale and .93 for the Community Connections subscale. There was a moderate to high rating demonstrating internal consistency reliability among the three subscales.

**Semi-structured Interviews**

The FGCS and the full-time faculty participated in semi-structured interviews. Semi-structured interviews allowed participants to share stories and experiences that a questionnaire or survey may not have captured. The interview protocol for the participants is Appendix E and Appendix F, FGCS and full-time faculty, respectively. The researcher developed the questions resulting from her professional experience as a high school principal. The research matrix showed what questions were asked and how they aligned to the research questions for the full-time faculty and FGCS.

**Procedure**

This section discusses participant recruitment, data collection, and data analysis procedures. The data were analyzed quantitatively and qualitatively. The researcher used LinkedIn and WhatsApp to recruit FGCS and college and university full-time faculty. A post was made on social media platforms to recruit participants to complete a questionnaire and an interview.
Data Collection

Survey The participants sent an email to acknowledge their participation and their qualification as FGCS or full-time faculty. The recruitment occurred from February until April 2021. When FGCS or full-time faculty communicated a desire to participate in the study, using the Johns Hopkins University email, full-time faculty received an email and FGCS received an email with a link to complete the survey.

The quantitative data was collected using Google Forms. Following the survey, participants expressed their interest in an interview by sending an email to the researcher.

Interviews The researcher received the survey responses from Google Forms. The last question on the survey asked if they were willing to participate in an interview. If they agreed, the researcher sent another mail to determine a mutually agreed-upon time for the interview using the Zoom platform. The researcher used semi-structured interviews to learn more about the experiences of FGCS and full-time faculty members. The interviews took about 45 minutes for each participant. The researcher asked permission to record the interview using Otter AI. The application captures conversations to transcribe later to determine themes and trends. The researcher reviewed the transcript and edited the transcript for clarity or brevity by eliminating repeated words or unintelligible utterances, for example.

The researcher used specific techniques, researcher qualification disclosure, participant checks, and triangulation to ensure the trustworthiness of the data and results. One technique was to disclose the researcher’s qualifications to enhance trustworthiness (Shenton, 2004). The researcher is a high school principal of an Early College program for FGCS. The program is in partnership with a Historically Black College University that offers college credit to high school students while collaborating with full-time faculty.
The researcher had participants check the written record of their interview for the accuracy of the interpretations and captured the intended meaning (Lincoln & Guba, 1985; Tashakkori & Teddlie, 1998). A clean, revised version of the transcript was shared with the participant. Then, the participant reviewed the evidence to confirm the accuracy of the transcript.

**Data Analysis**

The researcher collected quantitative data first. The initial analysis of quantitative data confirmed the status of the participants, as well as the perspectives from the participants. The perspectives highlighted social and cultural aspects of the college experience. Then the researcher analyzed the qualitative data. The semi-structured interviews were meant to give context to the quantitative data (Tashakkori & Teddlie, 1998). The last stage of analysis was to merge quantitative and qualitative data. The next section explains the analytic processes used to develop conclusions from the needs assessment.

**Quantitative**

The data from the NACOPE survey was analyzed. There were three FGCS participants who completed the survey. Full-time faculty answered demographic questions. Descriptive statistics were used to analyze the data. The data explained how FGCS engage with faculty and the campus. While the data from the full-time faculty explained the types of interaction, they encounter with FGCS.

**Qualitative**

The process for analysis was grounded theory (Creswell, 2014). The researcher read the transcript of each participant individually to find groups of information for FGCS and full-time faculty using the open coding technique. The clusters of information were changed into codes that was found from the text. The researcher reread the transcripts. Themes were created from the
clusters of information by reconnecting the data to find new codes called axial coding (Creswell, 2014). A codebook was developed for FGCS and full-time faculty (Appendix H and I). When there were commonalities or repetition, the codes were linked. This reduced the data. The new codes that were created were picked for commonalities using the technique, selective coding (Creswell, 1998). The researcher read the data transcript again to find additional examples to include the most appropriate data to denote the codes. A review of the codes resulted in themes or central codes to explore. Although FGCS experienced barriers, the central themes revealed assets FGCS possess to persevere through college.

**Triangulation**

Finally, the researcher triangulated the quantitative and qualitative data. The analysis of quantitative and qualitative data was conducted concurrently. The qualitative data was meant to explain further or confirm quantitative findings. Since the sample size was small for the quantitative data, the qualitative data was important to offset the weakness of quantitative data (Tashakkori & Teddlie, 1998). The researcher found the corresponding quantitative data for each research question, then connected the qualitative data that explained the context for the quantitative data. The themes were established by converging both data sources from the participants to enhance the validity of the findings (Creswell, 2017). The researcher used the research question to converge the quantitative and qualitative.

**Findings and Discussion**

**Research Question 1**

The first research question was “How do FGCS and faculty describe their relationships on campus?”. The FGCS described their relationship as essential to persist through college. The FGCS recognized faculty as having information that was important to be successful in class. The
faculty described their relationship with FGCS as a guide. The themes that emerged from the interviews that related to the relationships were connection to the campus/sense of belonging, college experience, and faculty impact. The codes comfortable setting and comfortable over time revealed how FGCS looked at their relationships with their professors. One participant said, “In fact, it's a very comfortable setting because you're like the professors, make sure make sure to like be all requirements for the students.” Or, they expressed how the relationships made a difference in their confidence when one FGCS said “I'm pretty comfortable. ...at first, I wasn't very comfortable talking in class”. On the other hand, a student believed there was "minimal interaction." The adviser offered insight into courses or general information. However, they felt they needed someone who understood their "background" and "provided the opening to discuss some of those things that were challenging for me." The same participant said, "… my advisor that I had probably could have been fine, but he hadn't provided the opening to discuss some of those things that were challenging for me". As a result, he felt he could not rely on the assigned advisor to support his transitions through college.

The codes interactions with FGCS or offering a resource showed full time faculty understood their role and connected with their students and informed them about important aspects of college life and academic success. Based on the surveys all three faculty who took the survey said they supported students during office hours, and two said before class. One faculty member discussed how a FGCS came to him to get supports and he offered the writing lab. Another faculty mentioned about their student, “he was starting to struggle with writing papers and things like that as far as, you know, so I gave him some resources.” According to the quantitative data 100% of the participants said they supported FGCS through teaching, mentoring, academic advising, and academic support. For example, after one faculty member
described conferencing with a student, he learned the student was an FGCS. So, he became his "pseudo advisor" and recommended that the student use the writing lab as a resource. During the interview, the full-time faculty expressed how their university did not provide data on students' first generation status. However, they recognized it by the student's skill set or talking to students directly to garner their status. Once the faculty knew a student's status, they found advising students was a way to connect and support FGCS.

When FGCS arrived at the college campus, they expected faculty members to support them with the college transition. They saw faculty as "institutional agents who help students navigate the culture of higher education contexts and feel a sense of belonging on campuses" (Schademan & Thompson, 2016, p. 3). The full-time faculty worked to connect with FGCS to support them with courses or advising. With the connection, the students felt more confident and relied on the support.

**Research Question 2**

The second research question was “What resources and support networks do FGCS utilize or need to earn a college degree?” FGCS shared their mothers, professors or their adviser were a part of the support network. The faculty offered university resources for their students. To earn a college degree, FGCS rely upon various resources and their network to integrate into the college norms and expectations (Huang, Garrett, Carter, Qazi & Aji, 2021; Pike, Hansen, M. & Childress, 2014; Vega, 2016). The qualitative data from FGCS indicated the themes familial capital, social capital, opportunities on campus, university resources, and university supports. The codes were academic opportunities, department support, research opportunity, and internship opportunity. The FGCS recognized the resources on their campus to support their persistence.
The qualitative data from the faculty revealed the theme FGCS interact on campus and university supports. The codes developed were observation, advisers, and peers.

Both FGCS and faculty recognized there were supports on and off the campus. One FGCS shared she was autistic and needed extra support initially when arriving to college. She said, there were “…plenty of educational resources” to support her disability. A participant said, “To be honest with you, I felt like they did, they did a pretty good job. As the center of promoting the opportunity. And I think since the connection there. The intention with this program this Fellowship Program was to promote more students of color to become scholars of color. And so, the goal was to help us do essentially honors level research that would help us on a pathway to the PhD.” Once the student understood the importance of internships, he said “And ever since I kind of partake in some of their internships.” Although there were resources, the FGCS were not aware of them initially. One participant felt he was smart but did not get high marks as he did in high school. Later he realized his peers were attending tutoring sessions. He said, “I didn't realize the kids who are doing well actually are going to tutoring. They are like working in study groups.” Although resources were available, it was not always evident for FGCS to take advantage of what was offered. FGCS expected academic resources when they had difficulty, although the emotional or financial resources were obscure until they connected with faculty.

The quantitative data revealed two questions from the subscale separation and alienation that asked about resources. Both questions discussed either family or community. Hence, FGCS would either seek or receive support from their family or community while attending college. For instance, in the question, “I get emotional support from family and community to obtain my degree,” none of the FGCS participants disagreed or strongly disagreed with the statement. There
were two additional questions concerning resources and support: “I seek support from others in my community on campus” and “Because of my community’s spiritual beliefs, values, and support, I feel more confident coping with the campus environment.” Sixty-seven percent of participants agreed or strongly agreed with the statements. Even when dealing with a negative situation, such as discrimination, the support and values present in their community made FGCS feel more confident to handle the rigors of college. One FGCS strongly agreed with the statement, while the other two participants responded neutral.

Faculty were among the resources for FGCS persistence in college. All full-time faculty participants indicated in quantitative data they engaged with first generation college students during their office hours or before class. When faculty recognized FGCS in their classes or department or FGCS who expressed concerns, they would aid the FGCS. For example, one faculty participant offered her support by sharing that she was also a first generation college student. She said, “You know you’re always welcome to come to talk to me about how to find resources on campus or even if you just want to say, ‘This is dumb, why am I doing this?’ Like, you know, let off steam.” during initial introductions. The other faculty participant would offer advice to the student and recommend appropriate campus resources available when their student had difficulty.

