The Impact of Cultural and Social Capital on FTIC Student Persistence

George R. Still III

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Toni M. Calasanti, Co-Chair
Sarah M. Ovink Co-Chair
Haiyan Zhu
Rachelle J. Brunn-Bevel

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ABSTRACT

Both cultural and social capital have been used in the existing literature to understand the differences in student persistence. Bourdieu's theories (1986, 1993, 1973), through their various applications, have provided evidence that the influence of social and cultural capital on student achievement varies based on the context of the study (Sternberg et al. 2011; Farruggia et al. 2018; Grodsky 2007). This research will build on the existing research and expand the focus to a broader application of both cultural and social capital together to study the impact at Urban Center University. Through this method, this dissertation examines differences in college readiness students possess when they enter Urban Center University. This research also examines differences in the type and level of social capital students report activating in their first semester of college, primarily measured through students' sense of belonging. Finally, it will examine differences in support for students' cultural communities at Urban Center as measured by academic/social support for their cultural community and strain with family and friends from home. A binary logistic regression operationalizes all three components of cultural and social capital to investigate the likelihood of persistence to year two and year three, on-time graduation, and attainment of satisfactory academic performance (SAP) toward degree completion. Finally, high degrees of belonging for Latino/a students, men, and first-generation students are compared to overall persistence rates for these populations to examine how belonging impacts persistence for students who identify as members of these groups.

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GENERAL AUDIENCE ABSTRACT

Many students choose to attend a college or university and never graduate. This dissertation examines the ways that their high school experience, family and friends, and relationships forged at Urban Center impact their persistence and likelihood of graduating in four years. The research will combine several forms of relationships and academic measures in one model to understand the ways they interact to impact persistence. The research will help colleges and universities understand the way that both pre-college behaviors and academic effort, relationships forged in college, and maintaining home relationships impact the likelihood of persistence. The context for Urban Center University was selected because it offers insight into a campus with a very diverse student body based on race, gender, sexual orientation, Pell Grant utilization, and status as the first in their immediate family to attend college.

Dedication

I dedicate this dissertation and topic to my grandfather and namesake George Still. While you never realized your dream of completing college, I hope this research helps colleges and universities meet the future needs of first-generation students like you. You have inspired me all of my life, including enrolling at Virginia Tech for my Ph.D. While my journey took longer than expected, finishing this journey was even more important to me given how close you were to your degree that never happened.

Acknowledgements

I want to first give a special thanks to my husband, Stephen. You have always encouraged and challenged me to not give up on this dream. Those conversations are now ending. Thank you so much for all the time away from family and the extra parenting you have had to do while I worked on this project. I look forward to our continued journey with our kids and what life has in store for us next. I also want to acknowledge how much finishing this project means to me in terms of setting an example for my children. Tommy and Zena, I hope both of you can find the success and meaning in your college journey that I found in mine.

I would be remiss not to acknowledge all the support provided by my dissertation committee. Toni, Sarah, and Barbra Ellen, you all encouraged me and challenged me to stick with one idea and see it to completion. The brainstorming sessions, endless drafts, and meetings were all critical to crossing this finish line, and I would not have gotten here without you. Rachelle and Haiyan, I appreciate your support in the project as well. Your content expertise and methods help was important, especially in the consolidated timeline to complete this year.

A special thanks to the Urban Center research team who helped administer the survey in 2018. The work we did to implement the survey garnered one of the largest response rates in university history. I appreciate all your help in survey refinement, implementation, and the original analysis. The impact of the survey continues to show up in institutional interventions and will help Urban Center meet the needs of the diverse populations moving forward.

Finally, I want to thank Cathy Akens and Jennifer Whitney. Both of you have meant a lot in terms of encouraging and supporting me to finish this degree. I value your friendship and mentorship through the writing part of my journey. Thank you all so much for all the reminders and questions about how it was going. Cathy, I know I would not be here had you not continued to encourage and push for me to complete this degree.

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CHAPTER 1: STATEMENT OF THE PROBLEM

A large number of students enter college but never complete their degrees. According to the National Center for Education Statistics (2022), 59.7% of first-time, full-time students at four-year public institutions complete their degrees within six years. Non-completion rates for students from historically underrepresented groups (Black/African American and Latino/a students, students from low-income backgrounds, and first-generation students) increase dramatically, raising questions about whether certain students' backgrounds and experiences lead to their relatively higher attrition rates in college. The first year, specifically the first six months, marks the highest period of students departing the institution. This departure is primarily due to the challenges in adjusting to college for historically underrepresented populations (Tinto 1987, 1993; Elkins, Braxton, and James 2000; Benjamin et al. 2007; Kim 2018).

Given the significant exodus of students during their first year, I investigated two specific components of social capital. First, I explored what impact, if any, existing social networks (family and friends) have on the likelihood of first-year students' persistence over the next two years of study. The importance of social networks associated with departure from college is significant. Prior studies have shown that first-year students' exodus from college is unrelated to their abilities or preparedness for college study (Walton and Cohen 2011). My research contributes to the knowledge that seeks to understand how college students' educational persistence is impacted by their early engagement with the institution and the relationships they forge (Braxton et al. 2014).

Second, I investigated if the social networks students develop in their first year might impact their persistence over four years at a four-year public institution. Specifically, I examined the impact of students' perceptions of belonging and the institution's support for personal

success on their persistence. Sense of belonging represents a measure of perceived social connection; that is, a student's sense of belonging may indicate that they have forged relationships with their peers and/or institutional agents in a profound and meaningful way (Ginsberg 2021). I focused on two types of relationships—family/peer relationships and institutional (academic) relationships—to demonstrate what influence, if any, they have on students' persistence at an urban, minority-serving, four-year public university, which I referred to in this study as Urban Center University.

My research is based on the theoretical assumption that the college system, or what Bourdieu (1993) describes as the *grande ecoles,* is a social institution that maintains privilege, advantaging certain groups while perpetuating inequalities relative to others. Compared with their privileged counterparts, historically underrepresented students in this environment do not enter college with the same level of access to knowledge about the *hidden curriculum*, which often significantly impacts persistence (Grodsky and Riegle-Crumb 2010). The hidden curriculum comprises noncognitive factors that affect persistence but are never formally taught by institutional agents. Students are already expected to possess these skills and dispositions without formal programming (Sternberg et al. 2011; Farruggia et al. 2018).

Ovink and Veazey (2011) elaborate on the notion of cultural capital, stating, "It is a system of class-specific dispositions that shape an individual's actions to reproduce and perpetuate existing systems of hierarchy" (p. 373). Historically underrepresented students, mainly those first in their families to attend college, often do not have access to the same level of familial knowledge about the norms and values of the higher education institution; thus, they do not enter college with the same level of college-going capital.

Cultural capital represents intergenerational knowledge contributing to social mobility (Bourdieu 1986). Cultural capital combines class-specific dispositions and academic credentials (Bourdieu 1986). It incorporates individual characteristics and can minimize the importance of the institutions' role in developing skills and networks that would benefit student persistence (Sullivan 2001). Different relationship types—family, peers, and institutional agents—influence cultural capital. Family is essential in bestowing class-specific disposition and values (Bourdieu 1973). From there, cultural capital continues to develop through relationships with peers and mentors in educational settings to create "high-status cultural signals used in cultural and social selection" (Lamont and Lareau 1988:153). In higher education, this takes various forms, including classroom structures, grading protocols, and writing expectations, often including unwritten expectations for skills and behaviors that students are expected to know when they enter college. Phrased differently, Ovink and Veazey (2011) state that for Bourdieu:

> Non-elites are socialized in ways that not only limit their expectations and aspirations, but this limited habitus fails to transmit the cultural capital necessary to navigate the institution of the elite class. In short, for Bourdieu, the accumulation and deployment of cultural capital are at the center of a strategic attempt by elites to maintain power. (pp. 373–74)

As a framework for my research, I utilized Bourdieu's work on social capital to understand how college students mobilize their existing relationships with social networks in their "cultural" community and their new relationships with college peers and personnel. My goal is to understand what, if any, effect these two relationship types have on students' persistence and completion. Bourdieu (1986) proposes that social capital is connected to other forms of capital, such as economic, cultural, symbolic, and human. Social capital is the "aggregate of the actual or potential resources linked to possession of a durable network of more or less institutionalized

relationships of mutual acquaintance or recognition" (Bourdieu 1986:248). According to Glanville and Bienenstock (2009),

> For Bourdieu (1986), the amount of social capital an actor possesses depends on the number of network connections they can mobilize and the sum of the amount of 'capital,' financial, human, and cultural each network member possesses. (p. 1509)

For my dissertation, I focus on four types of social networks: family, pre-college friends, college peers, and college personnel. I examined the impact of each of these on students' likelihood to persist/graduate.

I have defined historically underrepresented students as populations who, according to prior research, enter, persist, and graduate at disproportionately lower rates than their privileged counterparts. Research has shown that the students with the following characteristics are historically underrepresented: African American and Latino/a students (Hurtado and Carter 1997; Wimberly 2002; Hausmann, Schofield, and Woods 2007); students from low-income backgrounds (Finnie, Lascelles, and Sweetman 2005); first-generation college students (Bound, Lovenheim, and Turner 2007); and African American and Latino male students (Messner 2000; Parks-Yancey, DiTomaso, and Post 2006; Brunn and Kao 2008; Harper 2008). To assess the culture of inequality created in higher education, I investigated the impact of social networks on the persistence of historically underrepresented students beyond their first year at a public four-year institution; I also assessed how social network development compares to their privileged counterparts at the same institution (Grodsky 2007). One limitation in the existing literature is that most of the research has been carried out primarily in the context of elite and predominantly White institutions (PWI) (Karabel 2005; Bowen et al. 2006; Golden 2006; Douglas 2010; Byrd

2017) or national models (Dufur, Parcel, and Troutman, 2013; Palmer and Maramba 2015; Hennessy-Himmelhebber 2015; Elliott et al. 2018).

As mentioned above, my dissertation contributes to the current literature on race, gender, and class inequality by examining how understanding social/cultural capital might foster ways to create a more equitable experience in higher education. Research on retention, college satisfaction, and academic major selection has demonstrated that specific racial and ethnic populations have unequal experiences in college and that these inequalities intersect based on gender and class (Hurtado and Carter 1997; Nora 2004; Deil-Amen and Tevis 2007).

Yosso (2005) critiques how Bourdieu's social and cultural capital concepts have been empirically studied due to the privileging of dominant cultural characteristics. In this article, Yosso discusses how relationships with existing racial/ethnic communities are essential in the persistence and graduation of students of color. Yosso argues that students of color have navigated White institutions their whole lives, and they turn to their cultural communities for information about success in college. The article provides a novel framework for my dissertation methodology. I draw on Bourdieu to understand how power and privilege replicate themselves while using strategies promoting equity and inclusion. Yosso suggests that institutions should better incorporate cultural communities and should not assume students of color enter the classroom with deficits; instead, institutions need to recognize these students' specific capital, which is associated with their *mestiza* knowledge, outsider knowledge, and transgressive knowledge that help them successfully navigate their college experiences (2005:70).

Two key terms for this process are *cultural communities* and a *sense of belonging*. For this study, I use the term cultural communities to describe the most salient identities with which students identify and the community(ies) they represent. Cultural communities represent, in part,

the culmination of students' prior social networks, which includes the capital associated with those relationships. In the study, students are provided an overall definition of what cultural communities represent and asked a follow-up question where they identify what came to mind when they answered the question. Sense of belonging measures cohesion and students' perception of themselves as community members (Bollen and Hoyle 1990). Together, these two terms provide a framework to understand how students view their connection to the campus community and the integration of the institutional culture with their own. Using this approach, students participating in the research are given more of a voice in articulating their salient identities rather than just relying on the usual demographic questions around race, gender, class, and sexuality. In addition, the cultural community framework allows an inclusive understanding of cultural capital, which aligns with prior research showing the impact of gender, race, and socioeconomic status on students' interactions with faculty and, ultimately, their persistence (Colbeck, Cabrera, and Terenzini 2001; Cole 2007; Kim and Sax 2009).

What follows are the specific research questions I examined in this dissertation.

RESEARCH QUESTION 1

My first research question is: what level of college readiness (a subset of college-going capital) do students entering an urban public four-year university possess? College readiness is defined as the dispositions and prior academic behaviors of students in high school. I operationalize this concept using survey variables to measure the following factors among first-year students from the survey sample: high school performance (GPA and AP/IB courses), family economic security (food security), and peer relationships (specifically relationships with peers who also plan to attend college). In addition, this first research question allowed me to

understand the trends in cultural capital students enter college with and how these trends vary based on student demographics (race, gender, and class).

RESEARCH QUESTION 2A

Focusing on social networks, the second question has two specific components. First, what supportive relationships do students activate in their first year? This part of the question considers the supportive value that students associate with those relationships—using the question block that captures students' perceptions about how supportive the environment was during their first year. First, I analyzed how it varied based on specific demographic populations, and later in question three, regarding how this impacts their persistence. This approach is based on the framework established by prior research, which has shown that support for personal success is vital to student persistence, whether it takes the form of academic advising, informal/formal faculty mentorships, career development, tutoring, and/or other support services (Strayhorn 2012; Stebleton, Soria, and Huesman 2014). In addition, prior research shows that the development of supportive peer relationships impacts student retention and academic performance (Gloria and Ho 2003; Booker 2007; Hausmann et al. 2009). Therefore, rather than focus on one, two, or a combination of a few specific relationships, my research question focuses on whether students can find support at the institution and if they view it as appropriate for their success.

RESEARCH QUESTION 2B

The second component of this question focused on students' cultural community. My analysis considered how students describe the support they receive from their cultural community. The

inclusion of this approach is based in part on the cultural wealth framework presented by Yosso (2005), which demonstrates that for many racial/ethnic populations, support can often originate within their community rather than in formal support structures. This research question considered the positive inclusion of students' cultural community and relationship strain because of the institutional environment. The data collected showcased the complexity of maintaining home relationships and gauged measures of institutional support for students' cultural community and relationship maintenance.

Both components of the second research question served to develop a scale of high, moderate, and low support, which I used to analyze how capital developed through institutional relationships and/or cultural community impacts students' likelihood to persist (see the third question).

My focus on belonging and cultural community in research question two helped me understand how students perceive their connections with the campus and their sense of belonging at the institution. Addressing the issue of belonging shifts the lens for success, namely persistence, and graduation, from an institution-centric approach focused on adopting higher education culture to a student-centered approach emphasizing the importance of inclusion and belonging. This becomes especially important for students who represent historically underrepresented populations; it also provides a framework for understanding the strengths/skills these students bring to higher education.

RESEARCH QUESTION 3

Finally, my dissertation examined what patterns emerge regarding students' persistence and satisfactory academic progress toward graduation. Using the data collected in the first two

research questions, the third question examines whether certain factors (namely, students' prior effort in college, student support built at the institution, and students' support from their cultural community) impact their persistence. In addition, I used the scales based on the data from the first two research questions as independent variables to examine what, if any, impacts college-going capital and social capital developed by students have on student persistence and satisfactory academic progress (SAP). The latter is measured using the financial aid determination criteria of a 2.5 or higher GPA. Finally, the survey data was connected to the student information system data regarding persistence to examine how it explains population variations in persistence.

My analysis paid particular attention to persistence from the first to the second year as a direct result of college-going capital and social capital. The existing literature further shows the importance of these early relationships in framing a culture of success or momentum framework. To measure the impact of early relationships on persistence, i.e., momentum, I considered persistence to year three and on-time graduation to examine if those early relationships helped facilitate their continued success.

My dissertation aims to analyze the impact of college-going capital and social capital in mitigating students' lower likelihood of persisting and to evaluate if social capital affects the likelihood of their persistence. I provided a QuantCrit inclusive analysis focused on the impact of cultural and social capital within historically underrepresented groups rather than utilizing the category of "White" as the norm. Based on the literature, the analysis examined how historically marginalized groups persist when controlling for the capital level they developed at Urban Center University. I have identified the following groups as target populations for this analysis: Latino/a students, male students, and first-generation students.

I used data collected through the Culturally Engaging Campus Environments (CECE) Survey at Urban Center University to answer the research mentioned above questions. The CECE model uses external influences (family, finances), precollege effects (academic preparation), and access to a culturally engaging campus environment (sense of belonging, academic self-efficacy, motivation) as the framework that influences college persistence, with an emphasis on access to culturally engaged environments (National Institute on Transformation and Equity 2022). The two primary components of culturally engaged environments are cultural relevance and cultural responsiveness. At Urban Center University, the CECE survey was administered to a sample of 7000 students in February 2019. My analysis focused on students in their first year at Urban Center University, giving me a sample size of 457 students.

This research makes several contributions to the field of Sociology. First, it contributes knowledge about whether and how pre-college academic effort impacts student persistence (Stevens, Armstrong, and Arum 2008; Ovink and Veazey 2011), as well as whether and how those historically marginalized populations struggle with the hidden curriculum relating to course expectations and hidden cultural values of higher education.

This dissertation also contributes to the field by expanding previous research on the pre-college academic effort to address the complexity of home/family life on college persistence. Based on Yosso's (2005) theoretical work, my research includes students' prior academic effort and their maintenance of relationships with their cultural community. Expanding the research focus provides data on traditional measures of academic college readiness and the institution's engagement with students' cultural community. In addition, the results provide information about how students maintain their home relationships and the perception of inclusion for their values and identity.

The dissertation also contributes by using several measures—students' prior academic effort, relationships with their cultural community, and institutional relationships—together in one model to measure these impacts on student persistence. Using the cultural community approach to analyze student persistence builds and adds to the work of Bourdieu. In the model used in this dissertation, I analyzed persistence and successful academic progress concerning four factors—belonging, relationship maintenance with home community, building new relationships, and prior academic effort—to see if they have a positive, neutral, or negative impact on persistence. In previous research, the effect of the family has at times been presented as a barrier to the persistence of students from historically underrepresented backgrounds (Constantine, Ozazaki, and Utsey 2004; Herrero and Gracia 2004), specifically in terms of the mismatch between academic ability and college choice (Kim and Schneider 2005; De La Rosa 2006; Person and Rosenbaum 2006) and access to institution-specific capital (Bourdieu 1973; Hurtado and Carter 1997; Collier 2000; Eraut 2000).

My research also posits the importance of an institution-specific approach to examining social/cultural capital. Existing student persistence data for Urban Center University indicates some unique patterns in student engagement compared to many other institutions. This trend suggests the importance of examining theories about social and cultural capital in the context of the institution. For example, at Urban Center University, Black/African American and White men have similar patterns of college stop-out without transferring; both cohorts also have lower graduation rates than their female counterparts. In addition, Latino/a students at Urban Center University achieve higher graduation rates than other institutions, with 58% completing a degree within six years compared to 51% nationally (National Center for Education Statistics 2020). The high rate of first-generation students and a comparable graduation rate indicates that

some unique things are happening with student persistence in this context. Through my analysis, I propose that an institution-specific approach is essential in developing a more complex understanding of the factors affecting persistence.

I examined Urban Center University intentionally because graduation/persistence data varies significantly, even between institutions with similar characteristics. My research provided data on how Urban Center University defies some patterns regarding who is successful in a historically White institution (HWI). Performing analysis in this context also allowed me to focus on the value placed on peer relationships developed by students while they are in college; this offers an innovative way to examine the explanatory power of Bourdieu's theory. The focused demographic analysis and social/cultural variables found in the CECE survey were analyzed to understand the formal and informal relationships students developed while at Urban Center University. This, in turn, provided a deeper understanding of cultural/social capital's impact on student persistence in their first year of college. I also analyzed how patterns might vary and how these disparities might be based on historically underrepresented status(es).

This dissertation's final contribution is connecting institution-specific data sources and survey data to examine the reciprocal nature of persistence and social capital. Previous research has adopted models from elite institutions or PWIs with specific cultural values. These institutions privilege populations of students with higher class status and prior experience of higher education. This research approach operationalizes Bourdieu's theory of cultural capital using the French collegiate structure, which has a clear hierarchy of specific premier elite institutions and lower institutions that model themselves after the premier institutions. While the United States also has elite institutions, such as "Ivy League" universities, there is a greater variety in the types of students served and more considerable independence from each other. The

diversity of institutions in the United States means that access to capital can vary based on institution size, type, and student composition, creating different systems of privilege and power. My research considers how a specific institutional context influences students' social network development and sense of belonging. Analyzing institution-specific culture and its impact on belonging and persistence becomes more critical as the college-going population changes in the United States.