The university allocated resources and support for its general student body and FGCS. Both faculty members recommended the campus writing lab as a resource for their students. One faculty member named the TRIO office as a specific resource because of where it was located on campus and it had dedicated accessible staff. Even though there were other resources like the Disability Center, Center for Student Achievement, or a program for under-prepared first-year students, she could not recall resources specifically for FGCS. Although she recalled a national
day of recognition for FGCS at other universities, she was unaware of her university hosting such an event during the interview. Both faculty members discussed how the writing center was a crucial resource for FGCS. Despite the fact that academic resources are available from the university, both faculty participants observed how the social experience of college was helpful for FGCS. One faculty remarked how FGCS joined in with social events hosted by fraternities and sororities. The other faculty member said the TRIO office hosted events for FGCS. Therefore, socializing with affinity groups provided FGCS with a network they could use while in college.

Faculty members were not the only resource utilized by FGCS. Both of the FGCS participants emphasized how their families, specifically their mothers, were a source of support. One participant relied on their mother to fund college, and the other participant’s mother offered advice and encouragement when she experienced difficulty. Furthermore, the participant remarked how their belief in God got them through college. Participating in sports and social events were the source of support for the student participants. One participant said, “…fun to kind of like just to interact with people and…get to know the college more”. When one student needed additional financial aid due to the COVID pandemic, she relied on her native tribe, Eastern Pequot Tribal Nation, to earn an internship and get a scholarship to pursue their degree.

Even though both faculty and FGCS felt there were some resources available in college, they offered recommendations. First, FGCS and faculty recognized value in peer mentors to help with their transitions. Second, advisers should “acknowledge” the dissonance a FGCS may experience while on campus and offer ways to build their “social capital”. Third, FGCS should participate in internships because they offer deep practice in research skills and financial support.
Research Question 3

The third research question was “How do FGCS describe their connection to the college campus and resources?” The review of literature referred to FGCS needing a connection to their college campus. When students felt a part of the campus and its resources, a sense of belonging, they could better access resources for a higher chance of earning a college degree (Cheong, Gauvain & Palbusa, 2021; Sabaner & Arnold, 2021; Tillapaugh & McAuliffe, 2019). Students could relate to the people and college culture. The data showed their FGCS described their connections to the campus in variety of ways. The connections came by way of social activities with peers, sports, or academic sororities. The faculty acknowledged the same connections to the campus and resources. FGCS described their connection as positive and necessary as they progressed toward their degree. The themes discovered were connection to the campus/sense of belonging, satisfaction, and not fitting in. The codes found included familiar surroundings, campus demographics, school activity, and interacting with friends.

FGCS discussed a sense of belonging in different perspectives. One participant described their connection to campus and supports in their first year. The support provided “a safe environment for students”. She felt more connected to the private university rather than the public university she received an acceptance from because of size. The size of the university was integral in her success and she would not be lost in class. The university hosted social events for students to connect. In addition, she described how joining an academic sorority helped her with belonging to the university. She said, "And I decided just to attend Mitchell, and ever since then…to being part of Alpha Phi Sigma.”

The other student from the elite private school had a few examples that made him not feel connected to the campus. First, he was a student athlete, but did not feel a part of the team
because of the various economic statuses. Second, he was a victim of an assault and the school official, or his coaches did not vigorously handle the assault, which he attributed to the university wanting to promote a safe environment and the aggressors were not college students. The little support from the university or his athletic coach impacted his security and sense of belonging.

He said, "Since it was a private university since it was an elite University. I often felt that I was trying to prove to myself and others that I did belong there". The same participant said, "I think most of the institutional structures didn't really attend to the dynamics that I was going through...". Nonetheless, he participated in a research project in the Humanities department at his private university. The program intended to recruit more underrepresented minorities for Ph.D. programs. This experience offered him a connection to additional faculty and institutional resources otherwise not offered. Plus, it increased his confidence for navigating the school. Overall, the FGCS did mention that they had to find ways to connect to the campus. Internships and research projects were helpful.

The results from the NACOPE questionnaire focused on FGCS’ perspectives to understand their educational experience while they matriculate through college. The subscale, Community Connections, had data on connection to the campus. The subscale survey included questions like “I feel different at college than at home on in my community.”, “I don’t have any problems fitting in on campus.”, “I feel safe on my college campus.”, and “My campus accepts me as I am.” The participants answered “strongly agree” or “agree” with the statements.

Research Question 4

Sociocultural barriers influence FGCS’ college experience because of the student’s culture, social class, and parent’s education or upbringing (Herrman & Varnum, 2018; Morton, et al., 2018; Townsend, Stephens & Hamedani, 2021). The last research question was “What
challenges do FGCS experience when earning a college degree?” FGCS experienced socicuclultural barriers that made it difficult to earn a college degree. The codes that emerged were difficulties observed, isolation, attempts to navigate the campus, financial, and not fitting in. The faculty witnessed struggles by FGCS or advised them through barriers experienced. The themes found were Challenges existed for FGCS when accessing and integrating into college. The full-time faculty discussed witnessing FGCS being excited about their first college experience but overwhelmed with balancing academics and social aspects. Isolation resulted from being overwhelmed, as shared by a participant, “I also see the college students that are kind of isolated. They are on their island.” The other faculty participated recalled how FGCS seemed “invisible” while on campus and her colleagues did not understand them. The university had not recognized the diversity FGCS represented, which included the local students and not just on-campus students. In addition, she notes it is unclear how students get connected and there is an inconsistent participation rate with TRIO activities.

The participants “strongly agreed” or “agreed.” With questions regarding acceptance, “My campus accepts me as I am.”; “I don’t have any problems fitting in on campus.” participants’ answers included neutral and disagree. However, questions regarding dissonance between their college community or home community, like, “To be successful in college, you must learn to step out of your tribal world and walk in the “white” world.”; “I feel different at college than at home on my reservation/ in my community.”; “If I complete my college degree and make a lot of money, I worry that my family will not accept me.” had a different responses. The participants answered, “strongly agree” or “agree.”

FGCS are students whose parents have not earned a college degree. Their parents can be unaware of the pressures and rigors of college. Therefore, frequently their familial obligations
remain intact while having to tackle college norms and demands (Blackwell & Pinder, 2014; Rood, 2009; Verdin, Smith & Lucena, 2021). The data revealed that FGCS participants experienced conflict with their parent’s education and family obligations. On the survey, there were questions like “Success means being useful to others.,” where two of the three indicated “strongly agree,” or “agree,”. But questions explicitly mentioning the degree as success, like, “I am motivated to complete my degree because others depend on me.”, “It is important for me to be successful in college so that I can support other members of my community who want to attend college.” Two of the three FGCS strongly agreed to those questions.

Limitations

The needs assessment had limitations. First, the purposive sampling limited the participants in each group. The participants had to be either a FGCS or a full-time faculty member of a university. So, generalizations must be made very carefully, even similar contexts. Second, the brief amount of time used to recruit participants impacted the sample size. Sample size is an important aspect of a study. Even though the researcher used snowballing technique for recruiting the sample, the sample size was still N=3 for each group, the FGCS group and the full-time faculty group. The external validity was compromised because of the small sample size (Tashakorri & Teddlie, 1998).

Conclusion

Academic success and social integration are just some of the factors that contribute to college persistence. The first generation college students experience college differently than their continuing-generation college students. FGCS are college students whose parents have not earned a bachelor’s degree. Therefore, FGCS needs to expand their knowledge concerning college values, customs, and language to integrate into college. Not only are FGCS unfamiliar
with college, their network may also be unfamiliar with the academics or college responsibilities. Nonetheless, the social and cultural capital possessed by FGCS is something that girds the student toward earning a degree (LeBouef & Dworkin, 2021; Ricks & Warren, 2021; Simon, Hornung & Dugan, 2022).

Using Bronfenbrenner’s (1994) ecological systems theory revealed that sociocultural factors impact the inequitable college persistence compared to the non-FGCS rather than simply academic factors. Consequently, the researcher developed this study to further understand the college experiences and barriers faced by FGCS.

Through a mixed-methods study design, the researcher explored the perceived barriers and resources utilized from the perspectives of stakeholders who influence the college experience of FGCS. The stakeholders were FGCS and full-time faculty. From the data, I learned additional barriers and supports were deemed important by the FGCS. The next chapter will examine the existing college persistence framework. It will compare and contrast the key components of existing college persistence frameworks and determine how college persistence is perceived for FGCS.
Chapter 3: Persistence of First-Generation College Students in College

Universities have a population known as first-generation college students who earn degrees at a different rate than continuing-generation college students (Arch & Gilman, 2019; Cataldi, Bennett, Chen, National Center for Education Statistics (ED), & RTI International, 2018). The population, first generation college students (FGCS) are students whose parents have not earned at least a bachelor’s degree. In the previous chapter, the researcher conducted a mixed methods needs assessment to describe the barriers and resources used by first-generation college students while pursuing a college degree (Creswell, 2014).

The needs assessment revealed sociocultural factors impacting first-generation college students’ bachelor’s degree completion. Successful college matriculation involves more than academic preparedness for FCGS (Demetriou, Meece, Eaker-Rich, & Powell, 2017; Knight & Duncheon, 2020; Longwell-Grice & Longwell-Grice, 2008; Ozaki, Olson, Johnston-Guerrero, & Pizzolato, 2020; Tinto, 1990). The exposed sociocultural factors extended beyond cultural and social capital (Bandura, 1986; Bordieu, 1986; Coleman, 1988; Huerta & Fishman, 2014). Subsequently, it acknowledged the assets and resources FGCS possess so they could navigate the college experience.

Key Findings of Needs Assessment

The researcher recruited full-time college faculty and first generation college students to collect qualitative and quantitative data. The development of specific research questions expanded the current knowledge and theories with the existing literature (Kerrigan, 2014). The mixed methods study design utilized a demographic questionnaire and semi-structured, open-ended interviews with FGCS and full-time college faculty. The needs assessment approach
offered a more profound explanation and enhanced analysis of the data (Creswell & Clark, 2017; Tashakkori & Teddlie, 2021).

First generation college students were administered an adapted version, with permission, of the Native American Collective Orientation and Pursuits in Education (NACOPE) survey developed by Thompson, Johnson-Jennings and Nitzarim (2013). It measured the constructs “social capital,” “cultural capital,” “cultural mismatch,” “connection to the college campus,” and “sense of belonging.” Three FGCS completed the survey, and two agreed to be interviewed to discuss their opinions of perceived barriers and supports that FGCS need to persist through graduation. Students provided several examples of sociocultural barriers and how they navigated them during their college experiences.

From the study, FGCS shared their experiences regarding perceived barriers to overcome while attending college, described their support network, how they were supported, and their feelings of connection to the college that impacted their lives as college students. For example, the FGCS remarked that it was encouraging and motivating when they connected with their professors or coaches. The support gave them concrete actions that promoted their understanding of the course expectations. Alternatively, the connection offered them a new experience that encouraged researching topics of interest. Initially, they needed support from the university, and FGCS described the transition to college from high school as challenging academically and socially. As a result, FGCS used their family for support or relied on their professor to explain the course expectations to them for support. In addition, one participant expected their athletic coaches and teammates to support their navigation through difficult situations. Finally, the FGCS relied heavily on their mothers, as referenced in their interviews, for emotional and financial support throughout the college experience.
The study included college faculty’s knowledge and experience with FGCS on a college campus. Three full-time university faculty completed the survey, and two full-time faculty participated in interviews with the researcher. During the semi-structured, open-ended individual interviews, full-time faculty provided context to interactions with FGCS. The full-time faculty confirmed that FGCS’s lack of connection to the campus and a need for a robust support network were problems faced by FGCS. The full-time college faculty described their engagement with FGCS needing help while attending their classes. For instance, faculty would informally advise them on courses or suggest where to find the help needed to pass the class. Some faculty said it was necessary to meet the students outside the classroom to build relationships with them, although 71.4% met with FGCS during classes. The faculty remarked that it was difficult to identify an FGCS unless the student self-disclosed their information to the professor. Because their university did not provide that information, they found it necessary to inquire about their status to be the most supportive of the student.

The needs assessment results revealed predominately sociocultural factors affecting first generation college students. The factors included school connectedness, quality faculty engagement, and family as integral components of their network even though their family had never attended college. With positive interactions and support, there was an increase in confidence levels which promoted effective social and academic integration into the university. The needs assessment found additional factors to consider when examining the persistence of first generation college students. IHEs and high schools should consider these factors and capital. Understanding the assets possessed by FGCS, the researcher developed a new model, naming it: the Critical College Persistence that could be used in a variety of educational settings. When high schools or universities are developing retention programs, examining an inclusive climate, or
perpetuating a college-going culture, they could utilize this model to increase college access and persistence among FGCS in the United States.

**Models on College Persistence**

Based on the United States economy, the attainment of a college degree increases the earning power seen by a degree holder, positive health outcomes, and lower unemployment rates seen in a college degree holder. However, earning a degree requires academic and non-cognitive skills for college persistence. Furthermore, over the years, it has been discovered that there are several standing attributes or constructs related to college persistence (Terenzini & Pascarella, 1980; Tinto, 1975). For the remainder of this chapter, the researcher will discuss persistence models that describe the determination of a student to finish college (Burrus et al., 2013) and retention models that describe the behaviors, environments, and mindsets of a student continually who returns to a path toward a degree (Berger, Ramirez & Lyons, 2005). These models discuss students' behaviors, the role and responsibility of the university, and how these ideas interact to produce a student who earns a college degree. The models discussed can be categorized (Van Duser, Lucas, & Cohen, 2020) as sociological (Pascarella, 1980; Spady, 1970; Tinto, 1975, 1987, 1993), organizational (Bean, 1980), behavioral (Astin, 1999), integrated (Cabrera, Nora, & Castaneda, 1993), or cultural (Kuh & Love, 2000; Museus & Quaye, 2009).

**Sociological**

Spady (1970) was the first researcher to develop a college persistence model. The model argued that aligned group values, academic success, and connection to the university and peers make a student more satisfied with the university itself. In addition, the model emphasized how grades and academic development coupled increased the social integration for the student. Once the satisfaction with the institution increases, the student would acquire institutional commitment

Tinto (1975, 1987, 1993) argued that similar components impact attrition. The model, student integration, said, "our factors related to persistence of students in college, namely, the pre-entry characteristics of students, the institutional characteristics, the academic integration of students, and their social integration with the institution" (Salinas & Llanes, 2003, p. 75). The model elucidates that students come to the university with pre-determined characteristics as the foundation for earning a college degree. It goes on to further explain that academic integration permits college persistence. The student must be involved and connected to the social and academics of the university to ensure a successful transition (Hurley, Butner, Causey-Bush, & Bush, 2007). A student's commitment to the university or to earning a degree, a match to the university's culture, and personal characteristics are why a student persists in earning a degree. Although the theory has been incorporated in many empirical studies and testing the constructs, the studies have been unable to account for external factors (Cabrera, Castañeda, Nora, & Hengstler, 1992; Nora, 2001).

Pascarella and Terenzini (1977) explained similar elements contributing to the attrition rates. The attributes like social and academic integration, personal characteristics, and cognitive abilities influence college attrition. However, when controlling for these attributes, their study acknowledged the informal student-faculty engagement that reinforced course concepts or the personalities and characteristics of first-year students influenced as students who would return for future student-faculty engagement (Pascarella & Terenzini, 1977). They postulated that the quality of the engagement and timing, being early in the student's first year, made the difference in persistence. In a later study, Pascarella and Terenzini (1979) found a correlation between the
type of student-faculty engagement outside the classroom and gender. Males who connected with faculty regarding future career opportunities and pathways persisted, as females who discussed issues on campus with faculty persisted (Pascarella & Terenzini, 1979).

**Organizational and Behavioral**

Bean’s (1980) attrition model incorporated college grades in the model. The intent to continue toward a degree included academic and social integration like Tinto’s model, but it also suggested the institutional commitment increased the connection to the institution itself. This model is compared to the model organizations considered for employment turnover. Rodgers and Summers (2008) discussed the theory and found there are environmental interactions, like experiences on and off the campus that will impact the psychological processes for a student. The coping skills produced from the psychological coherence supports the student to develop successful academic and social integration. The performance then produces better grades, and the student can see they fit in with the university and loyalty is developed. These conditions are what produces the intent to persist at the organization. The behaviors to persist come from an organized process experienced by the student (Rodgers & Summers, 2008).

Astin’s (1999) theory of involvement claims student's persistence is dependent on their behaviors, the physical and psychological efforts on campus, rather than their affect or feelings toward completing a degree. The theory went on to discuss various student activities or behaviors that impact their persistence in college. The researcher pointed out the physical efforts exerted by students to earn the degree. Student involvement includes joining extracurricular activities, how much time they spend on campus, and engaging with peers and their faculty for informal, leisure, and formal activities. In addition, the theory looks at how much time they spend integrating into academic activities are not just insignificant investments. Furthermore,
since the time and effort of student is finite, the university is competing with external factors the student faces while attending school (Astin, 1985). The culture of the IHE impacts how students interact, therefore, the likelihood of them remaining in college.

Integrated

Since learning has been seen as an integrated process (Bandura, 1987; Esmonde, 2017), even at the college level. Learning includes context, experiences, behaviors, psychology, and environment. There are models that approach attrition or persistence with the amalgamation of various factors that contribute to teaching and learning. Cabrera, Castañeda, Nora, and Hengstler (1992) integrated Tinto's (1975, 1987) Student Integration Model and Bean's (1982) Model of Student Departure and found a convergence among the variables elicited that impact persistence. Following an empirical study, the researchers found external factors like environment or parental influence that correlated to the student’s persistence. The theories were not mutually exclusive and did depend on the external factors experienced by the student (Cabrera, Castañeda, Nora, & Hengstler, 1992).

Cultural

The previously mentioned college persistence frameworks have different attributes regarding academic and social integration and the attitudes needed to earn a college degree. In later research, frameworks are more comprehensive (Braxton, Bray & Berger, 2000) to consider sociocultural factors like race. One framework by Kuh and Love (2000) says it is crucial to look at attrition from college through a cultural lens. The campus culture is defined and apparent through the ceremonies, rituals, interactions among new students, current traditions, and routines (Kuh & Love, 2000). When new, underrepresented students arrive to campus, they involuntarily must disregard their culture and take on the new culture of the campus. With dissonance between
the two cultures, the attrition of underrepresented students will occur. There are eight propositions in this attrition model:

1. The student's experiences help them form their culture, and family mediates their decision to attend, persist, or leave college.

2. There needs to be alignment between the student's value of college and the university's expectations, cultures, and values.

3. The cultural capital (Bourdieu, 2011) a student possesses before attending college mediates the rigors and expectations for college culture and can promote higher persistence rates.

4. A dissonance or gap between the student's culture of origin and the university's culture creates a more complex situation for the student to integrate into the university. It will decrease the chances of persisting toward a degree.

5. Students must adopt the new culture and abandon their culture of origin to persist. Furthermore, they could find a subgroup in the new culture that aligns with their culture of origin, which can promote persistence.

6. When students from the underrepresented culture spend less time navigating and learning the new culture, there is a higher likelihood they will not persist. For instance, students may have familial, community, or work obligations that precede university expectations and rigors.

7. Underrepresented students must connect to the academics and peer groups rather than absorb, or integrate (Tinto, 1997), into the university's culture and sociopolitical presence.
8. Affinity groups on the campus need to be available for underrepresented students to join. In addition, the culture and value of the affinity group's association need to be academics and college persistence.

Museus and Chang (2021) conducted an empirical study using the framework from Kuh and Love (2000), arguing that the framework provides universities with a lens to be reflective and intentional. However, it is essential to consider the needs of particular groups to promote academic success and persistence toward a degree. Using the eight propositions from Kuh and Love (2000) and qualitative data from a more extensive study of 30 participants, Museus and Chang (2021) refined and added to the eight intercultural propositions previously presented. The researchers used a predominately white, large, rural, public research university and recruited 30 racial/ethnic minorities to participate in the study. In proposition four, cultural dissonance can present difficulty for students to connect with the university. However, through the interviews, the research found that the dissonance was diminished depending on the student's pre-college experiences, including more opportunities when they were the minority (in all-white schools).

For example, one participant said, "I came from an urban area where pretty much everyone I saw was African American…adjusting was just hard. I did not want to be here." (Museus & Chang, 2021, p. 82).

Conversely, another participant who attended a predominately white high school expressed, "Throughout high school, I was in a predominantly White high school…But, it hasn't affected my integration into the culture here. I've made friends fine (Museus & Chang, 2021, p. 82). For example, as stated in proposition eight, affinity groups should be geared toward educational purposes. Museus and Chang (2021) found that affinity groups affirmed the underrepresented student's culture rather than simply emphasizing academics. One participant
said, "Since I'm Cambodian, I wanted to join the Cambodian Club…(Museus & Chang, 2021, p. 87). The groups provide a connection and comfort for the students. Better understanding the experiences of those who are underrepresented provides insight into the importance of the university college and how the responsibility for integrating or connecting to the university does not solely belong to the student. Instead, it is the collective responsibility of the university to provide services and resources for those they serve.