Historically a women's college, Urban Center University currently represents a minority-serving institution and an emerging Hispanic Serving Institution; this creates a unique context compared to many historical PWIs. As a result, the patterns of persistence/graduation differ from other institutions of similar size and mission. My institution-specific approach expands the existing ways that cultural capital has been studied, adding to the social capital literature regarding racial equity (Lareau and Horvat 1999; Barlow and Villarejo 2004; Strayhorn and Sadler 2008; Ovink and Veazey 2011), socioeconomic differences (Aries and Seider 2005; Turley 2006; Grodsky 2007; Grodsky and Riegle-Crumb 2010), and gender equity (Parks-Yancy et al. 2006; Harper 2008; Brunn and Kao 2008). Studying persistence patterns at a specific institution also enabled me to examine how students' persistence is impacted by the capital with which they enter college and/or develop while they are students. This provides a more holistic understanding of how identity and cultural/social capital influence persistence in higher education.

CHAPTER 2: REVIEW OF THE LITERATURE

This chapter reviews the theoretical and empirical literature that provides the framework for my study. First, I reviewed Bourdieu's theoretical work on cultural and social capital. Second, I defined college-going capital, focusing mainly on college readiness as a component of college-going capital that impacts college integration. Then, I described how it had been applied in higher education literature, particularly concerning student persistence in the first year. Finally, I reviewed the literature regarding the impact of social networks, both with peer and institutional agents, on college persistence.

SOCIAL CAPITAL

Bourdieu (1986) describes social capital as the aggregate or potential resources linked to networks developed by individuals. More simply, it is the value of social connections, as relationships matter to capital development (Bourdieu 1984). Social capital provides members access to specific knowledge and resources that reproduce class-specific dispositions and can help further inequality or give access to new institutions (Dika and Singh 2002). In the context of education, Stanton-Salazar (1997) defined social capital as the resources and information available through developing relationships with institutional agents.

The benefit provided by a network in one context might not be available in a different context (Bourdieu 1993; Sandefur and Laumann 1998; Lareau and Horvat 1999). Benefit matters because the cultural elite uses social capital unique to their networks to exclude other groups. For Bourdieu, the elite consists of two groups: capitalists (industrial elite) and cultural authorities (determinants of high culture). Higher education represents one of the spaces where the cultural elite influences the formal and informal curriculum. The culture of higher education positions

students who are not from elite backgrounds at a disadvantage because they often need more cultural knowledge to gain the specific forms of cultural knowledge required for success.

Relationships can also inhibit culturally appropriate actions by members in new social networks (Portes 1998; Portes and Sensenbrenner 1993). Based on their prior networks, people develop norms that may be taboo in another context. Further, social networks may resist new forms of capital and pressure individuals to avoid engaging with new networks. The type of capital associated with the network and the size/strength of the network are also crucial for determining the power the relationship has in other social contexts (Bourdieu 1986), where more extensive, more complex networks are positively associated with students' college attendance and persistence (DiMaggio 1987).

In college, this is often seen in relationships with peers from high school or with family members, which may provide a different level of support and value than networks developed with college faculty, staff, and peers. Developing relationships with individuals who understand the formal and informal college curriculum is vital for students' success. For specific racial and ethnic populations, there is a noted difference in forms of capital students have access to, impacting college success (Massey et al. 2003). Many Latino/a student's families lack the specific knowledge of expectations and mores found in higher education, which impacts college choice, forcing many students to rely on resource-poor high schools for information (Ovink 2017).

Bonding capital, most often family, are close-knit networks that provide the group with emotional and material support, and bridging capital provides people with access to new information. Bonding capital is often formed with family and typically within a class- or race/ethnic-specific context. In higher education, students' relationships with their families

provide bonding capital but often do not support the development of college-specific capital necessary to be successful. The disparity in the positive impact of family relationships is partly because an overreliance on that specific form of capital can come at the expense of developing college-specific forms of bridging capital (Fernandez-Kelly 1995).

Other bonding (horizontal) network memberships can also pressure individuals through restrictive norms or sanctions, where individuals may feel pressure to continue behaviors that diminish their college success. This is not to say that students from lower socioeconomic backgrounds lack social capital; the network memberships do not always translate to benefits in this new social context of higher education. Each form of capital has a political and historical context and is often intended to exclude those outside the group (Farrell 2007).

Bridging capital occurs through volunteer networks that often span age, gender, profession, and income (Putnam 2002). Bridging networks offer individuals "bridging capital," that is, access to information and support, both of which are important for bridging previously held lack of knowledge for that specific context. For example, for higher education, institutional agents give students access to expert knowledge and cultural capital they may not have access to otherwise (Portes 1998). In the context of college, bridging capital becomes essential because it connects sectors of society (Sabatini 2009; Bowman and Denson 2012). For example, bridging capital helps students navigate college and new economic systems and is particularly important to their persistence and graduation (Tinto 1987; Robbins et al. 2004; Crosnoe 2004; Wyatt, Saunders, and Zelmer 2005). Thus, bridging capital connects individuals across class and position.

More recently, a distinctive feature of bridging capital has been added to highlight capital formed through vertical relationships across "power differentials"; this is referred to as linking

capital (Szreter and Woolcock 2004). Sabatini (2009) describes how linking capital gives actors access to political or economic power, which is capital that is specifically important during activities like employment searches.

CULTURAL CAPITAL

Lamont and Lareau (1988) describe cultural capital as the "attitudes, preferences, formal knowledge, behaviors, goods and credentials used for social/cultural exclusion" (p. 156). Bourdieu (1986) describes the three states of cultural capital as embodied, objectified, and institutionalized. Higher education continues to represent one of the social institutions where the high cultural values of the elite are embedded within the hidden curriculum and reproduce cultural values (Bourdieu 1973). Higher Socioeconomic Status (SES) groups maintain power and privilege by defining what constitutes "legitimate" culture, such as theater, art galleries, and museums. (Bourdieu 1973). According to Berger (2000), "Individuals with access to the most capital resources, in various combinations, constitute the upper class and use their resources to maintain and expand their standing" (97).

Framed differently, cultural capital takes on various forms, including participation in activities, knowledge of formal and unspoken rules, fluency in cultural modes, and class-specific tastes (Lamont and Lareau 1988; Sullivan 2001). Students enter college with different levels of college-specific capital caused by disparate development in formative education and relationships with family, friends, and peers (Bourdieu 1984). The differences are often associated with differential access to the same quality of education. In higher education, fluency in the modes of expression and knowledge of college-specific cultural capital is essential for

navigating the college's complex social world; students who lack such fluency are less likely to persist with their degree (Berger 2000).

Cultural capital also plays an essential role in education due to the transmission and maintenance of elite cultural values through high cultural majors, such as visual/performing arts or philosophy, which are not directly tied to economic impact and focus on fluency in culture rather than vocational skills (Bourdieu 1986, 1996). Additionally, colleges perpetuate inequality through a system where familiarity with elite culture is required to meet classroom expectations (Bourdieu 1973). The cultural capital valued in higher education has been described as "academic self-esteem, leadership experiences, extrafamilial encouragement, and institutional support" (Nora 2004). Academic self-esteem is inclusive of two components: academic skills and knowledge.

Cultural capital fosters familiarity with a particular institution's dispositions and cultural knowledge. Cultural capital sends signals of academic ability to teachers that lead to favoritism, preferential treatment, and, ultimately, educational success (Jaegar and Bren 2016; Wildhagen 2009). In some cases, academic and cultural capital, like analytic competency or creativity, directly impacts educational success (Kisida, Greene, & Bowen, 2014; Lareau, 2011). It explains the ways that culture is maintained and transmitted.

Cultural capital also varies significantly based on community. Significant disparities exist between communities regarding access to high-quality textbooks, facilities, and quality of instruction; this creates situations where students graduate from high school underprepared for college. Without intervention, they frequently do not persist in college; this is particularly true for students who do not take rigorous high school courses, are less likely to enroll continuously, and graduate within six years (Chen and Carroll 2005). In addition, many students have yet to

gain college-specific cultural capital from their family relationships or K-12 contexts, impacting their success as they enter college. For example, Deil-Amen and Tevis (2007) found that half of the underrepresented populations (URP) in their study did not continue past the first year. The article suggests that family support, specifically for first-generation students, did not provide context-specific knowledge to support students' success to the same extent as it had for K-12 education.

The impact of cultural capital on higher education often happens through the hidden curriculum. The term hidden curriculum was coined in the 1990s by education theorists to describe the implicit or embedded experiences not found in formal components of the curriculum, i.e., course syllabi, assignment descriptions, etc. (Sambell and McDowell 1998) but are valued by faculty (McDonough 1997) and familiarity with these values is vital to success (Aschaffenburg and Maas 1997; Semper and Blasco 2018). The hidden or shadow curriculum (Buchmann et al. 2010) maintains a one-way dominant culture; students are expected to understand and perform specific cultural values and norms but often need opportunities to develop those skills (Bourdieu 1973, 1993). For many students, the hidden curriculum can distinguish between persisting and failing to graduate (Hurtado and Carter 1997). The hidden curriculum can become further complicated since role expectations change depending on context (e.g., community college, public education, private schooling, etc.) (Collier 2000). Students who cannot develop the informal values implicit in institutional and faculty expectations are much less likely to persist and graduate (Eraut 2000).

College also represents a space where institutional culture and values continue to be gendered. As a result, women often find the classroom an inhospitable place where many gendered norms are reproduced, and male privilege is sustained (Boysen 2009, 2013),

particularly in specific academic fields of study (Swim et al. 2001). As Lewis (2021) maintains, "The language, discourse, speaking, and writing are not neutral but political acts when you examine who is speaking." In this context, women are exposed to a double-edged sword, where silence is regarded as a gendered norm and interpreted as a lack of engagement.

Nevertheless, the gender component of college culture is complex in that women complete at higher rates than their male counterparts. When examining gender differences in enrollment and completion, Ehrmann (2007) found that family stress and expectations negatively affect women more than men when controlling for class. One limitation of Ehrmann's study (which he mentions in the discussion) is that institutional climate variables were not part of the dataset; these results suggested that men chose elite colleges more frequently and were less likely to graduate when controlling for similar classes/preparation variables. Ovink (2014) adds to this discussion by demonstrating that there is an intersection between gender and race/ethnicity for Latino/a students. Her research indicates gendered familism in college choice, independence, and college outcomes for women. Latinas were often encouraged to pursue higher education as more malleable but found pressure to succeed and be a good "investment."

COLLEGE-GOING CAPITAL

College-going cultural capital is defined as the "academic and nonacademic school-related skills students possess which advantage them in college" (Knaggs et al. 2020), which includes knowledge about applying to college, financial aid, classroom skills, and behavioral expectations. Lower levels of college-going capital provide part of the explanation for lower rates of college attendance by first-generation students relates to the differences in social and cultural capital transmitted through informal social structures like family and school

relationships, where college attendance is not a certainty for all students (Massey et al. 2003). These networks create a class-specific worldview where college attendance is assumed to be the next step after graduation for some students but not for others (Berger 2000). Much of the disparity in college attendance can be explained when controlling for students' high school achievement, which limits the impact of parents' occupation and education attainment (Gorard 2008; Davies, Mangan, and Hughes 2009).

Students from historically underrepresented groups generally lack an understanding of the college admission process, including the application and entrance process, application deadlines, and how to apply for financial aid (Knaggs et al. 2020; Bryan et al. 2018; Hill, Bregman, & Andrade, 2015; Ascher & Maguire, 2011; Chen, Wu, and Tasoff 2010; Cabrera and La Nasa 2000; Wimberly 2002; Gonzalez, Stoner, and Jovel 2003; Person and Rosenbaum 2006; Bloom 2007). This shortfall in contextual skills often frustrates and discourages first-generation students and can compromise college aspirations (Bryan et al. 2018). In addition, the quality of K-12 schools, economic resources, and academic preparation also impact college choice and achievement (Bowen et al. 2006; Bryan et al. 2018). Bryan and colleagues (2018) also note the importance of college talk and K-12 school personnel in providing information for first-generation college students to understand enrollment processes.

There also are marked patterns around school settings, where suburban (predominately White, middle-class) high school students have higher educational outcomes and college attendance than other students. However, since schools are primarily funded through property taxes, students have disparate experiences. Urban (ethnically diverse) schools often need more appropriate resources, have outdated books, and experience racial bias (Tyson 2011). Further, rural students need access to the same quality school resources as their affluent suburban

counterparts (Roscigno and Crowley 2001; Roscigno, Tomaskovic-Devey, and Crowley 2006). Both populations also lack access to recruiters (Kim 2012; Aguinis, Culpepper, and Pierce 2016). Roderick, Coca, and Nagoka (2011) also demonstrate that low-income urban students had a 20% gap in college enrollment based on their plans to attend, with most students needing to complete the admission and financial aid process to enroll.

Another way that college-going capital differentially affects students is through college choice. Underrepresented groups often limit their college choices to regional public institutions based on proximity and recommendations by their family and friends (Kim and Schneider 2005; De La Rosa 2006; Person and Rosenbaum 2006). In addition, there is often a convenience factor in these students' decision-making, with many choosing based on the colleges' proximity to their homes (Turley 2009). Given this trend, it raises the question of how regional public institutions support students from underrepresented populations, which is part of the framework for my study.

Another way that college-going capital inequality manifests is through academic major selection. African Americans, Hispanics, and Native Americans constitute 26% of the overall U.S. population but represent only 11% of STEM bachelor's degree recipients; this had a negative impact on their future earnings potential (National Science Board 2012). The major choice disparity also holds for first-generation students, who drop out at a higher rate and often do not choose STEM majors (Chen and Carroll 2005). Diekman et al. (2011) describe this problem as an incongruence between the culture of science and students' own goals (see also Pascarella and Terenzini 2005).

There are also impacts specifically for women related to STEM engagement. Women select STEM majors at a lower rate than their male peers and report discrimination (Steel et al.

2002; Morris 2012; Mau 2016). This has been linked explicitly to teachers and the development of lower math confidence because of sexism (Leaper and Brown 2008). The culture of STEM fields has demonstrated the impact of a sense of belonging on student persistence and academic engagement for underrepresented students (Ostrove and Long 2007; Rosenthal et al. 2011). This is further complicated in that men in these fields are advantaged through resources gained via informal and formal social networks (Bevan and Learmonth 2013). The disciplinary culture associated with this masculinity presents a problematic situation where women are expected to perform competitively with men (Rhoton 2011) but also risk being penalized for the same activity (Bevan and Learmonth 2013; Hirshfield 2015).

Another issue to consider is when parents or families need to understand better the college application process to provide support with college choice and enrollment procedures (Radford 2013). Ovink (2017) found that a "Lack of valuable social/cultural capital among parents and family networks led students to be overly dependent on resource-poor high schools to shepherd them through college applications" (p. 143). While this study focuses on Latino/a students, its findings apply to students from other historically minorized populations with limited college-specific information networks.

Ahearn (2021) demonstrates a pattern of misalignment among high school students based on their socioeconomic status; students with higher family income levels were 60% more likely to exhibit aligned expectations in the ninth grade, and this gap increased as students moved closer to graduation. This increased rate of alignment of college goals to vocational outcomes is another way students from more affluent backgrounds benefit more from high school social networks, which positively influences college choice. Misaligned college goals may affect college selection and success, and goal attainment.

The research describes the impact of college choice as a "college match," demonstrating that students feeling "mismatched" with their chosen college extends past college graduation. The term "college undermatch" refers to students who select a college or university with lower selectivity than their SAT, and grades suggest they are eligible to attend. Undermatch results in lower economic outcomes, including employment, earnings, and sector employment (Rodriguez 2015; Ovink et al. 2018; Reynolds et al. 2006). Brint and Yoshikawa (2017) expand on this to demonstrate that specific sectors rely heavily on elite institutions for their workforce. Ovink et al. (2018) suggest that low-income students often decide which college to attend based on non-academic factors. One of the core challenges exposed through studies of college match is that undermatch often reflects broader issues of stratification and inequality, which are present throughout the U.S. educational system (Ovink 2017). The financial impact also shows up in their ability to engage on campus, where they lack funds to engage in "highbrow" events (Reynolds et al. 2006).

College mismatch occurs among underrepresented students regardless of their high school academic performance. In *Top Student, Top School*, Radford (2013) demonstrates that valedictorians' college selection can vary based on the student's background. The book's data suggest that first-generation students and students from low-income backgrounds cannot access the same wealth of information that would enable them to make the best decision about college match. Radford suggests that better school counseling and college outreach could help students make different decisions based on goal match, affordability, and career outcomes. She also shows that students with higher family income apply to six or more institutions than their lower family income counterparts. This is primarily the result of students from higher-income families

being more likely to apply to particularly selective institutions and therefore being advised to increase their applications.

A secondary component related to college mismatch is the goal alignment of college to career expectations. Students from historically underrepresented populations often make choices without a clear understanding of the vocational benefits attached to the degree they are pursuing and will forego vocational training in pursuit of an unrealistic four-year degree without understanding the possible career paths available through that degree (Schneider and Stevenson 1999; Rosenbaum 2001) or demonstrates ways that students can misalign their vocational goals (e.g., being a software developer) with the necessary degree to meet these goals, where students think it requires a higher or lower degree than is necessary for that industry (Kim, Klager, and Schneider 2019).

The literature on college-going capital is vital to understand the differences in students as they enter college, particularly in a regional, public university context. For example, given the differences in academic preparation, what impact does that have on their likelihood of persistence? Further, how do the racial and gender patterns hold in this context?

COLLEGE READINESS AND IMPACT ON PERSISTENCE

College readiness refers to the personal and educational capital developed before attending college that is associated with college success. College readiness measures include knowledge of college culture, policies and operations, and financial aid systems (Conley 2008). It also involves cognitive skills, including critical and comprehensive reading, specific analytic skills (calculation/estimation/measurement), scientific thinking, and theoretical reasoning (Conley 2005).

College readiness factors contribute to lower persistence among students from underrepresented populations who ultimately enroll. Lower levels of college readiness, both in terms of academic and social preparation, create a higher level of inequality than these students' continuing-generation peers (Strayhorn 2014; Roderick et al. 2011). The impact of readiness often shows up in terms of underrepresented populations not understanding unwritten expectations for course assessments when compared to K-12 education; the frequency and timing of essential deadlines; and other basic requirements which, without staff support, detrimentally affects their likelihood of graduating (Adelman 2006; Deil-Amen and Tevis 2007; Buchmann, Condron, and Roscigno 2010).

Men from historically marginalized groups have much lower enrollment and completion rates than their White counterparts (Lopez 2003, Strayhorn 2014). One aspect often cited is the stereotypes Black and Latino men experience. Both groups are often stereotyped as uneducated, lazy, and violent, which leads to their trailing behind their black female and Latina counterparts in college enrollment and persistence (Harper 2006). This affects their sense of belonging, campus involvement, academic achievement, and faculty/staff interaction (Harper 2015; Steele 2010). The disparities faced by historically marginalized men impact their rates of retention, graduation, and overall success (Harper 2007; Boyd et al. 2018), with Black men having the lowest graduation rate (Harper 2012). This is in stark contrast to their female counterparts. Richards (2019) and Brunn and Kao (2008) demonstrate that women are more likely to complete their degrees than men, regardless of race/ethnicity, when controlling for socioeconomic status.

The disparity in college outcomes is also associated with socioeconomic status (SES). Families from higher SES backgrounds have greater access to social capital that provides academic rewards associated with higher educational aspirations (Dumais 2002). Aries and

Seider (2005) also reveal that students from low-income backgrounds have a challenging experience navigating university culture as the institutional selectivity level increases. It is also important to note the complexity of the intersections of historically marginalized populations in higher education. First-generation students are also Black/African American and Latino/a. Approximately 17% of White undergraduates are first-generation compared to 29% Black and 38.5% Latino/a students (Campbell and Westcott 2019).

DISPARITY IN FAMILY IMPACT

Other factors that impact persistence are cultural capital, family capital, and social capital. Even for first-generation students, the family can positively influence their decision to attend college. McCarron and Inkelas (2006) found a positive relationship between parental involvement and children's education decisions. Institutions' challenge is to develop a "constructive inclusion of parents not only to boost educational aspirations but also diminish the negative effect of strain created due to students not possessing specific forms of cultural capital" (p. 546). Gofen (2009) provides empirical support for this assertion; data collected from interviews of first-generation students showed that the student's success was due, in part, to support from their parents in the decision-making process to attend college.