While these frameworks use the cultural lens to offer explanations and ideas about student persistence, the researcher Tierney (1992, 1999) speaks about who should be responsible for the cultural relevance and context of the university for underrepresented students. Tierney (1992, 1999) promotes an anthropological viewpoint on college persistence. The IHEs have the onus to provide socialization opportunities for their students. They should not have to cut off their cultural values, traditions, and beliefs to join the university. The programming and teaching pedagogy should acknowledge the cultures of those they teach and incorporate that into the fabric of the university's culture as its own (Tierney, 1992, 1999).

**College Persistence Model Comparison**

These college persistence or attrition models have at least three things in common as document in Appendix J are discussed here. First, every model has described the persistence or attrition model as a longitudinal process. The process is something that influences the students’ experiences over time. Second, the models describe the persistence or attrition process as an incorporation of student and IHE. Each model describes the roles and responsibilities for each stakeholder. Lastly, the models include academics and socialization. The models discuss how academic and socialization skills impact the persistence of the student. With Tinto (1975, 1987, 1995) and Bean (1980) both models highlight how pre-college characteristics affect students’
growth and persistence (Cabrera, Nora, & Castaneda, 1993). Furthermore, these models argue how behavior will affect attitude and attitude will affect behaviors.

Although some models discuss academic and social integration, not every college persistence model examines how students conform to the university. The other persistence models explore the university culture and characteristics as influencing attrition. Kuh and Love (2000) and Museus and Chang (2021) put more emphasis on cultural aspects than other models. The cultural aspects experienced by underrepresented students can impede the connection to college. Tierney (1992, 1999) argued how Tinto’s (1975, 1990, 1993) attrition model expected students to disregard their culture and take on the university’s culture.

The sociological, behavioral, and organizational persistence models discuss the ideas of academic and social integration. The integration works when students purge their culture of origin and assimilate to the university’s campus (Nora, 2001). Severing the cultural ties that had supported the student to date, family, peers, high school personnel, could be detrimental for students’ wellbeing (Cabrera, Nora, & Castaneda, 1993; Tierney, 1992). Therefore, there is a direct link to the student’s physical and social environments that indicates the persistence toward a degree (Nora, 2001).

**Conclusion**

For several decades, researchers have examined the exact reasons and motives students persist or drop-out of college. The models included were categorized as sociological, behavioral, integrated and cultural. Each theory contended the student was at the center of theory and it depended on the environment. However, the theories should have discussed the assets student possess. The researcher has found the assets promoted greater success for the student. It is suggested the researcher introduces the Critical College Framework in a journal, Journal of
Multicultural Education. The framework shows the barriers FGCS face and the assets used to mitigate attrition from college.
Chapter 4: Critical College Persistence Model

A group of college students, first generation college students, whose parents have not earned at least bachelor’s degree, have sociocultural barriers that impact their equitable college persistence toward a degree. FGCS are often racially, ethnically underrepresented, low socioeconomic, are non-English speaking natives and have challenges with earning the college degree (Chen, 2005). The current research describes a deficit model, where students are “missing” skills, are not included in supports, and the educational institutions need to pour into the student (Ives & Castillo-Montoya, 2020).

Introduction

This section will briefly summarize the previous three chapters. After a literature review using Bronfenbrenner’s (1994) ecological systems theory, it was determined financial, cultural, and sociological factors impacted how the FGCS persisted in college toward a degree. The research discussed cultural and social capital (Bourdieu, 2011; Coleman, 2011; Jackson, 2008). The students’ experiences and knowledge of the college language, expectations, and networks were different than what was necessary for successful college matriculation. FGCS experienced fewer interactions with faculty who supported students in navigating the campus and resources, built relationships, or served as mentors for college academic skills (Cabrera, Castañeda, Nora, & Hengstler, 1992; Longwell-Grice et al., 2008; Schademan & Thompson, 2016). Also, there was a disconnect between FGCS and their sense of belonging and connection to the campus (Rice et al., 2017) due to family obligations (Blackwell & Pinder, 2014; Rood, 2009; Verdin, Smith & Lucena, 2021) or similar cultural expectations (Harrel-Hallmark, Castles, and Sasso, 2022). This study discovered new factors from FGCS and full-time college or university faculty’s perspective.
With an empirical needs assessment, the researcher uncovered there were more sociocultural factors that impact how a first generation college student earns their degree. The researcher discovered that FGCS and full-time faculty confirmed the feelings, behaviors, and experiences of FGCS while attending college. They acknowledged various barriers or challenges faced while in school. However, using their resources, family, faculty, peers, or community, to navigate the process resulted in a smoother transition for them. With a connection to the campus, they acknowledged increased comfort and confidence levels. Full-time faculty observed similar barriers experienced by FGCS.

Once the study concluded, it was important to find out if there were any persistence models that considered the barriers encountered and assets FGCS possessed. It was discovered the existing models were categorized as sociological, operational/behavioral, cultural, or integrated. The sociological and operational/behavioral models acknowledged how faculty engagement and connection to the campus were important. However, the models insisted for FGCS to be successful in college they would need to acquire the university’s culture. This was considered successful academic and social integration. The cultural persistence models recognized the student’s culture and that it was the university’s responsibility to consider their culture for better persistence. Lastly, the integrated persistence model expressed it was essential for the university to acknowledge the student’s culture all while considering the institutional fit and environment to promote persistence. These frameworks excluded the robust strengths FGCS possess and how to leverage the resources to enhance their current social and cultural capital. Nor did the frameworks expect someone to acknowledge one’s culture or current knowledge when considering how college is a different environment. Therefore a model named, Critical College Persistence, was developed by the researcher to show the sociocultural barriers
experienced by first generation college students and what assets they possess upon entering college.

This following section is intended to be a manuscript that will be submitted to the Journal of Multicultural Education. The manuscript describes the asset-based model, Critical College Persistence model. The model challenges the ideas that FGCS are lacking something and their knowledge is insufficient to reach scholastic success because they do not resemble the dominant culture or their knowledge is inadequate (Banks, 2008; Delgado, 1989; Ladson-Billings, 2006; Yosso, 2005). The manuscript goes on explain how the barriers are assuaged by the assets FGCS possess when persisting toward a college degree. Furthermore, it discusses policy and practice recommendations for high schools and IHEs could use to improve the equitable persistence of FGCS.

**Manuscript**

“College isn’t for me,” “I will go back later,” “I need to work.” “I wasn’t feeling it.”

As a high school principal, these are some reasons I would hear from high school graduates after returning for a visit the semesters after graduation. These students, by all accounts, should have persisted through college. They took honors classes, participated in clubs, amassed tens of thousands of dollars in scholarship and financial aid, had an average SAT score, or earned a 3.0 or higher GPA. Nevertheless, these students would not persist through college. Why were “college-ready” students not persisting in college? What were they looking for in college? Why are they working when they have scholarships? What role did the high school (HS) or Institution of Higher Education (IHE) play with these “college-ready” students? These questions came to mind when seeing these students again.
The suggested model, Critical College Persistence (CCP) model, developed by the researcher, explains that FGCS possess particular assets. The CCP model is an asset-based model based on the works of Yosso (2005) and the expansion of social and cultural capital work of Bordieu (1989) and Coleman (2011). FGCS’ assets require cultivation to benefit their transition and matriculation toward a bachelor’s degree despite the existing sociocultural barriers.

First generation college students hold many labels, so their intersectionality creates counternarratives that researchers should explore to impact the inequities of college persistence among FGCS (Crenshaw, 1989; Yosso, 2005). The barriers that the research discussed centered around academics or their deficiencies in academics, parental education, finances, or culture. However, this researcher synthesized data from a mixed methods study to discover sociocultural barriers, which included resource acquisition, sense of belonging, familial education, and faculty engagement.

Figure 2.

Critical College Persistence Model

Note. This figure developed by the author depicts the sociocultural barriers experienced by FGCS and the assets that have served as the equalizer in their college persistence.
FGCS possess and use specific assets to earn their degree. These assets are interdependent culture, social capital, and familial capital. If using traditional middle-class traits, it may seem FGCS are lacking knowledge and resources to earn a college degree. But, the concept of wealth is multidimensional. It includes the social and cultural factors of family passed through the family (Shapiro, Meschede & Osoro, 2013). The model leverages FGCS’ wealth, full accumulation of a person’s skills and assets available to their disposal. High school FGCS can have a difficult transition into college which may stall their matriculation toward their college degree. The model can provide explanation for the difficulties experienced by FGCS and how their assets lessen the struggle.

Access to College Resources

FGCS must navigate the university and resources for academic success to earn a degree. Therefore, they must become more familiar with the norms and expectations their continuing-generation peers actively use to maximize their experience. Being an FGCS and finding the resources needed for degree matriculation can be an obstacle to overcome (Vasil & McCall, 2018). If continuing-generation college student encounters an obstacle, they could use their family as a resource. The students must leave their high school, an environment they are comfortable in, for a new learning institution with different policies and practices. They must determine how to find people to help them find physical buildings and know whose role at the institution will solve any obstacles they face. FGCS has the family as a resource; however, FGCS generally relies on family for finances or encouragement and not for academics.

The CCP model shows how their interdependent culture asset supports FGCS while making this transition. The students value teamwork and collaboration to solve problems. In communities of color, family is essential (Schmidt & Akande, 2011), and there are "virtues and
solidarity in the African American community and family traditions" (McNeil Smith & Landor, 2018, p. 444) to the survival and advancement of each member and future generations. This culture has served communities of color positively for generations. This interdependent culture manifests in resources, motivations, and goals for FGCS regarding college access and persistence (Hecht, Priniski, Tibbetts & Harackiewicz, 2021; Jay & Muldoon, 2018). FGCS relies on interdependent values for better well-being and academic performance (Tibbetts, Harackiewicz, Canning, Boston, Priniski & Hyde, 2016).

High schools and universities could utilize their existing social capital by centralizing the information or disseminating the useful information through their network. As they build their network, consider redesigning the freshmen level introductory courses to discuss the available resources. Subsequently, the courses and advising faculty would provide those opportunities for FGCS to understand how to navigate the campus for solutions.

**Sense of Belonging/Connection to Campus**

The sociocultural barrier affecting FGCS' persistence toward a college degree is the strength of their connection to their school or university. Connection is the feeling FGCS has about being a part of the campus and forming meaningful relationships with peers and adults within the university's campus (Cheong, Gauvain & Palbusa, 2021; Furlong, O' Brennan & You, 2011). Students' connections may occur through joining campus activities and participating in student groups. Alternatively, the connectedness could be through relationships with faculty or new college peers (Cheong, Gauvain & Palbusa, 2021; Stebleton, Soria & Huesman Jr, 2014). Ma and Shea (2021) found that when FGCS had fewer campus connections, they were less likely to project future career aspirations as they grappled with educational barriers on the campus. Furthermore, lacking a school connection resulted in less connection with faculty and
perceptions of more difficulty in college. When students experience a cultural dissonance between their personal and the school's culture, they do not feel a part of the university.

The model highlights social capital as a strength for FGCS and how a deepened network makes a difference for the students. FGCS have a network that can include their high school personnel which supports their post-secondary aspirations and endeavors (Jiang, Simpkins & Eccles, 2020). To improve persistence and retention rates, interventions and solutions for FGCS need to incorporate early college experiences that will improve the retention of first-generation college students (Cox, 2016; Freeman, 1997; Holland & Farmer-Hinton, 2009; Knight & Duncheon, 2020) so their network expands—for example, taking college courses with professors using an Early College model. This model provides high school students opportunities to build relationships with faculty and interact with current college students. FGCS can interact with influential people in high school to build their self-efficacy until graduation.

High school climate and culture involve physical safety, academic rigor, and relationships between and among students and faculty: high school culture and climate shape students' thinking, academic skills, and self-efficacy. Furthermore, the appropriate culture and climate promote effective college matriculation (Gilson & Matthews, 2019; Minor & Benner, 2018). FGCS should participate in cohorts in high school made up of the school counselor and current college students. The experts can give FGCS opportunities to learn about the offices and campus support before attending. Current college students and faculty can serve as ambassadors for the campus to add to the FGCS network of support before they attend the college. These opportunities build on FGCS's cultural wealth, expand its networks, and strengthen its college connection. Retention rates for FGCS while in college depend on their experiences, access to resources and supports, and connection to the campus.
Family Education & Obligations

The familial educational levels and the obligations imposed by their family is a barrier to overcome during the FGCS’ college career. Their parents have not earned a bachelor’s degree; consequently, there is a misconception among parents about college expectations and the rigor required of college students. Parents are proud and want their children to succeed in college. With limited experience earning a college degree, parents often cannot advise students on course offerings, assignments, or how to connect with college faculty.

Although FGCS acknowledge their parents as a resource (Capannola & Johnson, 2022), they also present a struggle for the students. For example, some have family obligations, like working while attending college, or household responsibilities. As a result, FGCS has to choose between college schoolwork or attending family activities, visiting family, or caring for a loved one. This results in less time connecting to the campus and faculty (Museus & Chang, 2021; Stebleton, Soria, & Huesman, 2014). Vasquez-Salgado, Greenfield, and Burgos-Cienfuegos (2015) conducted a study that found FGCS experienced conflicts and expressed a drop in grades when choosing family over school obligations. Plus, the participants expressed internal turmoil when choosing school over family. (Vasquez-Salgado, Greenfield & Burgos-Cienfuegos, 2015).

Familial capital is an asset for FGCS to combat family education and obligations. Even though FGCS parents may not have earned a bachelor’s degree, the family still plays an integral part in the development and continuation of college (LeBouef & Dworkin, 2021; McCulloh, 2020). FGCS relied on the family network for guidance (Evans, Stansberry, Bullington & Burnett, 2020; McCulloh, 2020). The parental relationship is valuable (Daniel et al., 2009; Kantamneni et al., 2018). Parents offer emotional encouragement when they encounter difficult situations. Another example of familial capital is when an FGCS has an older sibling who earned
a degree at the same institution, they rely on them for advice and university resources like tutoring (Roksa, Silver, Deutschlander & Whitley, 2020). Since there was a college-educated sibling, the parents could engage more meaningfully and profoundly. As a result, FGCS can improve their academic standing with familial resources in the first year and beyond.

High schools need to include the whole family in the college matriculation process. The parents can learn from school personnel to better understand the processes and systems they will experience while their student accesses college. High schools can use technology to involve parents and other significant family members who would assist the FGCS with the college process. The strategy offers participants flexibility and different access points to engage in the process. Once they receive specific, personalized text messages about the process for applications and FAFSA, the parents can participate in elevating their influence on their FGCS. These nudges are concise with information that is important for FGCS to persist. It keeps the family engaged with college access. Since FGCS rely on their parents, high schools must incorporate this asset in the communications plans and college access activities.

Faculty Engagement

The frequency and quality of engagement with college faculty can be a barrier for FGCS. Tinto (1997) found FGCS disconnect from the college classroom or the university when they are unable to engage with their professor inside or outside of the classroom. This happens when students are unfamiliar with the expectations and incapable of connecting with the faculty. Since their parents have not earned a college degree, FGCS may not be aware of the benefits faculty engagement inside or outside the classroom has on their progress in the class and toward a degree. Deutschlander (2019) looked at how parents could improve engagement with students while in college and help them build relationships to better connect with the campus using a text
messaging system. The control group did find text message nudges to parents urged their children to connect with faculty (Deutschlander, 2019).

There may be other missed opportunities for faculty and FGCS to connect. For example, FGCS do not ask questions in class. The students may feel intimated and uncomfortable with the faculty. So, they refrain from asking questions and participating in class. When FGCS spend time with their faculty member from classes and departments, they are able to take advantage of reinforcing knowledge for their desired major and future career aspirations. Subsequently, joint research projects (Seburn, Chan & Kirshstein, 2005), internships and professional conferences are viable learning experiences. The CCP model explains that using FGCS collaborative nature to supersede their lack of self-efficacy. When the FGCS take the same college course, they have peers who they can work with. The faculty member can provide specialized workshops or seminars within the course that would aid the FGCS with the course or college major. Their motivation to earn a degree is strengthened and they know once successful they will help their community back at home.

The model provides high schools and IHEs an improved understanding of the FGCS and their experience during transitioning and matriculating in college. Table 2 lists the components of the model and examples seen in practice.

Table 2

*Examples of Barriers and Assets*

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Mitigating Assets</th>
<th>Exemplars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense of Belonging/Connection to Campus</td>
<td>Social Capital</td>
<td>1. Students get to experience college courses while HS with dual enrollment.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Current college students develop clubs with HS students.</td>
</tr>
</tbody>
</table>
Table 2 (continued)

Examples of Barriers and Assets

<table>
<thead>
<tr>
<th>Access to College Resources</th>
<th>Interdependent Culture Social Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Have the HS alumni workshops or seminars to discuss their current college experiences to FGCS.</td>
</tr>
<tr>
<td></td>
<td>3. Cohort FGCS while they take college courses.</td>
</tr>
<tr>
<td></td>
<td>4. Have HS personnel as part of the communication plan for college expectations and resources.</td>
</tr>
<tr>
<td></td>
<td>5. Use technology to connect and engage families.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Family Education &amp; Obligations</th>
<th>Familial Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students rely on older siblings, cousins, or other family members to explain college access and processes.</td>
<td></td>
</tr>
<tr>
<td>2. Have students work on campus rather than off campus to earn money for family obligations.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequency &amp; Type of Faculty Engagement</th>
<th>Interdependent Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduce HS students to college faculty during dual enrollment courses.</td>
<td></td>
</tr>
<tr>
<td>2. Teach HS students how to schedule appointments with faculty.</td>
<td></td>
</tr>
</tbody>
</table>

The inequitable persistence rates can be attributed to the sociocultural barriers FGCS have shared. And, the assistance available for FGCS is leveraging who they are and what they already possess. The model offers an explanation that needs to be considered when developing programs and policies intended to increase their persistence rates. The college transition is still hard, however the CCP model offers ways to scaffold their learning.

How to Use the Model

The research available that supports the persistence of FGCS in college has gaps and there is a need for more research that is available for high schools because they are integral in creating post-secondary plans for high school students. Banks et al. (2001) suggests schools have a responsibility to provide students with equitable opportunities to engage with rigorous
curricula. However, the policies and practices developed with limited research may prohibit equitable opportunity for every student to participate. Having research-based recommendations is important to improve the persistence rates for FGCS. There are practical and social implications for high schools.

The proposed framework has practical implications that serve first generation college students. The students can benefit from experiences and opportunities that expose them to the rigors and expectations of college while in high school. The integrated strategies better support FGCS in overcoming sociocultural barriers while leveraging their assets.

**Recommendations for High Schools**

1. **High school and IHE partnership.** A high school and university partnership would benefit the institutions and the FGCS. The partnership allows high school student develop human, social, and knowledge capital. The two institutions would create a plan to ensure seamless transitions for FGCS entering college. Through collaboration, the institutions could review counseling and academic advising practices to confirm that FGCS are guided appropriately toward a college degree. For instance, the high school and college partnership could permit FGCS to leverage an academic achievement center on the college campus because the entities have shared resources. Another solution created through the partnership may be the high school leadership evaluating high school counselors’ use of time and using college counselors to support the advising and counseling efforts (Dunlop, 2016).

2. **Early College High School Model.** Based on sociocultural learning by Gee (2008) and Vygotsky (1978), high schools may want to provide dual enrollment courses or consider the Early College High School model. Some high schools have developed
into early college high schools. These high schools expose students to rigorous coursework by taking college courses, college counseling, and resources while preparing for college (Sáenz & Combs, 2015). Consequently, students can build relationships with college faculty and expand their "clarity of the college-student role" (Lile, Ottusch, Jones, & Richards, 2018, p.102). A high school's climate and culture can promote higher rates of student access and persistence for FGCS (Knight & Duncheon, 2020). FGCS will have the advantage of working with their high school counselors, who can contribute to FGCS's success when supported by a college-bound culture (McCarron & Inkelas, 2006; Tieken, 2016). Public partnerships can be complicated and require human capital to support organizational structure changes.

3. **Leveraging Parents Through Technology.** Every college has a set of values, language, and norms understood by those who have gone to college. FGCS parents have yet to earn at least a bachelor's degree, so that they may be unaware of the rigors and culture of the college. They may need help to support their student with an understanding of college culture, norms, and values (Mitchall & Jaeger, 2018). Nonetheless, FGCS use their families as resources for assistance. High schools should use families as a resource to improve persistence rates for FGCS. Getting FGCS to and through college is a longitudinal process, with the initial steps occurring in high school. Families could be the school's partner in communicating procedures and processes. One aspect of college access is completing the Free Application for Federal Student Aid (FAFSA). The process is complex and convoluted. However, enlisting families at each step in the process using text messaging can support FGCS. Using technology to offer messages, reminders, and platforms for guidance could be
beneficial (Page, Castleman, & Meyer, 2020). The messages would go out frequently and should be personalized to help the parent and FGCS navigate the FAFSA process. In addition, if they have questions, a school counselor monitors the platform for questions and eliminates obstacles.