However, research has also demonstrated that institutions can force students into a situation where institutional capital means forgoing capital from family. There is tension experienced by many students who believe that adopting college culture means replacing their home culture/values with those espoused by the cultural elite; this is referred to as "acculturative stress," which is the result of experiencing a perceived threat to one's culture (Anderson 1991). The study by Constantine et al. (2004) shows that this stress is more likely to negatively impact

the persistence of African American students than students from other racial/ethnic groups. Students with high levels of cultural stress can initiate and maintain college relationships for social support (Herrero and Gracia 2004).

For certain racial/ethnic groups whose experience in the United States has been rooted in an involuntary status (such as slavery and conquest), exclusion has also been expressed in terms of oppositional culture. As a result, students from these groups are more likely to experience a lack of acceptance and higher levels of discrimination (Ogbu 1993) and feel pressured to adopt the values of the college cultural environment regardless of the harm this causes (Hurtado and Carter 1997). This creates home-college tensions through the disconnection of home capital and "elite" cultural capital (Aries and Seider 2005).

A highly debated concept has been that students with Black and Latino heritage and from low-income backgrounds must mediate between the capital associated with dominant and non-dominant networks (Carter 2003; Lubrano 2004). Richards (2019) counters this specific application of Bourdieu's concept of cultural capital explicitly as a form of color-blind racism that minimizes racial identity and oppression through a class-based discussion. In this context of higher education, the White-centric nature of social institutions elevates White, middle-class culture while minimizing the impact of race (Lee and Kramer 2013; Richards 2019). In the next section, I focused on social capital and social networks, associated with how these networks may also impact success.

SOCIAL CAPITAL AND THE FIRST YEAR OF COLLEGE

The first year of college is the most important for retention and completion. Academically, students earning at least 30 credits in their first year are seven times more likely to complete their

degree than those earning ten credits or less (Adelman 2006). In addition, students who do not pass courses in their first semester and fail their first math or English class are the most likely to withdraw before completing their degree (Callahan and Belchier 2017).

When considering nonacademic measures, 70% of the difference can be explained when examining outside-of-the-classroom factors (Strayhorn 2013). Most students who depart do so in their first year of college, with the first six months representing the highest departure period (Tinto 2017). Students' specific relationships with peers in their first semester impact their college success and are crucial to discussing social capital in college (Museus and Neville 2012).

The first semester is also important because the cultural and social capital found in higher education can exclude populations of students from historically marginalized populations. The result for those students is being excluded from many informal networks which bestow meaningful information. Lack of money or time can mean students cannot participate in outside-of-class events where mentoring or networks are forged. Lower-income families lack access as they cannot afford to engage socially in “highbrow” activities (i.e., theater, restaurants, golf, or other cost-prohibitive activities) with faculty and peers from wealthier families (Baxter and Britton 2001; Aries and Seider 2005). Reliance on the capital developed through highbrow relationships perpetuates inequality among students who miss out on those experiences because they cannot develop social capital through those networks (Berger 2000).

Lareau and Weininger (2003) suggest ways that social and cultural capital matters regarding course performance and persistence. Three specific expectations by faculty which expose cultural capital differences include faculty evaluations of students, grading standards used, and technological resources expected. Through these unwritten expectations, faculty evaluate students and impact their ability to be successful. Additionally, Lamont and Laureau’s

earlier study (1988) identifies four ways that cultural capital similarly excludes individuals in the college process: students' self-elimination or recognition in advance that they may not fit in; over-selection, where students fail to overcome their cultural disadvantage; relegation, where they make bad decisions based on a lack of understanding; and major selection, where there is overt bias against specific populations of students by college review staff.

Higher education's cultural norms and values improve a URP student's academic success through the first year. However, without the support of faculty, friends, and family, students can feel isolated, stereotyped, and unable to develop an identity that helps them succeed in higher education (Syed Axmitia and Cooper 2011). This partially explains differences in levels of persistence among first-generation students, those from specific racial/ethnic populations, and urban students who often lack the skills necessary to be successful, including study skills and time management skills (Byrd and Macdonald 2005). Strayhorn (2014) suggests a strong link between study skills and success among at-risk students. To be successful, students need to learn strategies for scheduling their study time, studying effectively, and managing the volume of study required in college.

Further, persistence is often closely tied to institutional commitment on the part of students (Tinto 1993; Braxton, Milem, and Sullivan 2000; Sandler 2000; Guiffrida 2006). Strauss and Volkwein (2004) define institutional commitment as "overall satisfaction, sense of belonging, the impression of education quality, and willingness to attend the institution again" (pp. 203–204). Institutional commitment concerns a sense of belonging; satisfaction with peer and institutional networks; and educational quality regarding faculty interactions. Social and academic integration is integral to student success (Tinto 1993; Hurtado and Carter 1997).

SENSE OF BELONGING

Tinto (2017) describes a sense of belonging as seeing oneself as a community member and believing that the community values one's contribution. Students' perception of those engagements' meaningfulness is important and frames their sense of belonging (Strayhorn 2012). When students feel they are part of a community and their participation is valued, this contributes to their sense of belonging (Kuh, Kinzie, and Schuh 2010; Strayhorn 2012; Tovar 2013; Stebleton et al. 2014; Lamont and Lareau 1988). A sense of belonging increases students' commitment to the institution, even when challenges arise. Students may attribute their sense of belonging either to small group memberships with those sharing similar interests or, more widely, to the institution. Still, regardless, a sense of belonging significantly impacts their persistence (Tinto 2017). The networks that students get involved with, and those they are excluded from, can play an essential role in belonging, particularly as it relates to student persistence (Eggens, Werf, and Bosker 2008; Smith 2015; Kassarnig et al. 2018; Brown 2019).

Students' engagement with their networks is less important than their perception of the value they derive from the engagement (Strayhorn 2012). Their sense of belonging enables them to experience enhanced motivation, and they are also more willing to do things that further enhance persistence, i.e., join clubs, service learning, or internships (Hausmann et al. 2007). Students' perception of belonging includes their academic and social connections to the institution.

Developing relationships in a classroom community is also closely connected to a student's sense of belonging (Thompson et al., 2007). Relationships can become particularly important for historically underrepresented populations; perceptions of social support are associated with higher levels of persistence among African American students (Hurtado and

Carter 1997; Gloria et al. 1999). There are instances where the lack of college-specific forms of cultural capital can hinder the development of support networks. Students with lower levels of these elite forms of cultural capital can face social exclusion (Sullivan 2001). Positive relationships with faculty, staff, and peers contribute to students' sense of belonging. Studies have shown that specific relationships and a broader sense of belonging contribute to student success (Hausmann et al. 2009). Students' informal relationships with faculty contribute to success by contributing to their sense of belonging (Meeuwisse et al. 2010:532).

Even in the broadest sense, campus belonging is linked to academic success (Thompson et al. 2007). When students receive support from peers and faculty, this is associated with a stronger sense of belonging, a higher GPA, and increased chances of persistence (Gloria and Ho 2003; Booker 2007). At PWIs, African American students experience a lower sense of belonging due to experiences of prejudice, discrimination, and marginalization at the institution and broader community (Suarez-Balcazar et al. 2003).

STUDENT ENGAGEMENT

Student engagement represents a form of social capital by developing social bonds. Hirschi (1969) historically discusses social bonds as possessing four elements: attachment or emotional ties, commitment, involvement, and belief. Engagement, a sense of belonging, and social bonds are significant because they emphasize building connections. Moreover, students' perception of positive relationships significantly impacts their retention. Peguero, Ovink, and Li (2016) demonstrate that social bonds lower the likelihood of students dropping out. While the context is different, this supports the notion that connection matters to student graduation. Engagement in higher education also represents the time students devote to activities that

achieve their desired higher education outcomes (Kuh 2003) inside and outside the classroom (Harper and Quaye 2014).

Fredricks, Blumenfeld, and Paris (2004) describe the impact of engagement on student success as comprised of three distinct components. The first component is the affective impact, which includes emotional responses or a sense of belonging. The second is the behavioral component of participation in academic and social activities. Finally, the third is the cognitive component, which refers to learning and the perceived value of the curriculum. Reschly and Christenson (2006, 2012) expanded the abovementioned three categories to include a fourth albeit very different measure of engagement—academic engagement, which represents time on task, credits earned, and associated grades. The fourth measure more directly captures student success related to the hidden curriculum. These four categories represent a comprehensive approach to examining engagement and suggest ways students might participate in some components but not others.

Engagement enhances subsequent engagements by creating a feedback loop (Fredricks et al. 2004; Ceci and Papierno 2005; Reschly and Christenson 2012; Ben-Eliyahu et al. 2018; Smith and Tinto 2022). Tinto (2017) shows that engagement impacts student motivation, belonging, and feeling valued. When students find value and meaning in those initial activities, it increases their social, academic, and cognitive engagement and, ultimately, their likelihood to persist.

The positive correlation between involvement in campus programs and GPA is well documented (Astin 1993; Milem and Berger 1997; Kuh 2003). In the context of academic success, the depth, rather than breadth, of involvement is essential (Ivanova and Moretti 2018). Social support among peers and faculty is also associated with students' sense of belonging, GPA, and persistence (Gloria and Ho 2003; Booker 2007).

PEER RELATIONSHIPS

The definition of friendship can be defined in a variety of ways (Spencer and Pahl 2006; Flora 2013). McCabe (2016) discusses the importance of allowing students to determine their definition of friendship. McCabe (2016) demonstrates that students have, on average, 18 friends representing the following four categories: peers in college (53%), peers from home enrolled at the same college (12%), peers from home (26%), and peers from other categories (9%). McCabe further demonstrated that adolescents' networks were more "loosely bound with varying degrees of cohesion and permeability." This indicates that students maintain home friendships while also forging new ones, and those networks might not be connected. This concept plays an essential role in a student's college experience. A home relationship might provide more social/emotional support, while a college relationship provides more cultural capital support for college expectations. Maintaining those connections is vital for students' success during and after college.

For college relationships, social support is augmented by developing strong friendships through clubs and other organizations. Friendships forged in college foster social integration and reduce depression (Calderan 2012; Eckles and Stradley 2011); such friendships can include relationships forged through online communities (Fagioli, Rois-Aguilar, and Amen 2016; Liman 2021). These new peer relationships provide additional social support for students and can help increase their likelihood of belonging, persistence, and graduation.

SOCIAL NETWORKS

Social relationships significantly and positively impact student academic performance and persistence (Tinto 1993), specifically with faculty and peers (Astin 1993). Developing these

strong social networks helps link students to the larger campus community, providing them with the connections needed to succeed (Hurtado and Carter 1997). The development of these networks, however, occurs in different ways. African American students at PWIs need help to develop a robust social support network (Sutton and Kimbrough 2001). Orientation and peer network programs have successfully addressed social isolation for historically marginalized students at PWIs (Wilson 2000).

One specific way that students can engage with the institution is through formal support programs. The most successful programs impacting retention are robust pre-entry programs, which forge links with students even before they enter college, offer initiation programs inclusive of academic and social components, and assist students with social integration and academic support (Parmer and Trotter 2004).

Saenz et al. (2011) define five specific areas for student engagement in campus programming: active and collaborative learning, student effort, academic challenge, student-faculty interaction, and support for learners. Each of these five represents specific ways that institutions can impact success. Studies have supported the impact of each of these individually, but Saenz presents them as a model to examine holistically. For example, tutoring and academic advising (support for learners) have a meaningful impact on course performance and persistence (Harper and Quaye 2014). In addition, Harper and Quaye (2014) assert that engagement involves student participation in effective practices inside and outside the classroom.

INSTITUTIONAL AGENTS

Students develop solid social ties through relationships with institutional agents representing the institution (staff or faculty). Institutional agents use that role to forge formal

and informal relationships with students. Many studies have identified the relationship with faculty as one of the crucial relationships students make (Astin 1993; Pascarella and Terenzini 2005; Dika 2012; Kim and Sax 2014; Seyfried 1998; Pascarella and Terenzini 2005). For instance, Strauss and Volkwein (2004) demonstrate that academic relationships with faculty and peers are the most important influence on student retention compared to social relationships students develop outside of the classroom. Academic relationships are further validated in Liu and Liu's (1999) article, where "student-faculty relationships were found to be critical to retention" (p. 513). Kim and Sax (2010) also show that relationships developed by students with faculty help to support the development of cognitive skills, particularly in majors that offer positive support.

Orientation programs represent another specific way colleges work with students to help them understand the unspoken expectations of college. Collier and Morgan (2008) found that orientation programs which focus on assisting students in understanding the roles of college are crucial for retention/completion because they help students understand faculty expectations.

Institutions can develop targeted mentoring programs that help students develop additional cultural and social capital necessary to be successful in college. In addition, colleges can support underrepresented students through supplemental workshops that address academic, financial, and peer support (Barlow and Villarejo 2004). For example, Ovink and Veazey (2011) examine the role of the Biology Undergraduate Scholars Program (BUSP) on the persistence of Black/African American students in science majors at UC Davis; BUSP offers focused support through the freshman laboratory research program and in gatekeeper courses.

The environment that faculty create is important for student learning and engagement. Specifically, within the classroom environment, active and collaborative learning impacts student

persistence even more than faculty's out-of-class availability (Umbach and Wawrzynski 2005). In addition, for historically underrepresented populations, holistic and proactive assistance provided by key institutional agents is essential for their success (Museus and Neville 2012).

Another challenge for students is that faculty access and support are unequal. Students from URP backgrounds, namely those from racially minoritized communities, have a different experience with faculty (Kim 2009). African American and Latino/a students experience the highest frequency of differential treatment by faculty members (Suarez-Balcazar et al. 2003). Harper and Hurtado (2007) found that African American students were less involved in student activities at PWIs because they felt unwelcome and due to their limited options.

Relationships with institutional agents have a significant impact on student persistence. For instance, Phinney et al. (2011) found that, among science majors, greater contact between faculty and students from underrepresented groups increased their opportunities and support, positively influencing these students' grades and persistence.

The contextual impact also is essential as it relates to institution type. Earlier research has highlighted that African American students experience higher engagement and performance at HBCUs than their African American peers at PWIs (Allen 1992), a finding which continues to be demonstrated today (Marx et al. 2019). Liberal arts, women's, and historically black universities have unique contexts. The extent to which those colleges connect to White, dominant culture impacts the institution-specific culture and the capital it requires (Harris 2020).

MENTORS

Mentoring represents how institutional agents support student success and help increase persistence for historically marginalized populations. Mentoring is a source of emotional

support, modeling, and guidance that promotes engagement and achievement (Martin and Dowson 2009). Students searching for a mentor pay close attention to nonverbal cues indicating interest by faculty. Students do not choose faculty mentors when they perceive negative attitudes if they feel "rushed" in their interactions (Cotten and Wilson 2006) or in instances where they believe faculty do not take their communications seriously (Cole 2007).

Natural mentors are people who engage with students in everyday interactions. Natural mentors often share more characteristics with their mentees and have similar backgrounds than formal mentors (Hurd and Sellers 2013). Ongoing natural mentoring relationships throughout the first year have improved students' GPAs (Hurd, Tan, and Loeb 2016). However, the challenge with natural mentoring is that it is distributed unequally. Students from URP groups enrolled at PWIs are less likely to have access to natural mentors through informal channels. Unequal access contributes to social inequality, even though targeted support programs (tutoring, mentoring, etc.) intend to ameliorate this (Erickson, McDonald, and Elder 2009).

Erickson et al. (2009) further reveal that students from higher SES backgrounds have more access to family and friends who can serve as informal mentors. The same study found that URP students benefit from formal mentoring in college, corroborating other research that points to the importance of mentoring through formal channels for Black students (Strayhorn and Saddler 2008).

Mentoring goes beyond advising and includes developing relationships with students and helping them navigate their professional journey (Schnaiberg 2005; Erickson, McDonald, and Elder 2009). It can take on numerous roles and functions. Mentors can serve as role models, teachers, sponsors, advisors, guides, or brokers for new forms of capital (Brown, Davis, and McClendon 1999; Galbraith and James 2003; Mertz 2004). Mentoring can improve academic

performance, grades, critical thinking, and persistence (Mertz 2004). Another form of mentoring is research-focused mentoring, where faculty are engaged in meaningful applied learning activities (Tinto 1993). Mentoring is vital for several reasons. First, it helps to socialize students in the institution (Saddler 2008). Second, it also impacts grades and, ultimately, retention in the first year (Salinitri 2005)

STUDENT PERSISTENCE

Tinto (2017) describes persistence as the "motivation to continue in pursuit of a goal even when challenges arise" (p. 2). Unfortunately, persistence and graduation rates remain below 70% on average for all four-year institutions. The fall-to-fall retention rate for four-year public institutions is 82% (National Student Clearinghouse 2021), and, on average, only 64% of students graduate in six years (NCES 2020). The National Center for Education Statistics (NCES) report further shows that race is essential for understanding persistence in four-year institutions. The NCES (2019) found that the "six-year graduation rate for first-time, full-time undergraduate students was highest for Asian students (74 percent), followed by White students (64 percent), students of two or more races (60 percent), Hispanic students (54 percent), Pacific Islander students (51 percent), Black students (40 percent), and American Indian/Alaska Native students (39 percent).".

Despite the enrollment gains for URP students, many institutional barriers still impact their likelihood of persistence/completion (Saenz et al. 2011). The differences in preparation and college readiness affect the persistence patterns of many of these students (Bahr 2010a). The difference in preparation is further demonstrated through the frequency of enrollment in remedial math and English courses by URP students (Morest 2013).

The momentum framework has been used to describe the importance of the first semester on the likelihood of persisting. The momentum framework is operationalized in two distinct ways. First, Tinto (2017) explains that deciding to persist or withdraw is closely tied to early academic success and social integration. Second, success builds on prior success; therefore, early success increases the likelihood of achieving later success and ultimately achieving the intended outcome (i.e., graduation) (Callahan and Belchier 2017).

Another strategy to support student success is through such classroom support programs as tutoring and extended learning time, which have been shown to have a meaningful impact on student persistence (Tinto 1998). One specific example of a classroom support program is supplemental instruction, which embeds tutors in courses and provides students with extra time on topics in gatekeeper courses. In addition, academic support programs provide students with the skills and cultural capital needed to be successful. Programs like BUSP, for instance, have been shown to positively impact educational outcomes for students of color in science-related programs through advising support, research experiences, and peer support (Ovink and Veazey 2011). These programs help students understand the hidden curriculum and improve its perceived value to improve their academic success (Harackiewicz et al. 2016).

COVID-19 IMPACT

In spring 2020, academia changed dramatically because of the global pandemic. Government agencies ordered shelter-in-place strategies or lockdowns, social distancing, and masking. This meant that most, if not all, residential universities shut down their campuses and pivoted to online learning. Through the pandemic, campuses that relied primarily on in-person interactions

to build community and support students had to move those functions online (Adedolyin & Soykan 2020).

The shift to online learning meant that students who typically would have chosen in-person instruction were now engaging in classes solely online, primarily through asynchronous learning. This shift impacted their likelihood of persisting as prior research has shown that the online environment leads to lower completion rates than in-person learning (Atchley et al. 2013; Delnoij et al. 2020). In addition, residential campuses needed the infrastructure to provide the same level of support and mentor programs that effectively encourages student success (Delnoij et al. 2020). Transition support became essential to help students adjust to the expectations of online learning, get the resources they needed (laptops, internet access, etc.), and financial support to help with job loss or other financial crises that resulted from the pandemic (Hodges et al. 2020; Mucci-Ferris et al. 2021).

The challenges in shifting the in-person to an online environment were exacerbated by the significant impacts of COVID-19 on student mental health. Copeland and colleagues (2021) found modest and persistent effects on students' mood and wellness behaviors because of the pandemic—for instance, nearly one-fourth of students because of the pandemic (Cao et al. 2020). Overall, the trauma of the pandemic negatively impacted student mental health (Liu et al. 2020; Torales et al. 2020).

Taken together, the pandemic influenced the findings of this study, as it occurred amid its longitudinal approach. The cohort of students examined here started in 2018, placing the last part of their sophomore year squarely during the pandemic. Future efforts should track how these findings may change, given the traumatic effects of the pandemic on student trajectories.

SUMMARY

This literature review provides definitions for key concepts in this study, including social capital, cultural capital, college readiness, and institutional agents. The definitions of each concept provide evidence for how each has been applied to student persistence in higher education. First, the literature primarily discusses college-going capital as it relates to enrollment. It provides data on how family impacts college choice and how that impacts graduates' lifetime earnings (Radford 2013). My dissertation will combine college-going capital with social capital forged at Urban Center to show how both impact student persistence in a regional, urban setting.

The literature suggests that as students enter college, they are differentially prepared to meet the complex demands of higher education; historically marginalized groups, including Black/African American, Latino/a, and first-generation students, are disadvantaged. Higher education becomes complicated partly because academic and social expectations differ from K-12 expectations and are often based on unwritten rules and norms. Success is often influenced by knowledge of social mores and norms associated with higher education which still need to be formally described. Often lacking in the literature to date is a consideration of the significant ways social capital masks institutional racism (Richards 2019). In general, social and cultural capital are class-based constructs for studying social inequality. Research studies that use these frameworks often fail to examine the salience of race in perpetuating institutional inequality.

This review also discussed higher education professionals' impact on students' persistence and graduation. The literature reveals the importance of faculty and staff in providing students access to those hidden expectations and fostering student success. The difference in student persistence can partly be explained by faculty participation in formal and informal mentorship, engagement in academic support programs, and outside-of-classroom academic

interventions. What is left unclear in most of the literature are the correlations between students' college-going capital, engagement in academic support programs, and the impact of engaging in one or several types of interventions.

The existing literature has shown that engagement (McCabe 2016), integration (Tinto 2017), and involvement (Winkle-Wagner et al. 2019) are all critical to the persistence of students in URP populations at PWIs. Further, students' engagement with academic, social, and extracurricular activities has proven successful in helping them persist (Astin 1984; Harper and Quaye 2009). Student involvement in clubs, organizations, and campus services paired with formal relationships with institutional agents in the classroom impact student success. Developing a sense of belonging early in a student's experience has increased the likelihood of persistence and graduation. What is not connected in the literature are ways that belonging and supportive networks interact to increase the likelihood of persisting. My research uses perceptions of a sense of belonging, academic support, and cultural community support in one model to measure how all three to increase the likelihood of persisting.

While the cultural capital students possess when they enter college and the social capital they draw upon are essential for understanding differences in persistence rates, it remains to be seen how an institution-specific approach (Harris 2020) helps deepen the understanding of differences in student persistence. Examining a historical PWI, now an MSI (57% non-White), presents a very different context than the elite institutions often studied. In this context, it is crucial to know how the institution has evolved (or not) to support a very diverse student population. I contribute to the cultural and social capital literature by examining how institutions are unique and create a context-specific culture; rather than one monolithic higher education culture.

This research contributes to higher education and student persistence as most literature discusses cultural and social capital as class-specific dispositions, thereby obscuring the impact of racism in social systems. The contested parts of the literature still treat certain types of capital as more desirable and, therefore, more easily transferable to other institutions. The most desirable capital is often associated with White, middle-class culture. My research seeks to counter that literature by examining how the institution can support students' cultural community and be inclusive of those cultural values rather than promote the “adapt to survive” approach.

This is important because family and home friends’ have demonstrated in the literature to provide emotional support, increasing the likelihood of students' persistence. Unfortunately, prior relationships focus primarily on family, which is considered a resource in terms of emotional support but also something that can negatively impact issues like college decision-making; this, in turn, may result in adverse outcomes, such as college undermatch (Kim and Schneider 2005; De La Rosa 2006; Person and Rosenbaum 2006), persistence (Anderson 1991; Ogbu 1993; Constantine et al. 2004; Herrero and Gracia 2004) and access to institution-specific capital (Bourdieu 1973; Hurtado and Carter 1997; Collier 2000; Eraut 2000).

The literature reviewed also provides evidence that social and cultural capital explains, at least in part, the disparity in persistence rates among underrepresented student populations. This disparity is connected to students’ differing abilities to possess, build, and deploy college-specific capital, impacting their success. Depending on their gender, race/ethnicity, and class, students have different life experiences and social capital as they enter college; it is vital to understand how those differences explain persistence, given that enrollment patterns continue to become more disparate. It is also essential to know how the institution supports students’

identity, culture, and home support networks to create a culture where students belong and can successfully progress toward graduation.

Taking cultural and social capital together in one model, my dissertation provides a deeper understanding of how both forms of capital can contribute to a better understanding of the differences in student persistence. Bourdieu's theories, through their various applications, have provided evidence that the influence of social and cultural capital on student achievement is inconsistent based on the context of the study. The variables shown to impact persistence in one study is either not examined or do not appear to affect persistence in another.

The specific questions I used to determine the impact of social capital on student persistence are as follows. First, what types of cultural capital, specifically college readiness, do students possess when they enter Urban Center University? Second, what forms of social capital do students report activating in their first semester of college, in terms of both prior relationships and relationships forged at college? Finally, what influence does this have on their persistence throughout years two, three, on-time graduation rates, and their satisfactory academic performance toward degree completion, as measured by meeting satisfactory academic progress standards for financial aid (GPA of 2.5 or better)? The analysis focuses on persistence from the first to the second year as a direct impact of college-going capital and social capital. However, it also includes retention to their third year and on-time graduation as measures of the effects of academic momentum developed by students in their first year.

Using both college readiness and social capital as primary constructs, I investigated what impact these have on student persistence and satisfactory academic progress to graduation. The two forms of social capital are family/friends from home and developing relationships at the university. I wanted to understand how strain with family impacts persistence rates, specifically

for subsets of underrepresented populations. Further, I examine students' sense of belonging and the meaning they attach to both family and university relationships. I based this investigation on Lareau's (2000, 2002; Lareau and Horvat 1999) theoretical argument that activating cultural capital is more important than having access to or possessing it.

CHAPTER 3: METHODOLOGY

My research focused on first-time-in-curriculum (FTIC) students who enrolled in Urban Center University in Fall 2019 or Spring of 2020 to understand how college readiness, home relationships, and social networks forged at Urban Center impacted their likelihood to persist. My research design uses a college readiness construct to examine cultural capital's influence on college students. Focusing my analysis on high attrition populations, I assessed how college readiness, which includes high school grade point average, socioeconomic status, and high school patterns in college attendance, increases the likelihood of persisting.

High attrition populations identified at Urban Center are rural White men, Black/African American men, Latino, Latina, and first-generation students. High attrition is defined here as a population of students whose persistence is at least 10% lower than the institutional average. I used the high attrition population methodology to compare cohorts within these historically marginalized groups. This fits the QuantCrit approach by avoiding normative comparisons with White student populations (Brand and Xie 2010; Mayhew and Simonoff 2015; Garcia, Lopez, and Velez 2018; Schudde 2018; Arellano 2022).

Using both college readiness and social capital as primary constructs, I investigated what impact these have on student persistence and satisfactory academic progress to graduation. The two forms of social capital are family/friends from home and developing relationships at the university. Further, I examine students' sense of belonging and the meaning they attach to both family and university relationships.

SITE SELECTION

Urban Center University is a medium-sized institution (14-20,000 student range) in an urban setting. The institution began as the first public women's college and is currently a minority-serving institution, with 58% of students representing students of color. Based on institutional data for Fall 2022, the two largest non-White groups are Black/African American (27%) and Latino/a (13.5). The institution had held the status as a predominantly Black institution for approximately ten years, and in 2022 the institution reached the emerging Hispanic serving institution status based on enrollment. Urban Center University's history as a women's college still influences enrollment today, as most students are women (67%). This is much higher than the gender difference nationally, presently 58% (NCES 2022). A high percentage of students also identify as a member of the LGBTQ+ community (27% based on the National College Health Association 2019). The national average for four-year institutions is 17% (Association of American Universities 2020).

The institution is also a residential campus, with 31% of the overall enrollment living on campus. There were 15% of respondents to the CECE survey (2019) reported residing within five miles of the campus. The institution has a strong history of academic excellence, with research two status and Carnegie classification for community engagement since 2008. The focus on academics and the arts represents core aspects of institutional identity. There are division-one athletic programs, but institutional culture is not strongly tied to athletic programs.

Urban Center has a sizeable first-generation population, with approximately 51% identifying as first-generation compared to 33% nationally (NCES 2022). Further, 73% of students receive financial aid, with 42% receiving Pell benefits. Pell utilization represents a measure of family wealth. To receive Pell, students have an estimated family contribution of

$6,206 or less. For most students, this means a household income of $30,000 or less for full benefits and less than $60,000 for partial benefits. Based on the CECE (2019), 80% work off-campus, and 19% work 30 hours or more weekly. This is twice the national average and shows the high level of economic need. In addition, Healthy Minds Survey (2022) demonstrates that 45% meet the clinical depression definition based on CCAPS, and 36% meet the clinical definition of an anxiety disorder. Both statistics exceed national averages based on the Healthy Minds survey administered through the Healthy Minds Network, which also has developed clinical scales for college counseling centers to track student mental health.

The high level of economic need and mental health disorders provides a data-rich environment to study how belonging and social capital matter in the context of a racially, economically, and behaviorally diverse population. In addition, the context of the Urban Center is a context where colleges would share similarities and differences based on their unique student populations.

DATA COLLECTION

The National Institute for Transformation and Equity developed tools that evaluate and improve campus environments to support diverse students in higher education institutions. The instrument focuses on environments that support students from all backgrounds. The Culturally Engaging Campus Environments (CECE) survey focuses on cultural relevance and responsiveness. Through this model, universities can examine their current culture and understand who is being served through existing systems and who is not.

The CECE survey structures its questions around five core indicators. These indicators contribute to two large domains: cultural relevance and responsiveness. According to the NITE model,

> The five cultural relevance indicators focus on how campus environments are relevant to diverse college students' cultural backgrounds and communities: Cultural Familiarity; Culturally Relevant Knowledge; Cultural Community Service; Meaningful Cross-Cultural Engagement; and Cultural Validation. The four cultural responsiveness indicators are Collectivist Cultural Orientations; Humanized Educational Environments; Proactive Philosophies; and Holistic Support (National Institute on Transformation and Equity 2022).

Urban Center administered the survey to 7000 students in February 2019. A total of 1402 students completed the online survey (20% response rate) via Qualtrics. Survey responses were completed if they met the two primary sections of the survey (approximately 45% of the total questions). These two sections dealt with the cultural communities and supportive environment. The remainder of the survey contained demographic questions and two elective modules.

I focused on the survey data relating to new students for this dissertation. Therefore, I have selected the first-time-in-curriculum (FTIC) definition to determine the sample. Based on the Integrated Postsecondary Education Data System (IPEDS), the FTIC criterion refers to students in their first semester in a degree program. This definition helps address high school students' dual credit/dual enrollment patterns and captures students in their first-degree program. The research sample for my dissertation based on the FTIC status is 457 students.

The survey was administered in February based on a timeline developed by the survey team. While it misses new students who might have withdrawn in their first semester, the survey captures the early relationships forged by students. Moreover, it gives a better understanding of how they interpreted the value of those relationships.

The following tables represent the research sample based on the FTIC selection. The demographics were constructed using the student information system and attached to the dataset through the initial sample process.

[Insert Table 1: Demographics Variables for the Sample]

The demographics in the sample represent population parity with two exceptions: Pell utilization and sex. First, the survey sample includes 57% of respondents who reported they were a recipient of the Federal Pell program, which is higher than the institutional average of 42%. Using a one-proportion z-test, the difference was significant at the .000 level. Second, there was also a 10% higher response rate for women when compared to men based on the overall institutional population. Again, using a one-proportion z-test, the difference was significant at the .000 level.

The demographics also demonstrate the high number of historically underrepresented racial/ethnic group members who enroll at Urban Center. Conducting my research at a very diverse institution provided additional context to capture the experiences of Black/African American and Latino/a students in higher education.

MEASURES

Leveraging a small subset of the NITE model, my three research questions utilized seventeen survey questions for analysis. Details about the questions collected can be found in Appendix A. Each question is re-coded based on the sample size to have 2–3 choices per survey item. This was done based on a preliminary data review which indicated small sample sizes of less than ten in some original categories. The goal was a minimum of 20 responses per category. In addition,

the recoding consolidated similar variables like strongly agree/agree into one variable, "agree." This variable creation is done primarily to develop measures in terms of low, moderate, and high degrees of college readiness and social capital.

There is a debate in the literature regarding the appropriate number of scales used in Likert questions. Generally, five to seven items are seen as optional to support participant engagement (Alwin (2016), but three are considered sufficient (Williams et al. 2011; Lehmann et al. 1972). In addition, the debate concerns biasing the results and whether the change deteriorates the measures (Moors 2008, Sturgis et al. 2014; Dawes 2008). Given the sample size of my study, I am concerned about the agreement/disagreement rather than a larger concern about the degrees of agreement, which was how the decision was arrived upon.

I use three specific questions from the CECE survey to measure college readiness and determine any differences among demographic categories. These groups are prior academic effort, cultural capital demographic markers, and peer college engagement patterns. College readiness involves a combination of academic and background characteristics representing a measure of students' preparation before their entrance into higher education.

RESEARCH QUESTION 1 MEASURES

The first research question asks: what types of cultural capital, specifically college readiness, do students possess when they enter Urban Center University? To address this, I used measures that focus on determining the capital students enter Urban Center possessing. These are broken into college readiness, cultural capital, and peer attendance patterns.

[Insert Table 2: Research Question 1 Measures]

College readiness.

The elements of college readiness are high school GPA, AP/IB credits, ACT, or SAT represent quantitative markers used to indicate academic ability (Mishkind 2014; Kuh et al. 2007). Previous literature has shown that SAT demonstrates class-specific dispositions and measures knowledge base in racialized ways that do not indicate college performance (Aquinas, Culpepper, and Pierce 2016). Therefore, I used high school GPA and AP/IB course completion for my dissertation to determine prior academic ability rather than focusing on SAT/ACT scores. While access to AP/IB courses is still based on community wealth and high school resources, the combination of GPA and AP courses provides a better measure of college readiness. The constructed scale for high school GPA based on the continuous variable was: <3.0, 3.1-3.5, and 3.6+, and AP courses: 0, 1-3, and 4+.

Cultural capital.

The second component of the readiness scale was cultural capital provided by the student's family. The primary markers I used were Pell eligibility and first-generation status (Yes or No measures). Both markers were selected for a few reasons. First, previous studies mentioned in the literature review have shown the impact of poverty on access to information regarding college (Merolla and Jackson 2014). These studies also demonstrate that first-generation status remains a risk factor, particularly in students' understanding of the hidden curriculum. These two markers were also selected because they represent the best available questions from the CECE survey.

Peer relationships.

The final component of the readiness scale examines peer relationships and the degree that they provide additional support with college attendance (Martinez 2012; Hoekstra, Mouganie, and Wang 2018; Bauman et al. 2019). To gauge the type of peers with which students before they enter college and to understand the college-going pattern from their high school, this scale component measured the percentage of students' friends who also had plans to attend college. The original four-point scale was "few," "some," "most," and "all." The new binary variable was constructed by combining the few/some category and the most/all categories.

RESEARCH QUESTION 2A MEASURES

The second question asks: what forms of social capital do students report activating in their first semester of college, in terms of prior relationships and relationships forged at college? To answer research question 2, I used two sets of questions to develop scales. First, I examined new relationships students created in their first year and existing relationships with their family and home support networks. The first set of questions focused on students' relationships they forged while at college. The second set focused on students' relationship maintenance and support received from their home community. A detailed discussion of the scale validity methodology can be found in Appendix B.

[Insert Table 3: Research Question 2a measures]

Academic support.

The first scale developed to measure university relationships focuses on academic support (Parmer and Trotter 2004; Buchmann et al. 2010; Ovink and Veazey 2011). This scale is based on the following three survey questions: (1) "If I need support, I know a person at (institution)

whom I trust to give me that support;" (2) "If I have a problem, I know a person at (institution) whom I trust to help me solve that problem;" and (3) "If I need information, I know a person at (institution) whom I trust to give me the information that I need." Each question uses a five-point "strongly agree" to "strongly disagree" range to measure participant responses. The five-point Likert scale was recoded, creating new variables using "strongly agree/agree," "neutral," and "disagree/strongly disagree." The new variables were combined into scales to measure the impact of relationships on student persistence. The scales were developed by adding the recoded variables together. The academic support scale categorizes results as low (3–6), moderate (7–9), and high (10–15). The coefficient alpha was .898, confirming that the scale has high internal reliability.

Belonging.

The second component of this question focused on belonging (Strauss and Volkwein 2004; Yosso 2005; Strayhorn 2012; Tinto 2017; Ginsberg 2021). As demonstrated in the literature review, a sense of belonging contributes to a student's perception of their academic and social fit at the institution. It represents students' overall perception of being part of the campus community. Students who participated in the CECE survey were asked if they "feel like they belong at Urban Center University" using a five-point "strongly agree" to "strongly disagree" scale. The scale was reduced from five to three categories ("strongly agree/agree," "neutral," and "disagree/strongly disagree").

Support for personal success.

The following scale I developed relates to the support for personal success (Museus, Yi, and Saelua 2017). This scale focuses on how students find people who are committed to their success and who understand them. The scale combined two questions from the survey: (1) "It is easy to find people at (institution) who understand me," and (2) "People at (institution) are generally willing to take time to understand my experiences." Both questions use a five-point Likert scale. The computed scale ranges from 2–10 based on the original agreement: 2–4 is low, 5–6 is moderate, and 7–10 is high. The coefficient alpha was .81, indicating the scale has high internal reliability.

RESEARCH QUESTION 2B MEASURES

Based on these questions, I developed three scales to measure students' relationship strain with home family and friends, support by the institution of their cultural community, and academic connections to their cultural community. The scales were developed by adding the recoded variables together. In the survey, this is referred to as a cultural community. The CECE model focuses on students describing their salient identity and constructing their support community. The benefit of this model is that it focuses on reciprocal research, which shifts the researcher's lens as the authority and source of knowledge in research to one which focuses on collaborating in the research process with the research subjects through dialogue and findings check-in. In addition, the reciprocal process provides space for the survey subject to provide information about their salient identity rather than relying on the categories provided by the researcher (Naples 2003).

[Insert Table 4: Research Question 2b measures]

Home relationships.

For this part of the research question, I focus on how students' home relationships are supported and included in their learning and if these relationships may become strained (McCarron and Inkelas 2006; Anderson 1991; Constantine et al. 2004). In terms of researching strain, the following two questions were selected to look at two important types of relationships: (1) "Difficulty maintaining strong ties with pre-college friends;" and (2) "Difficulty maintaining strong ties with family." The scores for each question were consolidated into three categories: "never/rarely," "sometimes," and "often/always." The analysis focused on patterns relating to what types of students maintain family and high school friendships.

Support for cultural community.

I developed two scales to evaluate how the institution has supported students' cultural community. The first scale focuses on the community connections students feel while on campus. This scale combines the following statements to focus on the relationship between college and home: (1) "At this institution, there are enough opportunities for me to connect with people from my cultural communities," and (2) "In general, people at this institution value knowledge from my cultural communities." Based on the original scale, the computed scale ranges from 2–10: 2–4 is low, 5–6 is moderate, and 7–10 is high. In addition, the coefficient alpha was .79, representing a high degree of internal reliability.

Academic connections to cultural community

The final scale focuses on students' academic connections to their cultural community. This scale combines the following two questions: (1) "At this institution, there are enough

opportunities (e.g., research, community service projects, etc.) to give back to my cultural communities;" and (2) "At this institution, there are enough opportunities (e.g., research, community service projects, etc.) to impact my cultural communities positively." The computed scale ranges from 2–10 based on the original scale: 2–4 is low, 5–6 is moderate, and 7-10 is high. The reliability for this scale is one of the highest in the model, with a coefficient alpha of .93.

ANALYSIS

The initial analysis analyzes the descriptive statistics generated from the data elements selected in response to research questions 1, 2a, and 2b. The analysis first examines the data overall and utilizes crosstabs with the following variables: race, gender, first-generation, and Pell eligibility. Pell was selected because prior literature suggests that lower socioeconomic status is a marker for lower levels of college-going capital. Next, I use chi-square tests to determine what, if anything, is significant in describing the differences in cultural and social capital developed by students. Finally, I use regression analysis to determine which independent variables (race, gender, first-generation, and Pell) are significantly related to the dependent variables in each model.

Next, the analysis focuses on answering the third research question. The third research question asks: how do college readiness and social capital impact student persistence in years two/three and on-time graduation at Urban Center? Phrased differently: does prior academic effort, social capital, or a combination of both influence persistence throughout years two, three, on-time graduation rates, and satisfactory academic performance toward degree completion? The analysis technique used to answer this question is binary logistic regression since the dependent variables are binary.