**Recommendations for Universities**

4. **Integrated Curriculum and Courses.** Neuroscience shows that a student's emotions impact their learning and self-efficacy (Cao, Contreras-Huerta, McFadyen & Cunnington, 2015). Professors who use techniques that help students reflect on their values and goals could bolster their connections to the course and increase their self-efficacy. A syllabus could incorporate activities whereby the professor specifies time in the class for reflections throughout a semester. A values affirmation practice was incorporated in a first-year biology course where students wrote in journals to acknowledge their cultural beliefs and values (Harackiewicz et al., 2014). It garnered higher retention and tremendous academic success. The psychosocial approach to learning has shown results in closing the achievement gap between FGCS and non-FGCS (Tibbetts, Harackiewicz, Canning, Boston, Priniski & Hyde, 2016). Although the strategy is low-cost, it would require training in schools with heavy teaching loads and time constraints.

5. **Holistic Approach to Inform Dual Enrollment Policies.** FGCS begin college careers with goals and commitments to earn a college degree. However, they are a group of individuals with multiple perspectives, experiences, needs, or beliefs different from the culture of the college. Therefore, they need different supports to combat the potential cultural dissonance they may experience in college. Dual
enrollment is a strategy to increase college persistence. Admissions should use qualitative and quantitative data to inform the dual enrollment policies. The policies and practices must incorporate a more multicultural viewpoint (Pedersen, 2000). Hence, the quantitative measures used, such as high school attendance, grade point average (GPA), or PSAT scores, could preclude FGCS who may not have strong numbers for various reasons. Consequently, using qualitative data like a teacher, parent or high school counselor’s recommendation may provide context for the student’s academic performance. For instance, learning about the student’s self-advocacy skills or proclivity to ask questions in class are skills that benefit students in college. The admissions process for high school FGCS could include a point system or rubric. FGCS are given more points for non-cognitive skills and strengths with the intention for the academic skills to be improved over time with intense support and programming. The holistic approach offers more opportunity to determine eligibility or participation in the program.

**Reflections**

The process it took to become a scholar-practitioner was a journey that taught me lessons that I could take into my context. The lessons were meaningful for a burgeoning scholar-practitioner. First, I learned the academic language to describe and apply to my work for the last 20 years. The experience taught me how to research and analyze research to professionalize my efforts and practices as a high school principal. The problem is that FGCS need to be matriculating toward a degree at the same rate as their peers, and I understood a systematic analysis was essential to understand the current state of college persistence. Bronfenbrenner’s (1994) ecological systems model offered me a methodical process for analyzing student
matriculation factors based on varying contexts. My vision for the school is to ensure our practices and policies are inclusive for every student and include the students’ and families’ perspectives.

I utilized a transformative research paradigm to develop a study that included the voices and perspectives of the marginalized first generation college student. Furthermore, I could understand the variations seen in my context and develop an intervention to alleviate the disparities experienced by FGCS. The needs assessment prompted additional research for me. Moreover, I explored other persistence and attrition models and theories used by IHEs. With the transformative research lens, it was evident there was space for another model that incorporated the FGCS and faculty voice. The new model developed was based on the perspectives of FGCS and faculty and asset-based. It focused on how the assets and strengths of FGCS could diminish the sociocultural barriers they faced while trying to earn a college degree.

The Critical College Persistence model informs practitioners from high school to college what to consider when developing programming and policies that support the equitable persistence of FGCS toward a college degree. Writing a manuscript that includes recommendations for practice in the Journal of Multicultural Education is a chance to offer different perspectives from marginalized groups so that it will help the community in various ways. In addition, I will take my learning to conferences to present the model to offer a new perspective on college persistence. This process has given me the platform to change education for many so they can reach their goals and dreams, as I did mine during this dissertation journey.
References


https://doi.org/10.1002/ir.37019823604


https://doi.org/10.1177/1521025119834253


https://doi.org/10.1177/1741143210393999


https://doi.org/10.1007/s10826-014-0003-8


https://commons.vccs.edu/inquiry/vol23/iss1/5


https://doi.org.proxy1.library.jhu.edu/10.1177/1932202X19840024


https://doi.org/10.1017/S026021050800795X


Nora, A. (2001). The depiction of significant others in Tinto's “rites of passage”: a reconceptualization of the influence of family and community in the persistence process. *Journal of College Student Retention: Research, Theory & Practice*, 3(1), 41-56. https://doi.org/10.2190/byt5-9f05-7f6m-5ycm


Shapiro, T., Meschede, T., & Osoro, S. (2013). The roots of the widening racial wealth gap: Explaining the black-white economic divide.


https://doi.org/10.55504/0884-9153.1723


http://www.jstor.org/stable/40195370

http://dx.doi.org/10.2190/CS.15.4.e


http://doi.org.proxy1.library.jhu.edu/10.1002/jee.20410


https://doi:10.1080/1361332052000341006
Appendix A

Full-time Faculty Email Response

Hello (Participant’s name):

Thank you so much for your willingness to participate in a study about First-generation college students. I appreciate your time. By completing this survey or questionnaire, you are consenting to be in this research study. Your participation is voluntary, and you can stop at any time. If you agree to be in this study, we will ask you to do the following things:

1. Click the link to the online questionnaire. The questionnaire takes no more than 20 minutes.
2. You may participate in an interview by emailing aalmond2@jh.edu.

If you have any questions, please do not hesitate to let me know. I am open to answer any questions. I look forward to learning from your experience.

Yours in Education,

Aisha Almond
Doctoral Student, Johns Hopkins University
Appendix B

Email Response (FGCS)

Hello (Participant’s name):

I hope you are doing well. Thank you so much for your willingness to participate in a study about First-generation college students. I appreciate your time. In this message, you will find:

1. An overview of the study.
2. A consent form with detailed information of the study.
3. The link to the online questionnaire is at the end of the consent form and this message. The questionnaire that takes no more than 20 minutes. The option of saving the answers and completing at a later time is available.
4. If you would like to participate in an interview, please email aalmond2@jh.edu.

If you have any questions, please do not hesitate to let me know. I am open to answer any questions. I look forward to learning from your experience.

Yours in Education,
Aisha Almond
Doctoral Student, Johns Hopkins University
Appendix C

Full-time Faculty Questionnaire

Please share your experience as a full-time faculty. This study is about the perceived resources and barriers of first-generation college students while they persist through college. Thank you for your support.

By completing this survey or questionnaire, you are consenting to be in this research study. Your participation is voluntary, and you can stop at any time.

- Agree
- Disagree

Have you interacted with first-generation college students while a full-time faculty member?

- Yes
- No
- I do not know

What is your job title? ____________________

In what ways have you worked with FGCS? Check all that apply.

- Teaching
- Academic Advising
- Mentoring
- Internship/Job Shadowing
- Academic Support
- Research
- None of the above
- Other ____________________

When do you work with FGCS the most?

- Before Class
- During Class
- After Class
- Not at all
Appendix D

First Generation College Student Survey

Please share your experience as a first-generation college student. This study is about the perceived resources and barriers of first-generation college students while they persist through college. If you answer "no" to the first question, you no longer need to complete the survey. Thank you for your support.

By completing this researcher-made survey or questionnaire, you are consenting to be in this research study. Your participation is voluntary, and you can stop at any time.

- Agree
- Disagree

Are you older than 18 years old?
- Yes
- No

Are you dependent on your parents? (Claimed on your parent(s) federal income tax)
- Yes
- No

Has either of your parents earned at least a bachelor’s degree?
- Yes
- No

Are you currently enrolled in college?
- Yes
- No

Separation & Alienation

I avoid talking about my degree with my family and larger community.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

I am worried that my family and larger community do not understand why it is important to me to pursue a college degree.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

I feel different at college than at home on my reservation/ in my community.
- Strongly Agree
- Agree
- Neutral
- Disagree
To be successful in college, you must learn to step out of your tribal world and walk in the “white” world.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

I feel different at college than at home on my reservation/ in my community.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

I get emotional support from family and community to obtain my degree.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

I believe that my community values my pursuit of a college degree.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

I feel accepted and understood by friends from home.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

I cannot talk about my college life with friends from home.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

If I complete my college degree and make a lot of money, I worry that my family will not accept me.
If I complete my college degree and make a lot of money, I worry that my community will not accept me.
  o Strongly Agree
  o Agree
  o Neutral
  o Disagree
  o Strongly Disagree

If I had stayed home rather than coming to college, I would be more accepted by my community.
  o Strongly Agree
  o Agree
  o Neutral
  o Disagree
  o Strongly Disagree

I feel safe on my college campus.
  o Strongly Agree
  o Agree
  o Neutral
  o Disagree
  o Strongly Disagree

When I decided to come to college, I knew that there was a chance that my family and community would disagree with my decision.
  o Strongly Agree
  o Agree
  o Neutral
  o Disagree
  o Strongly Disagree

My campus accepts me as I am.
  o Strongly Agree
  o Agree
  o Neutral
  o Disagree
  o Strongly Disagree

Either I or others like me have experienced discrimination in class or on campus.
  o Strongly Agree
  o Agree
I often feel that my community and spiritual values are in conflict with academic values.
  - Strongly Agree
  - Agree
  - Neutral
  - Disagree
  - Strongly Disagree

I don’t have any problems fitting in on campus.
  - Strongly Agree
  - Agree
  - Neutral
  - Disagree
  - Strongly Disagree

I love college and feel that I am a perfect fit.
  - Strongly Agree
  - Agree
  - Neutral
  - Disagree
  - Strongly Disagree

I often feel that I have to act like a different person on campus versus in my home community.
  - Strongly Agree
  - Agree
  - Neutral
  - Disagree
  - Strongly Disagree

**Community Connections**

I went to college to contribute to my community.
  - Strongly Agree
  - Agree
  - Neutral
  - Disagree
  - Strongly Disagree

Earning a college degree will allow me to contribute to my community more than if I did not earn a college degree.
  - Strongly Agree
  - Agree
  - Neutral
  - Disagree
  - Strongly Disagree

Success means being useful to others.
  - Strongly Agree
  - Agree
  - Neutral
  - Disagree
I am motivated to complete my degree because others depend on me.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

I am going to school to give back to my community and family.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

Obtaining a college degree will allow me to be a role model for others.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

It is important for me to be successful in college so that I can support other members of my community who want to attend college.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

I get support from family and community members to deal with discrimination on campus and elsewhere.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

I sometimes speak up when I hear people saying incorrect things about my community.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

Obtaining my college degree will help me protect my community’s culture.
- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

I seek support from others in my community on campus.
My college degree will accomplish a goal for my community.