Binary logistic regression measures the relationship between persistence, SAP, and graduation with cultural/social capital. Binary logistic regression measures the probability of the relationship between two variables where the dependent variables are binary (0 and 1). For example, retention, satisfactory academic progress, and on-time graduation are all Y/N in structure (Hosmer et al. 2013). Hosmer et al. (2013) describe the range for dependent variables in this model as between 0 and 1, with the analysis determining the probability of the occurrence of the intended outcome based on independent variables. The formula is $P_i = \exp(\beta_0+\beta_1 x_i)/(1 + \exp(\beta_0+\beta_1 x_i))$ with P_i representing the probability of the outcome, β_0 representing the probability of one outcome, and β_1 representing odds of the other outcome when x_i is equal to 1.

The independent variables include the constructed scales from the first two research questions. This contains twelve total scales based on college readiness (5 items), institutional support (3 items), relationship strain (2 items), and support for the students' cultural community (2 items). The scales will be analyzed based on the three groups against the dependent variables (years 1–2 persistence, 2–3 persistence, satisfactory academic progress, and graduating in four years). Satisfactory academic progress, persistence, and 4-year graduation were all binary variables. SAP was based on the minimum GPA needed to graduate at the institution, a 2.5.

My analysis focuses on the following strategies. First, using the data from research questions 1, 2a, and 2b, I analyze each variable individually in a binary logistic regression model to make sure none of the variables are significant independently and lose that significance in the larger model. Second, I run them together in their respective models (1, 2a, and 2b) to see how the variables in the model are associated with the likelihood of persisting and ultimately graduating. Finally, I run all the variables together to see which are most significantly correlated with persistence and graduation.

Finally, I use a QuantCrit procedure in conjunction with the aforementioned binary logistic model (Yosso 2005). The QuantCrit analysis focuses on same-population comparison rather than examining race and gender using the comparative categories of "White" and "male." The populations used for this analysis are men, Latino/a students, and first-generation students. Specifically, I compare persistence for that specific group, i.e., Latino/a students with high degrees of capital, against the general Latino/a population persistence data, etc.

Using the item(s) significant in the binary logistic regression model to frame the analysis' QuanCrit approach, I examine how high levels of college readiness, academic support, and cultural community support impact students' likelihood of persistence. This is completed by comparing the survey sample to the institutional average for the focus populations. The results will illustrate how cultural and social capital affect the likelihood of persistence for populations with a lower likelihood of persisting at Urban Center University.

SUMMARY

In the next chapter, the analysis follows the structure outlined in this chapter. First, it provides descriptive crosstabs of college-going capital scales (research question 1) and social capital scales (research question 2). The second variable in the crosstab will be race, gender, first-generation status, and Pell status. Finally, the crosstab includes a chi-square to determine the significance of the comparison.

Next, the data analysis uses the data from research questions one and two to measure the likelihood of persistence, meeting SAP, and on-time graduation. A binary model has been selected since the dependent variables are all binary (y/n). The independent variables will be

recoded using the strongly agree/agree variable as the selected variable for comparison. All variables for research questions 1, 2a, or 2b will be combined to analyze them to see how they interact and influence the likelihood of persistence. Finally, the QuantCrit analysis examines how belonging affects the selected populations' rates. This data shows how rates differ within a specific population rather than across populations.

CHAPTER 4: FINDINGS

COLLEGE READINESS

The research findings first focus on how college readiness varies based on selected populations at Urban Center University. The selected populations for the exploratory analysis are race, gender, Pell status, and first-generation status (students who are the first person in their nuclear family to attend college). Next, those selected populations are analyzed against high school GPA, AP/IB courses, first-generation status, Pell utilization, and peer attendance patterns. The findings discuss variations in the population greater than three percent. Finally, chi-square tests are run to determine which relationships were significant. Detailed tables can be found in Appendix B.

HIGH SCHOOL GPA

[Insert Table 5: High School GPA]

Overall, 59.7% of students earned a GPA of 3.6 or above in high school, and only 15% achieved a GPA of less than 3.0. The demographics of students earning a GPA of less than 3.0 in high school are as follows. Women earned less than a 3.0 (12.5%) at a lower proportion than men (24.6%), and the chi-square test indicated that this difference was significant ($p=.027$). Finally, in terms of racial variation, 14.9% of White students earned less than a 3.0 GPA in high school, followed by 16.7% of Black/African American students, 18.4% of students in the combined racial category, and 8% of Latino/a students. Testing the relationship between race and high school GPA revealed that these differences were not statistically significant.

A lower proportion of students receiving Pell benefits had a GPA below 3.0 (13.5%) compared to non-Pell students (17%). Fewer first-generation students reported earning less than a 3.0 GPA in high school than non-first-generation students (10.9% compared to 16.2%).

However, based on the chi-square test, neither Pell nor first-generation status crosstabs were statistically significant.

[Insert Table 6: High School GPA Crosstab]

AP/IB COURSES

[Insert Table 7: Advanced Placement/International Baccalaureate Courses]

Approximately 21% of respondents took four or more AP/IB courses in high school, and 64% took at least one AP/IB course. Descriptive statistics indicated that a higher proportion of women took four or more AP/IB courses than men (21.5% compared to 18.3%). A higher proportion of students from the combined racial category (Asian, Native American, multiple races) reported taking four or more AP/IB courses (25%), followed by White students (22.4%), Latino/a students (20%), and Black/African American students (15.7%). Pell and Non-Pell students reported taking four or more AP/IB courses at the same proportion (20.2% compared to 21.6%). Descriptive differences did not attain statistical significance for Pell status, sex, or race based on the chi-square. First-generation students took four or more AP/IB courses less often than students who were not of first-generation status (14.9% compared to 23.5%).

[Insert Table 8: AP/IB Courses Crosstab]

FIRST-GENERATION STATUS

[**Insert Table 9: First-Generation Status]**

Forty-seven percent of respondents reported they were first-generation students. Women in the sample said they had first-generation status at a higher proportion (50%) than men (36.5%). The chi-square indicated that the variation was significant (p=.10). Latino/a students made up the highest proportion of those reporting first-generation status (87.5%), and White students

comprised the lowest proportion (40.3%). Black/African American students reported a lower percentage of first-generation status than the institutional average (41.5%), while the combined racial category was slightly higher than average (50%). Based on the chi-square, these racial/ethnic differences were statistically significant at a .001 level. Based on the binary logistic regression, the Latino/a group was significant at the .000. First-generation students reported being eligible for Pell benefits at higher proportions than students without first-generation status (61% compared to 31%). This difference was statistically significant at the .01 level in the chi-square and .000 level in the binary logistic regression.

[Insert Table 10: First-generation Crosstab]

PELL ELIGIBILITY

[Insert Table 11: Pell Status]

Overall, 43.5% of respondents were Pell-eligible. In the sample, the proportion of women and men who were Pell-eligible was approximately equal (56% vs. 57%, respectively). This difference was not significant based on the chi-square test. Lower proportions of White students reported being Pell-eligible (42%), as compared with all other racial/ethnic groups. By comparison, among Latino/a students, 83% were Pell eligible. Among Black students, 73% were Pell-eligible, and 50% of the combined racial category was Pell-eligible. Chi-square tests indicate these differences were statistically significant at the .001 level.

Further, the difference was significant in the chi-square (p=.001). There was a significant relationship between Pell status and first-generation status (p=.001 based on chi-square), with 70% of first-generation students reporting they were Pell eligible compared to non 42% of non-first-generation students reporting they were Pell eligible. This difference was also significant at the .001 level.

[Insert Table 12: Pell Eligible Crosstab]

PEER COLLEGE ATTENDANCE PATTERNS

[Insert Table 13: Peer college attendance patterns]

Most respondents (79.3%) reported that most or all their peers from high school attended college. There was a slight difference between female and male respondents (79.3% compared to 79.4%). There were subtle racial differences; the combined racial category had the highest proportion of their high school peers attending college (85.4%) and Latino/a students had the lowest (68.6%). Similar percentages of White and Black/African American students reported having "most or all" high school peers attending college (79.9% and 80%, respectively). Neither of these findings was statistically significant based on the chi-square test.

[Insert Table 14: Peer College Attendance Crosstab]

SUPPORTIVE CAMPUS RELATIONSHIPS

After understanding the variations in first-year students' backgrounds, I examined how academic and social connections vary based on student populations. First, I looked specifically at the academic and social relationships forged with faculty and peers in their first semester. Then I examined relationship strain/maintenance with home relationships.

ACADEMIC SUPPORT

[Insert Table 15: Academic Support]

The academic support scale concerns students' perceptions of the academic environment on campus. Based on this scale, students overall perceive the environment to be supportive. The three questions measured by the academic support scale gauged students' knowledge of campus

staff who would provide academic support, help them solve a problem, and provide them with information. Overall, 78.9% of respondents reported high degrees of academic support at Urban Center.

Eighty-three percent of Black/African American students reported that they experienced academic support; this was a higher percentage than for White students (80%), Latino/a students (76%), and combined racial category (71%). Men and women in the sample equally reported that the academic environment was supportive (80% compared to 79%). Similar proportions of Pell and non-Pell students reported that the campus offered academic support (80% compared to 77%, respectively). Lower numbers of first-generation students reported that the environment was supportive as compared to non-first-generation students (74% vs. 84%). Based on the chi-square test, none of these differences were statistically significant.

[Insert Table 16: Academic Support Crosstab]

BELONGING

[Insert Table 17: Sense of Belonging]

The sense of belonging scale represents feelings of connection to the institution. Students' sense of belonging indicates developing relationships and feeling valued and included at the institution. The results on students' sense of belonging suggest that many students report feeling like they belong at the university. A higher proportion of Black/African American students reported feeling a sense of belonging (77%) than White respondents (70%), and these percentages were above the institutional average. By contrast, Latino/a students and students in the combined racial category reported a sense of belonging below the institutional average at 65.5% each. There was a slight variation based on sex, with a higher proportion of women reporting that they

felt they belonged than men (72% compared to 68%). Similar proportions of Pell and Non-Pell users reported a sense of belonging (72% compared to 70%). Non-first-generation students reported a proportionally more elevated level of belonging (67%) than first-generation students (74%). Based on the chi-square test, none of these differences were statistically significant.

[Insert Table 18: Belonging Crosstab]

SUPPORT FOR PERSONAL SUCCESS

[Insert Table 19: Support for Personal Success**]**

The support for personal success measures student perception of the support they find at Urban Center. Specifically, it focuses on the commitment of faculty, staff, and peers to understand students and their personal experiences. Overall, 65.1% of students highly agreed that Urban Center offered them support for personal success. The percentage of Latino/a students (71%) and White students (66%) who reported this support exceeded the institutional average. In comparison, lower proportions were found among Black/African Americans and students in the combined racial category (62%). In addition, a higher proportion of female students (68%) agreed that the environment was supportive than male students (56%). Concerning Pell status, a greater proportion of non-Pell users (69%) affirmed the campus's supportive environment compared to Pell users (62%). At the same time, first-generation students reported that the environment was supportive at a higher proportion compared to non-first-generation students (72% compared to 63%). However, the chi-square test indicated no support for personal success differences were statistically significant. Pell status was associated with a lower likelihood of agreeing there was support for personal success.

[Insert Table 20: Support for Personal Success Crosstab]

SUPPORTIVE HOME RELATIONSHIPS

This section focuses on the relationships between students, the campus, and their home environments. This part of the analysis considered students' relationship strain with family and home friends. It also determined the support available for students' cultural communities on campus. Finally, this section's findings established trends in how students perceive their identity as accepted (or not) on campus by institutional agents.

HOME RELATIONSHIPS

[Insert Table 21: Friend Strain]

Twenty-three percent of respondents reported they often/always had difficulty maintaining relationships with friends from home. The combined racial category had the highest frequency of friend strain (31%). The other three categories were proximate to the mean for the overall sample (White 22%, Black/African American 23%, and Latino/a 21%). Based on race, White students ($p<.05$) and Black students ($p<.10$) were more likely to report strain. A higher proportion of men (28%) than women (22%), reported difficulty maintaining friendships. There were no differences between Pell users and non-users (23.4% compared to 23.1%). Non-first-generation students have the same proportion of reporting difficulty maintaining friendships (27%) compared to students with first-generation status (25%). Based on the chi-square, none of these differences were statistically significant.

[Insert Table 22: Pre-College Friends Crosstabs]

[Insert Table 23: Family Strain]

Family strain was much lower overall in the sample, with only 8% reporting they always/often had difficulty maintaining family relationships. Differences by race were minimal, with 10.3% of students in the combined racial category reporting family strain compared to White and Black/African American respondents (7.7%), and Latino/a students (6.9%). Pell users reported family strain at the same proportion as non-users (9.4% compared to 6.0%). Non-first-generation students also had a similar proportion of reporting strain (9.3% compared to 7.5%). The race, Pell, and first-generation variations were not statistically significant based on the chi-square. However, a larger proportion of men reported strain as compared to women (17.5% compared to 5.1%), and this finding was significant at the .001 level based on the chi-square.

[Insert Table 24: Family Strain Crosstab]

SUPPORT FOR CULTURAL COMMUNITY

[Insert Table 25: Support for Cultural Community]

Overall, students reported that the institution was supportive of their cultural community (80%), and only 4.8% said it was not supportive. Latino/a students had the highest proportion of reporting the environment as supportive (88%), followed by Black/African American respondents (82%) and White respondents (80%); the only group that fell below the sample mean was the combined racial category (66%). A lower proportion of non-Pell respondents reported there was institutional support for their cultural community as compared to Pell users (76% compared to 82%). First-generation students reported support at a higher proportion (82%) than students whose parents had attended college (78%). The race, Pell, and first-generation status relationships were not statistically significant based on the chi-square. However, the

proportion of male students' reports of cultural support was 13% lower than female students (69% compared to 82%); this finding was significant at the .05 level based on the chi-square.

[Insert Table 26: Support for Cultural Community Crosstab]

ACADEMIC CONNECTIONS TO CULTURAL COMMUNITY

[Insert Table 27: Academic Connections to Cultural Community]

Finally, the remaining scale examined the connections between the academic curriculum and students' cultural community. This scale measured the specific ways students connect their coursework to their heritage. Overall, 66% of respondents reported that they agreed there were academic connections to their cultural community. Latino/a students reported academic connections at the highest proportion (77%), followed by Black/African American students (68%) and White students (65%); students in the combined racial category recorded the lowest proportion on this scale (55%). Women and men reported academic connections at the same proportion (66% compared to 64%); this was like the difference between Pell users and non-users (67% compared to 64%, respectively). There was a more considerable difference between first-generation and non-first-generation students, with 73% of first-generation students and 60% of non-first-generation students reporting academic connections to their cultural community; this result was significant at the .10 level. The remaining relationships were not statistically significant based on the Chi-square.

[Insert Table 28: Academic Connections to Cultural Community Crosstab]

IMPACT ON RETENTION

The results concerning the differences students report regarding college-going capital and social capital reveal a rich picture of students' experiences at Urban Center. However, the question remains: how does this capital impact students' persistence and their on-time graduation? The following analysis explores the effects of each component on student persistence and what, if any, impact social and cultural capital has on students' capacity to graduate in four years.

One significant trend is that Urban Center students tend to drop out at a different point in their college journey than students in many other institutions. For example, the freshman to sophomore retention rate (75%) exceeds the national retention rate of 67% (based on NCES 2020), with a higher rate of departure happening at Urban Center in the sophomore to junior year (65% compared to 78% [NCES 2020]). The primary reasons for these differences in departure in their junior year are due to multiple major changes which impact financial aid due to exceeding federal credit allowed requirements. It is also due to SAP-related issues concerning credits attempted versus credits earned, and academic warning/dismissal due to inability to increase their GPA to meet program minimums. In addition, there are also departures in the delayed admissions programs (nursing, teaching, kinesiology) when students are not accepted.

[Insert Table 29: Overall Retention]

Does the survey sample mirror the general student population regarding persistence and graduation? Generally, the retention statistics in the sample reflect those of the overall cohort. Nevertheless, the four-year graduation rate for the survey sample was 17% higher than that of the general student population. The difference suggests that the sample may not be representative of the overall Urban Center student population. However, the Urban Center Institutional Research staff ran a Coursened analysis on these data in the fall of 2019. This analysis showed that the survey data were comparable to student population data because the analysis determined that the

difference was not statistically significant (p>.10). There could also be a problem with the FTIC designation, which could explain the difference in graduation rate if not all students assigned the designation were indeed first-time students. The FTIC designation is assigned based on admission information, and students may have yet to provide transfer information at the time of admission. As a result of this deviation, the graduation rate was removed from the QuantCrit analysis. However, I retained the graduation rate in the regression model because it was a measure against the sample rather than being compared with the institution overall.

COLLEGE-GOING CAPITAL

I examined the impact of a specific form of capital—college readiness—on differences in persistence. College readiness comprises the academic and cultural capital marker associated with the successful transition to college. The analysis method I selected was binary logistic regression because the dependent variables I was considering were all binary. I chose "low degree of college-going capital" as the reference group for all categorical variables. The analysis is structured based on the moderate and high-scaled responses, as indicated in the following results.

[Insert Table 30: Binary Logistic Regression Table – College Readiness]

The factors included in the college readiness model were high school GPA, AP/IB courses, first-generation status, Pell utilization, and peer college attendance patterns. There were no control variables structured in the model. Students who earned a 3.6 or higher in high school were 2.24 times as likely to meet SAP for Fall 2019 than students who earned less than a 3.0 (p=.10).

The most significant predictor in the model was peer college attendance. Students who reported knowing that most/all of their friends also attended college were likelier to persist and meet SAP than students who knew few/none of their peers. The only outcome of interest that pre-college friend variable was not correlated to was on-time graduation. Students with most/all their peers who also attended college were 2.6 (p=.05) times as likely to retain to Fall 2019 and 3.1 (p=.001) times as likely to retain to Fall 2020 compared to students who knew/none/few some peers who attended college. In addition, they were 1.8 (p=.10) times as likely to meet SAP for Fall 2019 and 3.2 (p=.001) times as likely to meet SAP for Fall 2020. The data suggests that their pre-college peer network is an important factor in their likelihood of success in college.

SUPPORTIVE CAMPUS ENVIRONMENT

The three components of the supportive campus environment were a sense of belonging, academic support, and student perceptions of support for their success. As with the college-going capital model (R1), the social capital model (R2a) did not have any individually significant variables that disappeared when included in the social network model. The analysis method I selected was binary logistic regression because the dependent variables I was considering were all binary. I chose "low degree of college-going capital" as the reference group for all categorical variables. The analysis is structured based on the moderate and high-scaled responses, as indicated in the following results.

[Insert Table 31: Binary Logistic Regression Table – Supportive Campus Relationships]

Sense of belonging was positively correlated with an increased likelihood of persisting and graduating on time. Students who reported high levels of belonging were 6.7 times as likely to persist to Fall 2019 (p=.001) and 5.6 times as likely to meet SAP for Fall 2019 (p=.001)

compared to students with low degrees of belonging. This trend continued through 2020; students with a high sense of belonging were 7.3 times as likely to persist (p=.001) and five times as likely to meet SAP (p=.001) compared to students with a low sense of belonging. In addition, students with a high sense of belonging were 3.4 times as likely to graduate on time (p=.01) compared to students with a low sense of belonging. Students with moderate degrees of belonging were 2.4 times as likely to persist to 2019 (p=.05) and 3.6 times as likely to meet SAP in Fall 2019 compared to students with a low sense of belonging. They were also 3.8 times as likely to persist to Fall 2020 (p=.01) and three times as likely to meet SAP (p=.01) when compared to students with a low sense of belonging. Students with moderate belonging were 2.8 times as likely to graduate on time (p=.05) compared to students who lacked a sense of belonging.

Interestingly, students who perceived there was a high level of support for their personal success were less likely to persist to Fall 2020—.37 times as likely (p=.05). Students who reported mid-level support for their academic success were also less likely to graduate on time: .41 as likely (p=.10). The findings demonstrate that that sense of belonging had a positive impact on students' likelihood to persist, as well as likelihood to graduate on time. The data also show that academic support slightly increased the likelihood of persisting to 2019 (though not statistically significant) but was negative for the rest of the academic outcomes examined. For support for personal success, the likelihood initially was negative and eventually became a positive relationship in year three with a slightly increased likelihood of graduating on time (though not significant). The data show the complexity of the impact of social capital on students' likelihood of persisting.