I can earn a college degree even though my spiritual values and beliefs may differ from the majority.

Because of my community’s spiritual beliefs, values, and support, I feel more confident coping with the campus environment.

I get support for spiritual practices from my community.

Becoming a role model for others is one reason I wish to obtain my degree.
## Appendix E

### Interview Protocol For FGCS

<table>
<thead>
<tr>
<th>Research Question</th>
<th>FGCS Interview Questions</th>
<th>Constructs</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ 1. How do FGCS and faculty describe their relationships on campus?</td>
<td>Who or what kept you on track or didn't keep you on track to graduate from X college or university?</td>
<td>Sense of belonging, Cultural Mismatch</td>
</tr>
<tr>
<td>RQ 2. What resources and support networks do FGCS utilize or need to earn a college degree?</td>
<td>Who or what kept you on track or didn't keep you on track to graduate from X college or university?</td>
<td>Social and cultural capital</td>
</tr>
<tr>
<td>RQ 3. How do FGCS describe their connection to the college campus and resource?</td>
<td>Describe a positive experience you had while in college. Who was involved in the experience? What was the result of the experience?</td>
<td>Sense of belonging, Connection to the campus</td>
</tr>
<tr>
<td>RQ 4. What challenges do FGCS experience when earning a college degree?</td>
<td>Describe a time you had difficulty with something in college. Who was involved? How did you handle the situation? What would have made the situation better?</td>
<td>Social and cultural capital</td>
</tr>
</tbody>
</table>
Appendix F

Full-Time College Faculty Interview Protocol

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Full-time Faculty Interview Questions</th>
<th>Constructs</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ 1. How do FGCS and faculty describe their relationships on campus?</td>
<td>How would you describe the first-generation college students on your campus? Describe their skills, behaviors, habits, and/or attitudes.</td>
<td>Sense of belonging, Cultural Mismatch</td>
</tr>
<tr>
<td>RQ2. What resources and support networks do FGCS utilize or need to earn a college degree?</td>
<td>Do they take advantage of the programs/supports? What programs/supports does your university have for first-generation college students?</td>
<td>Social and cultural capital</td>
</tr>
<tr>
<td>RQ 3. How do FGCS describe their connection to the college campus and resource?</td>
<td>How do you see the first-generation college student interact with campus, faculty, and/or peers?</td>
<td>Sense of belong, Connection to the campus</td>
</tr>
<tr>
<td>RQ 4. What challenges do FGCS experience when earning a college degree?</td>
<td>Think about your experiences inside and outside of the classroom. Describe an experience you have had with a first-generation college student.</td>
<td>Social and cultural capital</td>
</tr>
</tbody>
</table>
## Appendix G

### NACOPE Survey Results

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>I avoid talking about my degree with my family and larger community.</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am worried that my family and larger community do not understand why it is important to me to pursue a college degree.</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
<td>1 (33%)</td>
<td></td>
</tr>
<tr>
<td>I feel out of place in my community because I have chosen to pursue a college degree.</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am confident that my community will support my return with a college degree.</td>
<td></td>
<td></td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
</tr>
<tr>
<td>To be successful in college, you must learn to step out of your tribal world and walk in the “white” world.</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel different at college than at home on my reservation/ in my community.</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I get emotional support from family and community to obtain my degree.</td>
<td></td>
<td></td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
</tr>
<tr>
<td>I believe that my community values my pursuit of a college degree.</td>
<td>1 (33%)</td>
<td></td>
<td>2 (67%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel accepted and understood by friends from home.</td>
<td>1 (33%)</td>
<td></td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
</tr>
<tr>
<td>I cannot talk about my college life with friends from home.</td>
<td>1 (33%)</td>
<td></td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
</tr>
<tr>
<td>If I complete my college degree and make a lot of money, I worry that my family will not accept me.</td>
<td>3 (100%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If I had stayed home rather than coming to college, I would be more accepted by my community.</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel safe on my college campus.</td>
<td></td>
<td></td>
<td></td>
<td>2 (67%)</td>
<td>1 (33%)</td>
</tr>
<tr>
<td>When I decided to come to college, I knew that there was a chance that my family and community would disagree with my decision.</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
<td>1 (33%)</td>
<td></td>
</tr>
<tr>
<td>Statement</td>
<td>Response 1 (33%)</td>
<td>Response 2 (67%)</td>
<td>Response 3 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My campus accepts me as I am.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Either I or others like me have experienced discrimination in class or on campus.</td>
<td>2 (67%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I often feel that my community and spiritual values are in conflict with academic values.</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don’t have any problems fitting in on campus.</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I love college and feel that I am a perfect fit.</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I often feel that I have to act like a different person on campus versus in my home community.</td>
<td>1 (33%)</td>
<td></td>
<td>2 (67%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I went to college to contribute to my community.</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earning a college degree will allow me to contribute to my community more than if I did not earn a college degree.</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Success means being useful to others.</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am motivated to complete my degree because others depend on me.</td>
<td>1 (33%)</td>
<td></td>
<td>2 (67%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am going to school to give back to my community and family.</td>
<td>1 (33%)</td>
<td></td>
<td>2 (67%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obtaining a college degree will allow me to be a role model for others.</td>
<td></td>
<td></td>
<td>2 (67%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is important for me to be successful in college so that I can support other members of my community who want to attend college.</td>
<td></td>
<td></td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I get support from family and community members to deal with discrimination on campus and elsewhere.</td>
<td></td>
<td>2 (67%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I sometimes speak up when I hear people saying incorrect things about my community.</td>
<td>1 (33%)</td>
<td></td>
<td>2 (67%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obtaining my college degree will help me protect my community’s culture.</td>
<td></td>
<td>2 (67%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statement</td>
<td>Code 1</td>
<td>Code 2</td>
<td>Code 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I seek support from others in my community on campus.</td>
<td></td>
<td></td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My college degree will accomplish a goal for my community.</td>
<td></td>
<td>2 (67%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can earn a college degree even though my spiritual values and beliefs may differ from the majority.</td>
<td></td>
<td></td>
<td>3 (100%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Because of my community’s spiritual beliefs, values, and support, I feel more confident coping with the campus environment.</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I get support for spiritual practices from my community.</td>
<td></td>
<td></td>
<td>3 (100%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Becoming a role model for others is one reason I wish to obtain my degree.</td>
<td></td>
<td>2 (67%)</td>
<td>1 (33%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Appendix H

**FGCS Coding Matrix**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-themes</th>
<th>Codes</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection to the campus/sense of belonging</td>
<td>Satisfaction</td>
<td>Familiar surroundings</td>
<td>“I guess for me inside the classroom, it seemed a little more like high school little bit like kind of like a small classroom, not like a lot of people.”</td>
</tr>
<tr>
<td></td>
<td>Comfortable setting</td>
<td></td>
<td>In fact, it's a very comfortable setting because you're like the professors, make sure make sure to like be all requirements for the students.”</td>
</tr>
<tr>
<td></td>
<td>Comfortable over time</td>
<td></td>
<td>“I'm pretty comfortable. ...at first, I wasn't very comfortable talking in class.</td>
</tr>
<tr>
<td></td>
<td>Student success</td>
<td></td>
<td>“Increased productivity” &amp; “higher GPA” so no longer needs resources in senior year. Resources especially helpful in the first year</td>
</tr>
<tr>
<td>Strategies for FGCS</td>
<td></td>
<td></td>
<td>Research the schools with the highest graduation rate for FGCS and attend those schools “But if he [adviser] acknowledged, like, hey, I know. I know there's a lot of rich kids around here I know like, you know, some of these kids have access to things that you haven't had access to, what are some things that we can do to kind of boost your social capital, if you will, or you know how we can make sure…</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-themes</th>
<th>Codes</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sociocultural Barriers</td>
<td>Difficult Situations</td>
<td>Dangerous</td>
<td>“They kind of didn't want it to be known that like the situation happened or whatever. And then like I said, for</td>
</tr>
</tbody>
</table>