HOME RELATIONSHIPS

The impact of home relationships on retention is the final component to be examined. The four components of the home relationship model were as follows: strain in maintaining relationships with family; strain in maintaining home friendships; social support for their cultural community; and academic connections in their cultural community. As with the prior analyses, the supportive home relationship model had no individually significant variables that disappeared when included in the social network model. The analysis method I selected was binary logistic regression because the dependent variables I was considering were all binary. In addition, I selected the "low-scored scale item" as the reference group for all categorical variables. Therefore, the analysis is structured based on the moderate and high-scaled responses, as indicated in the following results.

[Insert Table 32: Binary Logistic Regression Table – Supportive Home Relationships]

The analysis showed the following results; the first is that the likelihood of graduation was negatively affected by high levels of family strain. Respondents who experienced high levels of family strain were .47 as likely to graduate as students who reported no strain (p=.10). Social support for the student's cultural community was associated with a higher likelihood of persistence. For Fall 2019, students who reported a high level of support for their cultural community were 5.3 times more likely to persist (p=.05) compared to students reporting no strain. Further, students who reported a high level of support for their cultural community were 4.9 times more likely to persist to Fall 2020 and 4.1 times as likely to meet SAP (p=.10) than students who reported low levels of support. In addition to the positive effects reported institutionally, academic support had a negative effect on retention. For Fall 2020, students who

reported high degrees of academic support for their cultural community were less likely (.33) to persist (p=.10) and less likely (.30) to meet SAP (p=.10) than students with low levels of academic support.

The above data show that the social connections between students' cultural community and the institution are important in connecting with people from their cultural community and feeling that Urban Center values the knowledge of their cultural community. Family and peer strain were not significant except for family being associated with on-time graduation. Academic inclusion of students' cultural community did not have a positive effect when it was significant; it is, therefore, an area that deserves to be researched further.

OVERALL IMPACT

[Insert Table 33: Binary Logistic Regression Table – Overall Analysis]

Finally, I took all the variables in the previous models and used binary logistic regression to determine their overall impact on retention, SAP, and on-time graduation. From the college-going capital variables, peer college attendance was significant in retention and meeting SAP. For Fall 2019, students who knew most/all of their peers attended college were 2.7 times as likely to persist (p=.05) than those who knew few/none of their peers. Students who knew most/all their peers attended college were 3.3 times as likely to persist to Fall 2020 (p=.01) and 3.1 times as likely to meet SAP (p=.01) than those who knew few/none of their peers.

Turning to supportive campus relationships, belonging was significant for retention. Students who reported a mid-level sense of belonging were 2.8 times as likely to meet SAP for Fall 2019 (p=.10) and 2.7 times as likely to meet SAP for Fall 2020 (p=.10) than students who reported low levels of belonging. Students reporting high levels of belonging were six times as

likely to persist to Fall 2019 and Fall 2020 (p=.01) than students who reported low levels of belonging. Students reporting high levels of belonging were 4.83 times as likely to meet SAP for Fall 2019 and 5.13 times more likely to meet SAP for Fall 2020 (p=.01) than students who reported low levels of belonging.

After running the model, two variables indicate multicollinearity: Support for cultural community and academic support for cultural community. I removed the academic connections to cultural community variable (last variable) and ran the regression a second time, and the analysis is based on that regression. For supportive home relationships, family strain was the variable that remained significant in the overall model. Interestingly, students who reported high strain levels were 3.81 times as likely to persist to Fall 2020 (.10) as compared to students who reported no strain. In contrast, a more expected result was found for students who reported mid-level family strain: these students were less likely to graduate on time (.41; p-.05).

Through the overall analysis, peer college attendance, belonging, and family strain were associated with changes in the likelihood of persisting. Belonging and peer college attendance patterns were positively associated with persisting and graduating on time. For family, there was a mixed positive and negative associated with family strain. Students who experienced mid-level family strain were less likely to graduate on time, yet students who experienced high levels graduated one time at approximately the same level as students who experienced no family strain (.95).

Finally, I took all the significant variables in the previous models and ran them through a binary logistic regression together. These included the following: students' sense of belonging; peer college attendance; and support for their cultural community. Students with high levels of belonging were 3.7 times as likely to persist to Fall 2019 (p=.01), 4.3 times as likely to meet

SAP (p=.001), 3.2 times as likely to persist to Fall 2020 (p=.01), and 3.4 times as likely to meet SAP (p=.01) than students with low levels of belonging. Finally, students with a high sense of belonging were 2.1 times as likely to graduate on time (p=.10) than students with low levels of belonging.

Support for their cultural community was only significant in the regression for retention to Fall 2019 with students with higher degrees of support being 3.3 times as likely to persist (p=.10) compared to students who perceived low levels of support. Finally, peer college attendance was associated with retention and SAP for Fall 2020. Students who knew peers who attended college were 2.4 times as likely to persist and meet SAP (both, p=.01) than students who knew none/few of their peers to attend college.

[Insert Table 34: Binary Logistic Regression Table – Significant Variables Only]

POPULATION SPECIFIC ANALYSIS

Part of my analysis involved looking at the impact of significant scales from the binary regression within group persistence. This QuantCrit analysis provides additional context for understanding factors impacting populations with a lower likelihood to persist at Urban Center without treating another category as the "norm" for comparison. Sense of belonging impacted both the social networks model and the combined model and was selected for this process based on their impact in the logit models. Men, Latino/a, and first-generation students were chosen as the focused populations to study based on their lower persistence rates for the institution overall. The question is how much belonging improves their persistence rates for the institution. On-time graduation was excluded, given the higher proportion of the survey sample graduating than the

census population. The analysis compares the overall institutional retention rates for the 2018 cohort year to the survey sample who reported high levels of belonging.

Men

Based on institutional data, men have lower completion rates than the overall average for the institution. For the Fall 2018 cohort, 69% of men persisted to year two and 62% to year three. Men in the survey sample who reported a sense of belonging (strongly agree/agree) persisted to year two at a higher rate (86%) than the institutional average for male students (69%). This represented a significant difference based on a one-proportion z-test; the difference was significant at the .000 level. Male students with high levels of belonging also exceeded the institutional average of persistence overall.

[Insert Table 35: Difference in Persistence for Men]

Latino/a

Latino/a students were another selected population based on their lower persistence and completion rates. Among the 2018 cohort of students, 79% of the overall population persisted to year two and 71% to year three. For students in the survey sample who reported high levels of belonging, 86% persisted to year two and 74% to year three. Latino/a students with high levels of belonging were retained at higher levels than the general Latino/a population. Using a one-proportion z-test, the difference was significant at the .000 level for year two retention.

[Insert Table 36: Difference in Persistence for Latino/a]

First-generation Students

According to institutional data, first-generation students were the third population selected based on their lower persistence/on-time graduation rates. For Fall 2018 first-generation students, 74% persisted to year two, and 67% persisted to year three. Of the first-generation students in the survey sample who reported a high sense of belonging, 85% persisted to year two and 64% to year three. Compared to the population of Urban Center's first-generation students, these students' persistence rate was 11% higher in years 1–2 but 3% lower in years 1–3. Using a one-proportion z-test, this difference was significant at the .000 level for retention to year two.

[Insert Table 37: Difference in Persistence for First-Generation Students]

As the data analysis demonstrates, developing a cohesive picture of experiences for students at Urban Center is complex. The findings show that many historically marginalized populations at Urban Center experience higher levels of belonging and support than found at many historical PWIs. The analysis further demonstrates that having a sense of belonging matters significantly for student outcomes. Persistence and on-time graduation are impacted by belonging more than any other factor. For the targeted populations—first-generation students, Latino/a, and men—there was a significant increase in the proportion of students who persisted to their second year when those students reported high degrees of belonging. In the next chapter, I discuss these findings and situate them within the literature.

CHAPTER 5: DISCUSSION

Nationally, many students enter college but never complete their degrees. According to the National Center for Education Statistics (2022), 59.7% of first-time, full-time students at four-year public institutions complete their degrees within six years. The primary goal of this dissertation is to understand how social and cultural capital impact student persistence. Particularly in a diverse institution, this study asks: do cultural and social capital help explain the differences in persistence rates among historically marginalized and other student populations who persist at lower rates? As seen in Chapter 4 findings, chi-square statistics showed that students' ability to access and leverage cultural and social capital varies based on race, gender, first-generation status, and Pell status. Additionally, the binary logistic regression explained the impact of specific social and cultural capital components on the likelihood of persistence among students at Urban Center. Finally, the analysis examined how a sense of belonging influenced persistence rates for three focused populations based on their lower retention rates.

This chapter will first describe the key findings for how each form of capital (college readiness, academic support, and home relationships) varies based on race, gender, first-generation, and Pell status. It will then summarize the findings regarding the impact of social and cultural capital on retention and population-specific analysis. The final sections focus on the conclusions and limitations of the study.

The term cultural community used in this dissertation needs further unpacking to frame the discussion. The lead for the cultural community question bank was, "Cultural communities can mean many things. It can refer to a national community, a racial or ethnic community (Asian American, Black, White, etc.), a religious community, an LGBTQIA+ community, or even a community in the neighborhood where you grew up or live. To what extent do you disagree or

agree with the following statements regarding your own cultural communities?" The construction of this question gave students a wide variety of identities as examples to help frame their responses to the Likert scale questions. At the end of the Likert scale section, students were asked an open-ended question where they could describe the identity(ies) which came to mind when they responded to the questions. There were 110 responses to this open-ended question for the sample: the largest response categories were Latino/a (16%), Black/African American (25%), and LGBT (18%). It is important to note that students only responded with male/female in one response, meaning that gender differences in the data were additionally complex. It is also worth noting that White students in the sample often referenced a religious or community identity (rural), and White was only mentioned five times. Further, it is worth noting that students did not describe intersecting identities (Black, male, LGBT male, etc.). Respondents provided one salient identity except for five respondents. This would suggest that students responded based on a focused understanding of who they were.

COLLEGE READINESS

The data analysis of college-going cultural capital provides a picture of the differences in student populations as they start their journey at Urban Center. One consistent trend was that men in the sample entered college reporting a lower proportion of college-going capital, most notably through high school GPA, which was significant based on the chi-square (.05). A few forms of college-going capital where men had lower proportions were first that a quarter of men in the sample earned a GPA of less than 3.0 compared to 15% of women. Also, a lower proportion of men reported taking four or more AP/IB courses than women. High school GPA and AP courses represent markers of college-going capital, and the literature has shown that GPA and college

preparatory courses are associated with college persistence and graduation. It is further worth noting that 56% of the men in the sample were students of color. Given the percentage of respondents who were men of color, existing literature has supported this finding where negative stereotypes for Latino and Black men have led to different specific forms of social/cultural capital necessary for college success and college readiness levels (Harper 2007; Boyd et al. 2018). It speaks to the access to college prep coursework students had while in high school and the performance related to those courses.

Both academic readiness variables suggest different experiences of high school preparation for college among men compared to women. However, it is difficult to say this difference is due to gender identity alone given the high percentage of men of color, but there are differences between those populations. The advantage men experience in university settings in most cases does not apply in the same way to men of color (Harper 2007; Boyd et al. 2018). The nuance the data suggests is that for men, particularly men of color and rural men, is that they enter college have taken fewer AP/IB courses, and have a lower overall GPA. The data matches existing literature where men of color find college less hospitable and experience different outcomes.

It is also worth noting that, in this survey, the less college-prepared men still found the academic environment more supportive of their identity than their female counterparts, even in a college context where the population is 70% women. This is supported by existing research, which shows that men experience higher levels of academic support than women (Bevan and Learmonth 2013). Taken together, these findings suggest that men enter campus with lower levels of academic performance but enjoy a supportive academic environment. The data demonstrate that faculty at Urban Center provide differential attention to men compared to

women. This is caused by a few factors. First men at Urban Center are proportionally more likely to enroll in STEM and Business majors, male-dominated occupations. Second, in the existing literature, men experience a higher level of support from faculty both inside and outside the classroom (Rosenthal 2011; Rhoton 2011). This is also supported by Boysen's studies (2009, 2013), in which female participants evaluated the academic environment as less hospitable than men and reported being forced into performing gender norms in the classroom. This finding is rather complex given that prior research has shown that women of color are often more readily accepted in the academic environment and find the environment more hospitable (Boyd et al 2018). It is further complicated given that academic support for their cultural community (which students associate primarily with race) did not translate into an increased likelihood to persist in the binary logistic regressions.

My analysis of race as a factor in college readiness contained some novel results that differ from patterns present in prior cultural and social capital studies. For instance, Latino/a respondents self-reported earning a 3.0 or higher GPA in high school at a higher proportion than found in many existing studies, with 92% achieving a 3.0 or higher (the comparison between the four racial groups was not statistically significant). A lower proportion of Latino/a respondents reported they took AP/IB courses (20%) and knew high school peers who also attended college (69%) compared to White, Black/African American, and other races group. Latino/as were also the highest proportion of the sample to report they were first-generation students (88%) and use Pell (83%) (both significant at the .001 level based on binary logistic regression). The results together represent the diverse experience Latino/as had in high school and did not match findings from existing literature. The results further suggest that Latino/a students in the sample had a high academic achievement while also experiencing lower access to AP/IB courses and/or

differential advising by staff to take those courses which resulted in overall lower levels of college-going cultural capital as measured by family or peers with college experience. Their Pell status also indicated more economic insecurity as they entered college. The high proportion of Latino/as who were first-generation and more reliant on federal Pell Grants fit within national trends; Latino/a students are the largest growing college population nationally and often have first-generation status (NCES 2021).

Given Latino/a students' higher proportions of economic insecurity and lower levels of advanced college prep courses and peer support compared to other racial/ethnic groups in the sample, how did COVID-19 impact their trajectory? The population-specific data suggest that a sense of belonging had a lower impact on their academic trajectory than other student populations. With lower access to family financial wealth and college-specific cultural capital available from family members, social isolation during COVID-19 lockdowns and campus closures is likely to have had a compound effect on their personal lives, persistence, and on-time graduation. It will be necessary for institutions to study the effects of COVID-19 on populations with higher levels of first-generation students and Pell users, particularly regarding the pandemic's impact on these students' sense of belonging and their success trajectory. Urban Center was primarily an in-person institution, with ~10% of students learning online and support services operated through the same modality, making students' experiences with those services at Urban Center completely different.

In contrast, White respondents had more robust academic preparation markers overall and were least likely to be first-generation students or to use Pell. White students had the highest or second-highest levels of college-going capital in almost all college readiness components. These findings support previous findings on the positive impact of high school and social support

systems on White students' success (Richards 2019). Also, given the timing of COVID-19's impact on their academic journey, students with more robust high school support networks could have additional academic connections to leverage to support their persistence at Urban Center.

Black/African American respondents had lower levels of academic preparation markers overall. Seventeen percent earned less than a 3.0 GPA in high school, and 16% took four or more AP/IB courses. However, 80% of their high school friends also attended college. The data would suggest that the pre-college experience of students at Urban Center mirrored the patterns most often found in the literature, with students of color representing a higher percentage of first-generation status (Campbell and Westcott 2019), lower income (Lubrano 2004) and lower quality high school experiences (Chen and Carroll 2004). The main difference for Black/African American students in the sample was that more of their peers had patterns of attending college.

The difference in peer college attendance is impacted by a few factors. First, there are four, four-year institutions and a community college in the city and an additional three universities within thirty miles of the campus. Second, there are early college programs at each university and strong connections between the Urban Center and the school district. The proximity and engagement of the university provide additional space for students to explore college. The data would suggest those relationships have improved the frequency of students deciding to attend college.

Also, the findings for Black/African American and Latino/a students demonstrate that using a deficit approach when addressing the college readiness of students of color does not capture the complexity of their experiences. Traditional class-based methods that draw upon Bourdieu (1986, 1993) ignore institutional racism and the role of communities of color in supporting students of color through institutional racism. Instead, they only focus on the college-

specific capital deficits students may face (Ovink and Veasey 2011; Lamont and Lareau 1988; Lareau 2011). As Yosso (2005) has articulated, communities of color provide various support and resources through their cultural wealth, which is described as "an array of knowledge, skills, abilities, and contacts possessed and used " (2005, p. 154). As this study supports, expanding our metrics to include the strength communities of color enter possessing is vital, particularly given the impact of peer relationships on the likelihood to persist (binary regression p ranged from 0.1-.001).

The college readiness data also demonstrated that the relationship between first-generation status and Pell utilization (p=.001) was the highest for pre-college variables, showing that first-generation students have fewer economic resources than their peers. Further, the results show that a higher proportion of Black/African American and Latino/a students were represented in the Pell/first-generation population. These findings demonstrate how multiple social categorizations intersect to perpetuate inequalities among historically marginalized student populations as they enter college.

ACADEMIC SUPPORT

The academic support findings provide data about three distinct components of social capital: academic support, a sense of belonging, and support for students' success. Each of the components is distinct, but together they tell the story of whether students found academic support (i.e., tutoring, information, help with problems) and someone at the institution who was committed to their success (i.e., a mentor) and whether they felt that they fit in at the institution (i.e., sense of belonging).

Black/African American students at Urban Center reported they felt a sense of belonging (77%) and could find academic support (83%) at higher proportions than other populations. For this context, the perceptions of belonging and academic support were higher than their White counterparts. This finding contradicts existing literature, where White students are more likely to report a sense of belonging at their college than are racial and ethnic minority students (Suarez-Balcakar et al. 2003). Previous research has suggested that all PWI institutions share a similar culture perpetuating racial inequality. Urban Center has disrupted that trend through services and programming designed to recruit and retain students of color. The findings demonstrate that students perceive support which is reflected in their sense of belonging.

Latino/a students, however, fall below the institutional average in the categories of sense of belonging (66%) and academic support (76%), suggesting that the institution has taken strides to create a more inclusive environment for one population of historically marginalized students (i.e., Black/African American students) but has not made the same gains for Latino/a students. Conversely, Latino/a students reported that the institution was committed to their success (71%) at a higher proportion than other racial groups. The disparity between the academic (specific) support versus general support for their success demonstrated that commitment to student success was a nuanced finding related to social capital. The general commitment to success suggests that the institution tried to recruit and help these students feel at home without focusing on the services and programs that would benefit their academic success. It also demonstrates that Latino/as still do not engage with support programs at the same levels as other racial/ethnic groups. This disparity provides a specific area for the institution to focus on to better support Latino/a persistence.

One of the factors that make belonging different for Black/African American students and Latino/a students is that the staff and faculty of color are more often Black/African American or Asian in nationality. The institution has hired more faculty and staff of color to better reflect students of color but that hiring has not been as inclusive of Latino/a faculty. In addition, there are very few faculty/staff who speak Spanish. The difference in belonging, in part, is related to the need for additional Spanish-speaking staff and Latino/a staff.

The findings show that an institution-specific approach matters. The data suggest that Urban Center has developed a culture supporting diverse students' cultural identities. Specifically, Black/African American and Latina students are achieving levels of success that mirror their White counterparts. Specifically, the impact of belonging on the likelihood to persist demonstrates an institution's impact on helping advance their success. Higher levels of belonging in their first term positively influenced their persistence and likelihood of graduating on time despite the pandemic, which started during their second year. The momentum of belonging early in their academic experience provides a specific metric for institutions to use. The institutional context also matters in terms of belonging. The urban setting creates a context where populations of students who are used to living in or near a downtown setting in a racially diverse context will have an easier time adjusting than students from a small town or rural setting where the community is much more homogenous.

Further, the impact of students' perception of institutional support for their personal success and cultural community suggests that retention to their second year is affected by whether students are formally or informally able to find a mentor or peer who supports their success. Given the high numbers of first-generation students, the role of mentors and agents committed to their success was important based on the data in this study. Institutions should

consider whether students are finding support. Often studies focus on one support, but what happens if that support does not align with the needs of students? The findings in this study demonstrate that support influences retention through the second year and generally suggest that support matters in developing momentum toward graduating. However, the impact of the pandemic limits those findings.

How student populations vary based on the institution also matters when exposed to the crisis. For instance, COVID-19 would have negatively affected the persistence of all students in the 2018 cohort. In terms of timing, this cohort experienced a year and a half of pre-pandemic experience before the pandemic disrupted the subsequent three semesters. The pandemic created a very different learning experience for students that depended on their resources for remote learning. The decline in retention rates for Latino/a students attending UC during the pandemic versus other populations could be related to the higher proportion experiencing poverty (seen through Pell utilization) and the types of relationships they used to support their academic while in isolation. In addition, the added economic strain caused by the pandemic disproportionately affected lower-income families due to job loss or lack of sick benefits. The data suggest that the combination of factors had a negative impact on their retention rates.