128
<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-themes</th>
<th>Codes</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>myself being a young man and all that kind of thing like I, I kind of felt like I had to play it off.</td>
<td>Need For Resources</td>
<td>Has autism.</td>
<td>“There are some things I need to do differently. I need to figure out what are the resources that I can take advantage of, how can I do things a little, smarter, what do I need to do to make sure I still get an A. You know what I mean. And like many even including like switching majors, you know what I mean. And not having anybody.”</td>
</tr>
<tr>
<td>“Since the university wants to make it seem like everything is super safe, like they didn't do a good job of attending to the situation and like reporting on the situation.”</td>
<td>University Safety</td>
<td>“I was still kind of feel that not exactly imposter syndrome. But just knowing that there was a major class difference. You know what I mean that I was trying to navigate and like play down.”</td>
<td></td>
</tr>
<tr>
<td>Since it was a private university since it was an elite University. I did often feel that I was kind of trying to still prove to myself and others that I that I did belong there.</td>
<td>Belief In Self</td>
<td>“Very little to no people that I really don't know.”</td>
<td></td>
</tr>
</tbody>
</table>
| “Rough jump up from high school to college, which was tough on my, again, | Tough Experience | | }
<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-themes</th>
<th>Codes</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Doubt</td>
<td></td>
<td></td>
<td>“And like I started to become somewhat insecure and seeing like, wait a minute, how did I get out of the goodness C on exam or a C as grade when I self-identify as like a straight A student.”</td>
</tr>
<tr>
<td>Increase In Confidence</td>
<td></td>
<td></td>
<td>“I became a little more active within my tribe. And ever since I kind of partake in some of their internships.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“But now ever since attending Mitchell and just partaking, talking more in class, I became more comfortable with it. And I do not mind asking help, or questions or anything.”</td>
</tr>
<tr>
<td>Not Fitting In</td>
<td></td>
<td></td>
<td>And I think oftentimes that [feelings of not fitting in] prevented me from seeking out that personal support.</td>
</tr>
<tr>
<td>Finances</td>
<td>Financial Issues</td>
<td></td>
<td>“There was also another situation where I wasn't sure if I was able to afford another year at Mitchell too, which kind of also was a bit of a problem because the tuition is expensive.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“I had to apply for like a few loans that everyone gets, and I had to sign up for FAFSA, and basically just sign up for financial aid.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Price of the school was a factor in deciding school</td>
</tr>
<tr>
<td>Imposter Syndrome</td>
<td></td>
<td></td>
<td>And so, I felt like there's kind of this expectation you had what it took to get here then you'll be fine, you'll figure it out how to take advantage of the resources that you need to move forward.</td>
</tr>
<tr>
<td>Theme</td>
<td>Sub-themes</td>
<td>Codes</td>
<td>Data</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------</td>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>College Experience</td>
<td>Opportunities On Campus</td>
<td>Academic Opportunities</td>
<td>“Plenty of educational resources”—disability resources, extended time</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“But then didn't realize, as things were more challenging, I didn't realize the kids who are doing well actually are going to tutoring. They are like working in study groups.”</td>
</tr>
<tr>
<td>Inadequate University</td>
<td></td>
<td></td>
<td>“I think most of the institutional structures didn't really like attend to the dynamics that I was going through... I did feel like there were structures that were in place. I don't want to say failed me but somewhat, they didn't really serve me very well.”</td>
</tr>
<tr>
<td>Resource</td>
<td></td>
<td></td>
<td>“Undergraduate research office was really, personal in their approach to helping guide me through that process.”</td>
</tr>
<tr>
<td>Department Support</td>
<td></td>
<td></td>
<td>Relied on a familiar professor to secure a paid internship</td>
</tr>
<tr>
<td>Research Opportunity</td>
<td></td>
<td></td>
<td>“One piece that was found very <strong>fulfilling and rewarding</strong> was that I had the opportunity to do some research that was important to me personally and was able to get some institutional support and additional resources to be able to dig into that.”</td>
</tr>
<tr>
<td>Internship Opportunity</td>
<td></td>
<td></td>
<td>“And ever since I kind of partake in some of their internships.”</td>
</tr>
<tr>
<td>University Resource</td>
<td></td>
<td></td>
<td>“To be honest with you, I felt like they did, they did a pretty good job. As the center of promoting the opportunity. And I think since the connection there. The intention with this program this Fellowship Program was to promote more students of color to become”</td>
</tr>
<tr>
<td>Theme</td>
<td>Sub-themes</td>
<td>Codes</td>
<td>Data</td>
</tr>
<tr>
<td>---------------</td>
<td>------------</td>
<td>------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>University Therapy Resource</td>
<td>Therapy sessions for students</td>
<td>scholars of color. And so, the goal was to help us do essentially honors level research that would help us on a pathway to the PhD.”</td>
<td></td>
</tr>
<tr>
<td>Faculty Engagement</td>
<td>“The professors, make sure make sure to like be all requirements for the students.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor Support</td>
<td>“The professors make it a safe environment for students to pretty much speak their mind and things and speak their thoughts on certain topics there.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Capital</td>
<td>Community Support</td>
<td>Sought help to pay for classes (tribe, scholarship office)</td>
<td></td>
</tr>
<tr>
<td>Interactions With Faculty Participation</td>
<td>“I became a little more active within my tribe. And ever since I kind of partake in some of their internships.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classmate Interaction</td>
<td>Concerned with opinions of classmates rather than schoolwork</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Adviser Mismatch | **“Minimal interaction.** And with not a lot of depth to the interaction. So, we had a couple of conversations and got a little bit of general advice, but I didn't, I didn't really get the type of support I needed from somebody like me, who had been
<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-themes</th>
<th>Codes</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Familial Capital</td>
<td>Culture</td>
<td>Religious belief</td>
<td>Belief in God</td>
</tr>
<tr>
<td></td>
<td>Parents as a</td>
<td>parent support given</td>
<td>…&quot;I could talk to just in case I need something or need, like maybe a word of advice about anything.”</td>
</tr>
<tr>
<td></td>
<td>resource</td>
<td></td>
<td>“Absolutely not. My mom had the insight. I'm not sure, I guess because my older sister also had gone to college, to do a financial aid appeal letter to get more support for us but that was on her own.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“It wasn't surprising to me my four years in college like my parents got to see me wrestle, on campus, one time.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“...my mom supported me throughout even to the point where I went from going from my first [inaudible] letters to being part of Alpha Phi Sigma.”</td>
</tr>
</tbody>
</table>

“...It probably would have been like my advisor that I had probably could have been fine, but if he had given provided the opening to discuss some of those things that were challenging for me.”
<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-themes</th>
<th>Codes</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interactions</td>
<td>Social events &amp; activities</td>
<td>Parties</td>
<td>“Before COVID, there's been like a lot of parties and things, lots of different events. And it was very fun to kind of like just to interact with people and things, and just kind of like, get to know the college more. ”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lack of social events</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“Since [the] pandemic, there hasn't been many events.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>social events</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“There's still a bit of interaction that goes on around campus.”</td>
</tr>
<tr>
<td>Interactions with</td>
<td>School activity</td>
<td></td>
<td>Student athlete</td>
</tr>
<tr>
<td>friends</td>
<td></td>
<td></td>
<td>&quot;Different people have different nationalities. There are there are some people different, like sexual preferences, gender identities, different religions, different hobbies, preferences, all those things, and I made a few friends.&quot;</td>
</tr>
<tr>
<td>Academic Resources</td>
<td>Strategies to persist</td>
<td>Asks for help</td>
<td>“But now ever since attending Mitchell and just partaking, talking more in class, I became more comfortable with it. And I don't mind asking help, or questions or anything.”</td>
</tr>
</tbody>
</table>

134
<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-themes</th>
<th>Codes</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counseling</td>
<td>Adviser</td>
<td></td>
<td>“So like freshman year, your pre-assigned advisor goes with who you think, the field that you think you're going to go into. And so, like I had, I had a doctor a medical doctor as my advisor.”</td>
</tr>
<tr>
<td>Advice</td>
<td></td>
<td></td>
<td>“And I think one of the main like pieces of advice that I now give young people, as they're looking at colleges and as they're getting started at colleges, including the one I attended, is to take advantage of the resources that are out there.”</td>
</tr>
</tbody>
</table>
## Appendix I

### Full-time Faculty Coding Matrix

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-Theme</th>
<th>Codes</th>
<th>Evidence</th>
</tr>
</thead>
</table>
| Faculty Impact     | Faculty Engagement       | Faculty Experience with FGCS  | "I had an experience with a first-generation college student. He was a freshman. He was from out of state."
<p>|                    |                          | Interactions with FGCS        | &quot;Basically, about him getting additional supports at the Writing Lab. He had stated with me that he was struggling and his English 101 class, though.&quot; |
|                    |                          | Offering a resource           | &quot;he was starting to struggle with writing papers and things like that as far as, you know, so I gave him some resources.&quot; |
|                    |                          | Faculty engagement            | &quot;So through, through conversation. The student was placed on my caseload. And I was his pseudo advisor in the Department of School of Education and Urban Studies. So, I was his advisor at that time.&quot; |
| University Impact  | University Supports     | Adviser                       | &quot;I think the biggest support that the I see is they have an advisor in their department.&quot; |
|                    |                          | Peers                         | &quot;They have advisors and counselors and the financial aid department. I think they also have to have student lead ambassadors that they can always reach out to.&quot; |</p>
<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-Theme</th>
<th>Codes</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>FGCS</td>
<td>Interact on campus</td>
<td>Campus help</td>
<td>the student writing lab on campus</td>
</tr>
<tr>
<td></td>
<td>Observations</td>
<td>Description of FGCS</td>
<td>“I would describe them as very, very excited.” “They love to network.”  \</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Description of FGCS</td>
<td>“They are trying to kind of find themselves and navigate this whole college experience because it's new to them, and they don't really have a reference point to what college life is like.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Description of college</td>
<td>“brand new for them”  \</td>
</tr>
<tr>
<td></td>
<td></td>
<td>experience</td>
<td>“It's a new experience, but I think they are very open minded.”  \</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Difficulties observed</td>
<td>“The one issue that I have found is that the time management piece between college. College social life, and academics, is probably something that they have a hard time struggling with, in the beginning.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Isolation</td>
<td>Lack of interaction: “I also see the college students that are kind of isolated. They are on their own island. And if someone does not notice it. I think it can lead to a lot of isolation.”</td>
</tr>
</tbody>
</table>
| FGCS resource           | Writing                            | Writing interaction          | “But the academic piece is probably the one that they take advantage of the most...the University Writing Center is, I think the resource that they
<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-Theme</th>
<th>Codes</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Integration</td>
<td></td>
<td></td>
<td>“take advantage of the most.” “students that are heavily involved with the social activities on campus, such as homecoming.... A lot of social events...parties or events that are hosted by fraternities or sororities.”</td>
</tr>
<tr>
<td>Policy Ideas</td>
<td>Faculty Recommendations</td>
<td>Finance advice</td>
<td>“...they [department advisors] can help them kind of navigate the whole college experience because between paying for college and the financial aspect of it but then as far as registering for classes, time management dorm life. “...peer kind of mentoring. That helps as well.”</td>
</tr>
</tbody>
</table>
## Appendix J

### Comparison of Persistence and Attrition Models

<table>
<thead>
<tr>
<th>Theory</th>
<th>Category</th>
<th>Basis for Theory</th>
<th>Description</th>
<th>External Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spady (1970)</td>
<td>Sociological</td>
<td>Durkheim (1951) Theory of Suicide</td>
<td>Social integration through shared friendships, belief and values, academic success. Social integration promotes higher satisfaction with university.</td>
<td>Familial support, Socioeconomic level, Cognitive abilities</td>
</tr>
<tr>
<td>Bean (1980) Model of Student Departure</td>
<td>Organizational</td>
<td>Revision from Tinto’s model</td>
<td>Intentions for the student to stay or leave. Plans shape attitudes which impact behaviors (environmental interactions). Models employee turnover in an organization. Correlations between attitude and behavior.</td>
<td>Parental approval, Pre-college experiences</td>
</tr>
<tr>
<td>Museus &amp; Chang (2014)</td>
<td>Cultural</td>
<td>Tinto (1975, 1987, 1993) Student Integration Model</td>
<td>Eight propositions that involve a student’s connection, collaboration.</td>
<td>n/a</td>
</tr>
</tbody>
</table>