The gender data also revealed that women reported higher proportions of belonging than men (72% compared to 68%) and that men found the environment more academically supportive than women (80% compared to 77%). These data dovetail with the literature that finds that women are more apt to get involved and engage in extracurricular activities, enhancing their sense of belonging (Smith 2015). Still, men are likely to report higher degrees of access to faculty and realize the benefit of those interactions (Rhoton 2011). Rhoton (2011) discusses this regarding the gender roles that women are expected to perform in the classroom. Further, women

reported that the environment supported their success at higher proportions than men (68% compared to 56%). Women find the institutional culture supportive, but men experience an advantage in the classroom. Given the large percentage of men of color and that students primarily used race to describe their cultural community, the data would suggest that gender differences were partly explained by the intersection of gender and racial/ethnic identities. This is also evidenced in prior research where women of color persist and graduate at higher rates than their male counterparts (Brunn and Kao 2008; Harper 2008).

First-generation students reported that the institution's academic and social environment supported their success (72%) and felt like they belonged (67%) at higher levels than non-first-generation students. Seventy-two percent of Pell users reported a sense of belonging but were less likely to report the environment as supportive of their success (62%). These findings suggest a complex relationship between social capital development and outside-of-class expectations. In addition, for students receiving Pell benefits, there was a higher likelihood that they worked off campus, compromising the time they could commit to campus activities and events and affecting their academic and social engagement (CECE 2018).

Due to the COVID-19 pandemic, first-generation students, those with fewer college-going peers, and Pell-utilizing students at Urban Center were negatively affected by social isolation and economic insecurities. Therefore, studying the specific impact of these interactions represents an opportunity for further study. For example, future research should investigate whether and how students experiencing intersecting inequalities were supported through the pandemic.

HOME RELATIONSHIPS

Using Yosso's (2005) community wealth approach, the final component of my social capital model examined how students used existing networks to support their academic success. The research analyzed how the institution supported two aspects of students' cultural wealth: maintenance of family and friend relationships; and the institution's supportiveness of students' cultural community in the academic/social life of the campus.

The findings from the survey indicated that students had a more challenging time maintaining precollege friendships than maintaining relationships with family members. Almost a quarter of survey respondents reported they experienced relationship strain with their friends from home, but only 8% reported that relationships with family members had become strained. In addition, most students indicated that they could maintain their relationships with family and home friends, which suggests that students were still actively engaging with their home relationships. The lack of family strain was associated with an increased likelihood of on-time graduation.

The data would further suggest a complex relationship between family strain and the likelihood to persist. The relationship was negative in the supportive home environments where higher levels of strains reduced the likelihood to persist (Table 32). In the overall model (Table 33), high degrees of family strain were associated a decreased likelihood to persist. The data would suggest when included with the other variables in the model, family strain negatively impacted their likelihood to persist. It is also worth noting that strain in both models led to a lower likelihood of graduating (.4; p=.05)

The proportion of male students who reported strained relationships with family and friends was three times higher than that of female students. This difference was significant in the chi-square at .001. For men at the institution, the data further suggest that strain negatively

impacted students' likelihood of persisting (.5; p=.05). Taken token, the data suggest that this impacted the experience for men in the sample. Prior research suggests this is partly due to differential family expectations placed on men of color versus women of color (Brunn and Kao 2008; Harper 2008). Higher education may be supported for women of color to a greater extent than for men of color (Ovink 2014). Urban Center also has a high percentage of students who identify as LGBTQ (27% compared to 17% nationally). Given the large number of students of color and the percentage of students who identify as LGBTQ+, I speculate that the impact of coming out to parents may add an additional opportunity for relationship strain. Future studies will include methods specifically to analyze how this difference impacts LGBTQ+ students' likelihood to persist.

Further, 11% of men reported that the institution did not support their cultural community, compared to 7% of women. This finding is complex, given the sample's large percentage of men of color. This is specifically complex because men did not reference their masculinity when describing their identity; instead, they focused on their racial identity. These gender differences are notable but given what prior research shows about the experiences of Black/Latino men, the data also demonstrate differences in perceptions of inequality for men of color compared to women of color at UC. This finding is supported by existing literature (Brunn and Kao 2008). Given the complexity of the results, this raises the importance of a nuanced approach to studying social capital. Also, given that belonging positively impacts persistence, the lower proportion of men (many of whom are men of color) reporting a sense of belonging indicates opportunities for the institution to augment social support, particularly outside the classroom.

The findings regarding gender and race/ethnicity demonstrate how complex studying systems of support are; no single program alone can "solve" retention problems. For Urban Center, there are clear institutional advantages for specific populations. Still, that support is not universal and might not translate into another institutional context, i.e., women report lower levels of support academically but a higher sense of belonging. Higher percentages of women persist and are retained at Urban Center, but the existing literature shows that men who receive higher levels of academic support and graduate are more likely to continue to pursue graduate degrees, providing a cumulative advantage. The impact of support, especially for students of color, is an important area to study further.

The Likert scale survey questions about cultural community indicate that the institutional culture is supportive of students' identities (Constantine 2004; Richards 2019). However, the results for Urban Center indicated a disparity between students' perceptions of the institution's social support for their cultural community and its academic support for their cultural community. As noted earlier, students described their cultural community primarily based on race. Eighty-two percent of students perceived that the institution provided social support for their cultural community, compared to 66% who perceived there was academic support for their cultural community. This finding indicates that students can find support for their cultural community in the larger university community but that the same level of support is absent in the classroom. The question in the survey explicitly measures whether the curriculum is diverse and if there are opportunities to engage in content that supports students' cultural communities, which generally measures perceptions regarding the curriculum's diversity. Based on the proportion of men of color in the sample, there are opportunities for the institution to better incorporate students' cultural community knowledge in the academic curriculum and more

opportunities for students to engage in service learning they perceive to be related to their cultural identity.

The inclusion of student's cultural community in their academic experience is important, particularly considering that Latino/a students were more likely to report general support for their success (71%) and could find social and academic support for their cultural community (88% and 77%, respectively). At the same time, however, they reported belongingness (66%) and academic support (76%) at lower proportions. The data suggest that the institutional culture is complex. Latino/a students may not have access to some aspects of the "hidden curriculum" (Grodsky and Riegle Crumb 2010) created through the organization's culture. The hidden curriculum comprises unwritten rules and expectations of institutional agents that are nevertheless critical to student outcomes. This dissertation's findings suggest that Latino/as are successfully navigating some, but not all, of UC's hidden curriculum.

Learning how a population is experiencing the institution is essential to understand how they may be leveraging some forms of the available social networks but not others. The differences between student populations presented in this study provide significant findings for future research. Without examining cultural capital holistically, the complexity would have been missed, and an institution would miss critical trends that could help to create opportunities for students to find needed support in all aspects of campus life. Taken together with the academic preparation disparity, there is additional work for the institution to do to fully support Latino/a students at Urban Center.

Another distinct finding from this research at Urban Center is that White respondents reported lower proportions of support (including a sense of belonging, support for personal success, and academic connections to their cultural community) compared to Black/African

American and/or Latino/a students. This would indicate that Urban Center has developed systems to support historically marginalized populations (particularly students of color) and honor their cultural wealth (Yosso 2005; Richards 2019). It has engaged those systems in ways that improve students' outcomes. Students report they find the institution supportive regarding a sense of belonging, support for their success, and social connections to their cultural community.

The finding is not to say that White students at Urban Center do not experience advantages. There was an intentional decision not to treat Whiteness as a comparative variable based on QuantCrit perspectives. For White women, persistence and graduation have a clear advantage, mirrored by existing literature. The proportion of women in the sample would conflate the findings for race and gender. This is largely because women represented 82% of the overall sample, those same women would represent a large percentage of the racial data. For White women and women of color, there is a clear advantage in terms of belonging, and that belonging is associated with an increased likelihood of persisting.

IMPACT ON RETENTION

The discussion in the previous section leads me to a broader question: what impact do any of the reported differences in social or cultural capital have on student persistence and graduating in four years? While notable differences exist in the types of capital and support students employ at Urban Center, the impact on retention is essential in measuring the effect of these differences. The four significant variables in predicting retention were high school GPA, peer college attendance pattern, belonging, and support for the cultural community.

The patterns of pre-college academic success correlated with college success mirrored what is often found in the literature. Students who were successful in high school will likely find

the same academic success in college. In the pre-college model, Grade Point Average was associated with an increased likelihood to persist and meet SAP (significant for SAP 2019; p=.10). When comparing students who earned a 3.6 or higher GPA to the two other groups, a 3.6 or higher was significantly correlated with students being two times as likely to persist through year two (p=.05) and to year three (p=.05), three times as likely to meet SAP in years two and three (p=.000), and three times as likely to graduate on time (p=.01). The other factor that was significant to persistence for both years two and year three was peer college attendance. Students who reported that most/all their peers also attended college were twice as likely to persist to year two (p=.10) and three times as likely to persist to year 3 (p=.001). It was further associated with meeting SAP for Fall 2019 (1.8 times as likely; p=.10) and three times as likely to meet SAP for Fall 2020 (p=.001). The cultural capital forged through those relationships (and potentially K-12 staff) influenced students' persistence once they entered college.

In the Likert scale responses, students with a high perception of social support for their personal success were 60% as likely to persist to year three (p=.10). Further, students with moderate levels of perception of academic support were 41% as likely to graduate on time (p=.10) compared to students with lower perception of support. Both variables generally indicate an impact of COVID-19. Through the COVID-19 pandemic, the types of support would have fundamentally changed, forcing students to negotiate new modes of support. Further, students enrolled in in-person learning were now learning remotely and primarily asynchronously.

Sense of belonging was the only measure in the social network model significantly correlated with retention in years two and three. Students who reported high levels of belonging were 6.7 times as likely to persist to year two and 7.3 times as likely to persist to year three (at

.001). Moderate degrees of belonging were also associated with a higher likelihood of persistence. They were 2.4 times as likely to persist to Fall 2019 (.05) and 3.8 times as likely to persist to Fall 2020 (.01). Sense of belonging was also strongly correlated with SAP for years two and three. Students with a high sense of belonging were 3.6 times to meet SAP for Fall 2019 and 3 times as likely to meet SAP for Fall 2020 (both at .01). The significance continued through to graduation—students with moderate levels of belonging were 2.8 times as likely to graduate on time (.05) and students with high levels of belonging were 3.4 times as likely (.01). It is important to note that a sense of belonging was a one-time measure. In the literature, this is something that can change over time. Therefore, using a one-time data point does not explain the impact of changes in students' sense of belonging over time. In this context, I was primarily concerned with academic momentum (Callahan and Belchier 2017) and how early experiences help students build on those successes to graduate on time. It is also important to note that, at Urban Center, the COVID-19 impact survey (2021) indicated that the pandemic negatively affected students' sense of belonging, decreasing from 70% to 51% for the Fall 2018 cohort. As research continues to examine how COVID-19 influenced student experiences, it will be essential to consider the effects of students' sense of belonging on the development of academic momentum and how that momentum was affected depending on whether they started before, during, or after the pandemic. The significance of students' sense of belonging in their first year at Urban Center would generally suggest that students beginning their academic journey during the peak isolation protocols would experience a disparately negative impact on their levels of persistence.

Additionally, the overall survey administration was analyzed by Urban Center Institutional Research staff in 2019. The findings indicated that the overall sample was

representative of the overall student population and that a high sense of belonging (76.4%) was associated with a 12.2% increase in persistence. The data show the impact of belonging on students' persistence to Fall 2019. It further aligns with this dissertation's findings that belonging is connected to persistence rates. The dissertation demonstrated that it was a significant factor in the likelihood of persisting for the 2018 cohort. It also confirmed that an initial sense of belonging impacts the likelihood of graduating in four years.

Finally, supportive home relationships demonstrated that support for cultural community positively influenced persistence, while academic connections had a negative impact. Students who found support for their cultural community in the campus social environment were five times as likely to persist to Fall 2019 and 4.9 times as likely to persist to Fall 2010 (.050). This connects to belonging and demonstrates the impact that commitment to students across diverse identities is vital to their success. Students who reported support for their cultural community were also 2.97 times as likely to graduate (though this finding did not achieve statistical significance). The academic connections to students' cultural capital variable consistently had a negative impact on the likelihood of persisting and were significant in Fall 2020. This distinction is crucial because it could demonstrate that the curriculum was not inclusive and was perhaps negatively affected by COVID-19. For example, this negative result could be due to the lack of service learning or applied research options during lockdown conditions.

POPULATION-SPECIFIC ANALYSIS

The population-specific analysis further demonstrated that, among the student populations considered (men, Latino/a students, and first-generation students), a sense of belonging influenced the creation of academic momentum. These student populations all significantly

increased their persistence rate to the second year. The persistence rate increased by 11+% for each of the three focused populations. Latino/a students' persistence rate exceeded the institutional average by 3% for year three. However, for the third year, the persistence rate dropped for male students to match the institutional average; it also dropped slightly below the institutional average for first-generation students. This would indicate the importance of the first semester on student persistence to the second year. The drop in momentum for their third year raises questions about how COVID-19 might have potentially negated the positive effect of early momentum and sense of belonging on the trajectory of students' success among these specific populations at Urban Center.

CONCLUSIONS

This study uncovered important patterns in students' college-going capital, social networks, and support for their cultural community. The data show that White privilege exists at Urban Center across many measures, but not all of them. In addition, there are unique patterns of Black/African American and Latino/a students possessing higher capital levels than in previous social capital studies. The data suggest that a context-specific approach is essential for understanding how the institution can develop specific cultural systems that support a diverse student population.

Specifically, the data show that students' access to and deployment of cultural capital at UC differs from what is typically reported in the existing literature. My findings further demonstrate that students use their social networks differently; thus, examining one specific intervention overlooks the complexity of those relationships. Given the impact of the hidden curriculum, the differences in engagement in various forms of social networks have a negative

effect on students' likelihood of persistence. This is in large part because students make choices about the resources with which they engage. These choices are based on a complex system of existing social networks, knowledge about resources, and initial interactions with those resources (Jaegar and Bren 2016). The existing literature discusses this in two ways: first, in terms of the value of capital in one context not matching its value in another context, and second, in terms of information available in a network not providing value in other contexts (Bourdieu 1993).

While the context of Urban Center is somewhat unique, the research demonstrates how institutions can support students through their college experience in ways that do not necessarily conform to the elite cultural systems described by Bourdieu. As Richards (2019) discusses, the persistent alignment of higher education culture to White-middle class values is another way institutional racism is present in many universities. The findings suggest that a sense of belonging and social support for cultural communities are two specific ways universities can audit how supportive their institutions are for historically marginalized populations. Rather than requiring historically marginalized populations to assimilate into that cultural system, it is instead crucial that institutions develop culturally inclusive and responsive strategies that respect students' cultural community (Museus 2017). Yosso (2005) describes this as the community cultural wealth model, which supports the value each cultural community brings to an organization rather than privileging one or a few cultures.

It is evident through the quantitative and QuantCrit analysis that students' sense of belonging and their institution's social support for their cultural community affect student persistence. The feeling of belonging to an institution is a measure of social and cultural capital because it suggests that students see themselves as valuable, contributing members of the campus community. The findings demonstrate how belonging as a measure of early momentum

influences persistence and on-time graduation. The effect of a sense of belonging early on in a student's experience appears to have weathered the global pandemic and all its disruptions to increase students' likelihood of graduating.

The impact of COVID-19 cannot be understated for this cohort of students, which raises a few questions. First, how did the peer support from high school friends provide additional support while in social isolation? Understanding how students at residential campuses built new support systems during COVID-19 lockdowns and how these may have impacted their academic performance is an important area for future studies to explore. Further, for students with deep home connections, did greater access to family and home friends provide additional support, or was there added pressure to work and provide caregiving support while they learned remotely? What is also unclear is how social location impacted their college experience during COVID-19. The quality of and access to the internet is something that varies based on community. Rural and lower-income communities are less likely to have access to high-speed internet. The impact of social isolation, particularly for rural students would have been further compounded. Based on the larger institutional data, most students' home location is within 50 miles of the campus. The largest percentage of rural students are White men.

In future studies, it will be worth exploring how students' sense of belonging changes over time; a longitudinal study could track how the changes in belonging interact to frame an understanding of student success. It would also be essential to examine the different sources of student support in more depth. For example, do peers, institutional agents, or a combination of the two play a role in impacting persistence? Further, how do belonging and social support help students when they face a crisis (e.g., COVID-19, job loss, etc.)? This dissertation provides a

foundation for how we should study the impact of social capital and social networks on students navigating social institutions.

Given the proportionally large percentage of first-generation and Pell students, it will be essential to examine how students used those networks, what specific forms of support they found at home, and how isolation during COVID-19 lockdowns impacted that support. For example, lower-income families are less likely to have high-speed internet to support video lectures and other online learning expectations. Further, first-generation and Pell students were more likely to face stronger expectations to work to support their families or to care for family members. These students may have additionally had to weather layoffs in their service sector jobs (Hodges et al. 2020; Mucci-Ferris et al. 2021).

What can be understood through the current study is first that the impact of COVID-19 did not eliminate the effects of an early sense of belonging on students' likelihood of persisting and graduating on time. Students would have experienced the impact of the pandemic in their fourth semester at the institution, meaning their final two years would have been affected by one year of complete remote instruction and another year of isolation protocols. Both of these factors would have had an impact on both belonging and access to support through peers and institutional agents. Despite those impacts, belonging, peer college attendance, and support for their cultural community increased their likelihood of persisting.

It is also essential to discuss the cultural community aspect of the study. Using typical demographic variables, gender was significant for many of the cultural and social capital models, but that was not how students identified their cultural community. The qualitative data demonstrated that students of color often associated their identity with their race, while White students used language about their community or religious heritage. The data would suggest

when considering the impact of support for their cultural community that traditional demographic data does not provide the nuance associated with who is feeling or not feeling supported. The salience of race in perceptions of cultural community is important, particularly when considering the intersection of race and gender. In this study, men of color were more likely to report that they did not perceive the academic and social environment as supportive of their cultural community, which mirrors existing literature (Brunn and Kao 2008).

The inclusion of students' cultural community in the academic curriculum did not have a significantly positive impact on their persistence. Persistence in their third year was negatively correlated with academic connections. This finding is the opposite of what would be expected, given the literature that suggests a diverse curriculum supports student success, particularly for students of color. Studying the types of inclusion and how diverse knowledge is incorporated into the classroom would be essential for future research. My study focused on its existence and therefore did not determine its quality and the forms that inclusion took in the classroom.

Several specific policy considerations arise from this dissertation. First, as Yosso (2005) and Richards (2019) have suggested, communities of color have a long history of successfully negotiating White systems, and higher education is no different. Students' communities provide a wealth of support and knowledge that will help them negotiate higher education. The model presented in this dissertation assesses how the institution values and includes students' cultural community. It will be necessary for institutions to use these data to develop social and academic support systems which value students' heritage and support their success. This is particularly true given this dissertation's findings for gender and race/ethnicity. Some historically marginalized populations (Black women and Latinas) found the environment supportive, while their male counterparts did not.

It is also crucial for researchers to use a comprehensive approach to cultural and social capital. This study demonstrates that students have a complex engagement with support systems. Suppose a study only examines tutoring without studying mentoring, home relationships, or general commitment to success. In that case, it will miss important components of the social networks that students rely upon to persist. The comprehensive approach in this dissertation shows how race, gender, first-generation status, and Pell status impact students' decisions regarding which resources they utilize to further their success. There is specific evidence of this importance, given that students might report high levels of support in one way but not another.

Finally, students' sense of belonging matters significantly for their success. *Inside Higher Ed* and *The Chronicle* published articles in the last three years regarding the growing emphasis institutions place on belonging (Lu 2023; Johnson 2020). This study demonstrates the impact of belonging on persistence. As institutions continue to tackle improving students' sense of belonging, it is crucial to study what factors might impact students' sense of belonging and how it changes over time. My dissertation shows that belonging is essential in building academic momentum during students' first year. However, it does not show the impact on persistence if a student loses or increases their sense of belonging later in their academic experience. Therefore, institutions should regularly monitor students' sense of belonging over time to improve retention and understand the complex impact of belonging on persistence and graduation.

The institutional context matters in terms of student persistence and graduation. The ways institutions can become more inclusive of students' identity (cultural community) impact students' likelihood of developing a sense of belonging, engagement, and persistence. In this context, the findings demonstrate how student experiences with various forms of institutional support vary based on race, gender, first-generation, and Pell. Once an institution understands

how cultural and social capital impact persistence, developing practices to support student persistence requires action. This research provides a framework to evaluate those differences. It further provides information about which forms of capital influence persistence at Urban Center. Using those elements, deeper research can be conducted about the nuances of belonging, support for student identity, and the impact of family and before-college relationships on persistence. Finally, this institution-specific study demonstrates that a deficit approach misses the cultural wealth students enter college possessing. When higher education institutions develop a deeper understanding of students' community wealth, they can create ways to deepen relationships with families to support students' persistence.

LIMITATIONS

There were several limitations to this study. First, when considering cultural capital, numerous measures of college-going capital correlate with high culture institutions. A few examples include museum attendance, music, dance, and theater. My dissertation focused on two measures: Pell use and first-generation status. These represent proximate measures of cultural capital, as families with lower incomes would be less likely to participate in high cultural events. The other specific measures for cultural capital are associated with higher education, which is only measured in part by first-generation status because they have neighbors, extended family, or other adults who may have attended college. Both measures could have been better, but they were most directly connected to the other pre-college measures and were available in the survey instrument.

Students' sense of belonging and perceptions of support are both measures that change over time. They may increase or decrease as students experience an academic or personal

challenge. The COVID-19 pandemic would have further exacerbated these changes. Four semesters of students' college experience were altered because of pandemic protocols. A Spring 2021 check-in survey by Urban Center showed that student sense of belonging had declined since the pandemic (67% overall). There were also ways that students make connections after the survey administration, supporting their success that would not have happened yet (i.e., fraternities or sororities). These may have positively impacted increasing their sense of belonging.

COVID-19 disrupted all campus life for four semesters and still has a residual impact on the campus community. The closure of campus for two semesters and two additional semesters with social distancing requirements had a negative effect on the social engagement and support students typically experience on a residential campus. The impact of COVID-19 on persistence and graduation cannot be measured with the research design of my dissertation.

The quantitative approach answers general questions about persistence, but the nuances uncovered in the data would have been better answered through a qualitative approach. For instance, students might be asked what belonging means to them. How does a student describe the factors contributing to a lack of belonging? When thinking about social support, does that come primarily from peers or institutional agents? The answers to these questions would help to identify what factors might improve the college experience, specifically for students with lower levels of social support. This is particularly important given the impact of belonging and support on student persistence and on-time graduation.

The cultural community framework is a new approach to studying the impact of social/cultural capital on persistence. It allows the research subject to define their salient identity rather than the one attributed by the researcher. That salient identity may or may not align with

the categories we would use as researchers. The alignment or misalignment provides an opportunity for future studies to examine trends based on traditional categories versus the ones used by students. In addition, there are opportunities to understand better how students construct their identity and how that impacts their sense of belonging and engagement.

The low percentage of men in the study sample makes a deeper analysis of the potential influence of gender and race as intersecting identities impossible. Moreover, low response rates among men mean the survey does not capture the complexities of three populations with very different backgrounds: White men, Black/African American men, and Latino men. Although there are also complexities for women at Urban Center, the findings suggest that women experience some advantages while also experiencing disadvantages in other contexts. The institution overall has a predominantly female population that exceeds national averages; it, therefore, frames a unique context when generalizing to other campuses. Future studies are needed to analyze the diverse experiences of men and women in this context. The current model also dealt with race, gender, and class separately. This was mainly due to the sample size. Further studies should consider how identities intersect and add additional methods supporting an intersectional approach.

The overall survey sample size was 457; some survey questions had lower response rates. This impacts the regression models even with the Likert Scale reduction from five to three items. In a larger sample, the model could have additional components that would be seen as significant. Given the impact of early momentum on success, additional studies of first-year students are essential with a larger sample to examine these trends further.

Finally, the graduation rate for the survey sample is higher than the institutional average for on-time graduation. There was a 17% higher rate for students in the sample. This suggests

that the population may not align with the institutional average. However, researchers at Urban Center analyzed the data and determined that the demographics aligned with the institution, and the data was generalizable. There is some disparity, but the cause needs to be clarified, given the more extensive institutional research conducted on the sample. As previously mentioned, it could have been caused by the way and timing of when the institution defines FTIC and assigns the cohort coding to students.

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APPENDIX A: Survey Items

COLLEGE READINESS

"Please Estimate your overall high school GPA."

1. 0–0.5
2. 0.6–1.0
3. 1.1–1.5
4. 1.6–2.0
5. 2.1–2.5
6. 2.6–3.0
7. 3.1–3.5
8. 3.6 or over
9. Not applicable

"About how many advanced placement (AP) or international baccalaureate (IB) courses did you complete in high school?"

1. 0
2. 1
3. 2
4. 3
5. 4
6. 5
7. 6
8. 7
9. 8
10. 9
11. 10 or over
12. Not Applicable

"Have you at any point received Pell grant benefits?"

1. Yes
2. No

"What is the highest level of education completed by any of your parents/guardians who raised you?"

1. Did not finish high school
2. High school diploma or GED
3. Some college, but did not complete a college certificate or degree
4. College certificate
5. Associate's Degree (AA) or equivalent
6. Bachelor's Degree (BA, BS) or equivalent
7. Master's Degree (MA, MBA, MEd, MFA) or equivalent
8. Doctoral Degree (EdD, JD, MD, PhD) or equivalent
9. I don't know
10. Not applicable

“Of your graduating high school peers that you know/socialize with, how many had plans to attend college?”

1. A few of my peers
2. Some of my peers
3. Most of my peers
4. All of my peers
5. I don’t know

Table 38: Supportive Institutional Relationship

Item					
“If I need support, I know a person at (institution) whom I trust to give me that support.”	Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree
“If I have a problem, I know a person at (institution) whom I trust to help me solve that problem.”	Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree
“If I need information, I know a person at (institution) whom I trust to give me the information that I need.”	Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree
“I feel like I belong at (institution)”	Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree
“It is easy to find people at (institution) who understand me”	Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree
“People at (institution) are generally willing to take time to understand my experiences”	Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree

Table 39: Institutional Support for Family

Item					
"When you first came to (institution), how frequently did you experience the following: 1. Difficulty maintaining strong ties with pre-college friends"	Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree
"When you first came to (institution), how frequently did you experience the following: Difficulty maintaining strong ties with family"	Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree
"At this institution, there are enough opportunities for me to connect with people from my cultural communities."	Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree
"In general, people at this institution value knowledge from my cultural communities."	Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree
"At this institution, there are enough opportunities (e.g., research, community service projects, etc.) to give back to my cultural communities."	Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree
"At this institution, there are enough opportunities (e.g., research, community service projects, etc.) to positively impact my cultural communities."	Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree

APPENDIX B: SCALE VALIDITY

I developed scales using similarly constructed survey questions to answer research question 2. The scales measure different cultural and social capital components, each measuring related elements of a specific construct (Raykov 2012). The main challenge in scale development is ensuring the scales are reliable and valid. The scales in this research question demonstrate validity because of their connection to the existing literature and the proven validity of the instrument (Museus, Zhang, and Kim 2016; Museus et al. 2017). The scales used in this dissertation build on existing literature and combine measures into measures to form a comprehensive scale.

I conducted a coefficient alpha test to measure internal validity to determine that each scale consistently measures what is intended. The results of the alpha analysis are presented in conjunction with each of the scales. While the coefficient alpha is not the only way to measure internal reliability, it is a broadly accepted method for measurement consistency. The formula, based on Liman Kaban (2021), is:

$$\propto = \frac{N * C}{v + (N - 1) * C}$$

N=number of items, C = covariation, and V=variation.

According to Salkind (2010), Coefficient alpha is considered a conservative estimate of reliability that can be interpreted as a lower bound for reliability. The scale range is 0–1, with 0 being the lowest degree of reliability and one being the highest. Scores higher than .7 are considered to have a degree of reliability (Salkind 2010).

APPENDIX C: DATA TABLES

Table 1: Demographics Variables for the Sample

Variables	N	Sample %	Urban Center Population %	% Difference
Sex				
Female	352	77%	67%	10
Male	105	23%	33%	-10
Total	457			
Race				
White	221	48%	43%	5
Black	120	26%	27%	-1
Latino/a	58	13%	13%	0
Other	58	13%	17%	-4
Total	457			
Pell Eligible				
Yes	258	57%	42%	15
No	199	43%	58%	-15
Total	457			
First-generation				
Yes	135	47%	51%	-4
No	151	53%	49%	4
Total	286			

Table 2: Research Question 1 Measures

	0-3.0	3.1-3.5	3.6+
HSGPA	47 (10.3%)	79 (17.3)	187 (40.9%)
	0	1-3	4+
AP Course	105 (36%)	127 (43%)	61 (21%)
	No	Yes	
First-generation	151 (53%)	135 (47%)	
Pell Status	199 (44%)	258 (56%)	
	A few/some	Most/all	
Peer College Attendance	62 (21%)	238 (79%)	

Table 3: Research Question 2a Measures

	Low	Moderate	High
Academic Support	35 (7.7%)	61 (13.4%)	358 (78.9%)
Belonging	49 (10.7%)	84 (18.4%)	323 (70.8%)
Support for Personal Success	32 (8.1%)	105 (26.7%)	256 (65.1%)

Table 4: Research Question 2b Measures

	Low	Moderate	High
Support for Cultural Community	16 (4.8%)	53 (15.8%)	267 (79.5)
Academic Connections to Cultural Community	27 (8.1%)	87 (26%)	220 (65.9%)
Family Strain	219 (48.1%)	130 (28.6%)	106 (23.3%)
Pre-College Friend Strain	354 (78.1%)	63 (13.9%)	36 (7.9%)

Table 5: High School GPA

Range	Frequency	Percent
0–3.0	47	15%
3.1–3.5	79	25.2%
3.6+	187	59.7%

Table 6: High School GPA Crosstab

High School GPA	0-3.0	3.1-3.5	3.6+	P Value
	N	N	N	
Sex				0.027
Male	16 (24.6%)	18 (27.7%)	31 (47.7%)	
Female	21 (12.5%)	61 (24.6%)	156 (62.9%)	
Race				0.122
White	24 (14.9%)	32 (19.9%)	105 (65.2%)	
Black	13 (16.7%)	28 (35.9%)	37 (47.4%)	
Latino/a	3 (8.3%)	9 (25%)	24 (66.7%)	
Other	7 (18.4%)	10 (26.3%)	21 (55.3%)	
First-generation				0.431
Yes	14 (10.9%)	34 (26.4%)	81 (62.8%)	
No	24 (16.2%)	36 (24.3%)	88 (59.5%)	
Pell Eligible				0.682
Yes	24 (13.5%)	46 (25.8%)	108 (60.7%)	
No	23 (17%)	33 (24.4%)	79 (58.5%)	

Table 7: Advanced Placement/International Baccalaureate Courses

AP Courses	Frequency	Percent
0	105	35.8%
1–3	127	43.3%
4+	61	20.8%

Table 8: AP/IB Courses Crosstab

AP Courses	0	1-3	4+	P Value
	N	N	N	
Sex				0.806
Male	21 (35.0%)	28 (46.7%)	11 (18.3%)	
Female	84 (36.1%)	99 (42.5%)	50 (21.5%)	
Race				0.432
White	47 (30.9%)	71 (46.7%)	34 (22.4%)	
Black	27 (38.6%)	32 (45.7%)	11 (15.7%)	
Latino/a	15 (42.9%)	13 (37.1%)	7 (20.0%)	
Other	16 (44.4%)	11 (30.6%)	9 (25.0%)	
First-generation				0.008
Yes	55 (45.5%)	48 (39.7%)	18 (14.9%)	
No	37 (27.2%)	67 (49.3%)	32 (23.5%)	
Pell Eligible				0.956
Yes	61 (36.3%)	73 (43.5%)	34 (20.2%)	
No	44 (35.2%)	54 (43.2%)	27 (21.6%)	

Table 9: First-Generation Status

First Gen.	Frequency	Percent
Yes	135	47%
No	135	53%

Table 10: First-generation Crosstab

First-generation	Yes	No	P Value
	N	N	
Sex			0.06·
Male	21 (36.5%)	37 (63.8%)	
Female	114 (50%)	114 (50%)	
Race			<0.001***
White	60 (40.3%)	89 (59.7%)	
Black	27 (41.5%)	38 (58.5%)	
Latino/a	28 (87.5%)	4 (12.5%)	
Other	20 (50%)	20 (50%)	

Table 11: Pell Status

Pell	Frequency	Percent
No	199	43.5%
Yes	258	56.5%

Table 12: Pell Eligible Crosstab

Pell Eligible	Yes	No	P Value
	N	N	
Sex			0.871
Male	60 (57.1%)	45 (42.9%)	
Female	198 (56.3%)	154 (43.8%)	
Race			<0.00***1
White	93 (42.1%)	128 (57.9%)	
Black	88 (73.3%)	32 (26.7%)	
Latino/a	48 (82.8%)	10 (17.2)	
Other	29 (50%)	29 (50%)	
First-generation			<0.001***
Yes	95 (70.4%)	40 (29.6%)	
No	88 (58.3%)	63 (41.7%)	

Table 13: Peer College Attendance Patterns

Scale	Frequency	Percent
A few/some	62	21%
Most/all	238	79%

Table 14: Peer College Attendance Crosstab

Peer College Attendance	Few/Some	Most/All	P Value
	N	N	
Sex			0.994
Male	13 (20.6%)	50 (79.4%)	
Female	13 (20.7%)	188 (79.3%)	
Race			0.33
White	30 (20.1%)	119 (79.9%)	
Black	15 (20%)	60 (80%)	
Latino/a	11 (31.4%)	24 (68.6%)	
Other	6 (14.6%)	35 (85.4%)	
First-generation			0.035*
Yes	33 (25.2%)	98 (74.8%)	
No	22 (15.1%)	124 (84.9%)	
Pell Eligible			0.242
Yes	39 (23.1%)	130 (76.9%)	
No	23 (17.6%)	108 (82.4%)	

Table 15: Academic Support

Level of support	Frequency	Percent
Low	35	7.7%
Moderate	61	13.4%
High	358	78.9%

Table 16: Academic Support Crosstab

Academic Support	Low	Moderate	High	P Value
	N	N	N	
Sex				0.473
Male	10 (9.5%)	11 (10.5%)	84 (80%)	
Female	25 (7.2%)	50 (14.3%)	274 (78.5%)	
Race				0.6
White	17 (7.7%)	28 (12.7%)	175 (79.5%	
Black	8 (6.8%)	12 (10.2%)	98 (83.1%)	
Latino/a	5 (8.6%)	9 (15.5%)	44 (75.9%)	
Other	5 (8.6%)	12 (20.7%)	41 (70.7%	
First-generation				0.744
Yes	18 (7.0%)	33 (12.9%)	205 (80.1%)	
No	17 (8.6%)	28 (14.1%)	153 (77.3%)	
Pell Eligible				0.109
Yes	15 (11.1%)	20 (14.8%)	100 (74.1%)	
No	9 (6%)	15 (10%)	126 (84%)	

Table 17: Sense of Belonging

Belonging	Frequency	Percent
Disagree/strongly disagree	49	10.7%
Neutral	84	18.4%
Agree/strongly agree	323	70.8%

Table 18: Sense of Belonging Crosstab

Belonging	Low	Moderate	High	P Value
	N	N	N	
Sex				0.115
Male	17 (16.2%)	17 (16.2%)	71 (67.6%)	
Female	32 (9.1%)	67 (19.1%)	252 (71.8%)	
Race				0.157
White	30 (13.6%)	36 (16.3%)	155 (70.1%)	
Black	5 (4.2%)	22 (18.5%)	92 (77.3%)	
Latino/a	7 (12.1%)	13 (22.4%)	38 (65.5%)	
Other	7 (12.1%)	13 (22.4%)	38 (65.5%)	
First-generation				0.244
Yes	14 (10.4%)	30 (22.2%)	91 (67.4%)	
No	18 (11.9%)	22 (14.6%)	111 (73.5%)	
Pell Eligible				0.873
Yes	26 (10.1%)	47 (18.3%)	184 (71.6%)	
No	23 (11.6%)	37 (18.6%)	139 (69.8%)	

Table 19: Support for Personal Success

Scale	Frequency	Percent
Disagree	32	8.1%
Neutral	105	26.7%
Agree	256	65.1%

Table 20: Support for Personal Success Crosstab

Support for Personal Success	Low	Moderate	High	P Value
	N	N	N	
Sex				0.113
Male	8 (9%)	31 (34.8%)	50 (56.2%)	
Female	24 (7.9%)	74 (24.3%)	206 (67.8%)	
Race				0.424
White	17 (8.9%)	48 (25%)	127 (66.1%)	
Black	7 (7.2%)	30 (30.9%)	60 (61.9%)	
Latino/a	1 (1.9%)	14 (26.9%)	37 (71.2%)	
Other	7 (13.5%)	13 (25%)	32 (61.5%)	
First-generation				0.322
Yes	11 (8.2%)	27 (20.1%)	96 (71.6%)	
No	13 (8.7%)	41 (27.5%)	95 (63.8%)	
Pell Eligible				0.388
Yes	21 (9.2%)	65 (28.4%)	143 (62.4%)	
No	11 (6.7%)	40 (24.4%)	113 (68.9%)	

Table 21: Pre-College Friends Strain

Scale	Frequency	Percent
Never/Rarely	219	48.1%
Sometimes	130	28.6%
Often / always	106	23.3%

Table 22: Pre-College Friends Crosstab

Pre-College Friends Strain	Low	Moderate	High	P Value
	N	N	N	
Sex				0.397
Male	49 (47.1%)	26 (25%)	29 (27.9%)	
Female	170 (48.4%)	104 (29.6%)	77 (21.9%)	
Race				0.501
White	110 (49.8%)	62 (28.1%)	49 (22.2%)	
Black	60 (50.8%)	31 (26.3%)	27 (22.9%)	
Latino/a	29 (50%)	17 (29.3%)	12 (20.7%)	
Other	20 (34.5%)	20 (34.5%)	18 (31%)	
First-generation				0.524
Yes	63 (47%)	38 (28.4%)	33 (24.6%)	
No	76 (50.3%)	34 (22.5%)	41 (27.2%)	
Pell Eligible				0.798
Yes	120 (46.9%)	76 (29.7%)	60 (23.4%)	
No	99 (49.7%)	54 (27.1%)	46 (23.1%)	

Table 23: Family Strain

Scale	Frequency	Percent
Never/Rarely	354	78.1%
Sometimes	63	13.9%
Often / always	36	7.9%

Table 24: Family Strain Crosstab

Family Strain	Low	Moderate	High	P Value
	N	N	N	
Sex				<.001***
Male	71 (68.9%)	14 (13.6%)	18 (17.5%)	
Female	283 (80.9%)	49 (14%)	18 (5.1%)	
Race				0.809
White	177 (80.5%)	26 (11.8%)	17 (7.7%)	
Black	87 (74.4%)	21 (17.9%)	9 (7.7%)	
Latino/a	46 (79.3%)	8 (13.8%)	4 (6.9%)	
Other	44 (75.9%)	8 (13.8%)	6 (10.3%)	
First-generation				0.815
Yes	106 (79.1%)	18 (13.4%)	10 (7.5%)	
No	118 (78.7%)	18 (12%)	14 (9.3%)	
Pell Eligible				0.275*
Yes	192 (75.6%)	38 (15%)	24 (9.4%)	
No	162 (81.4%)	25 (12.6%)	12 (6%)	

Table 25: Support for Cultural Community

Scale	Frequency	Percent
Disagree	16	4.8%
Neutral	53	15.8%
Agree	267	79.5%

Table 26: Support for Cultural Community Crosstab

Support for Cultural Community	Low	Moderate	High	P Value
	N	N	N	
Sex				0.025*
Male	7 (9.7%)	15 (20.8%)	50 (69.4%)	
Female	9 (3.4%)	38 (14.4%)	217 (82.2%)	
Race				0.135
White	10 (5.8%)	24 (14%)	137 (80.1%)	
Black	1 (1.2%)	14 (17.3%)	66 (81.5%)	
Latino/a	1 (2.5%)	4 (10%)	35 (87.5%)	
Other	4 (9.1%)	11 (25%)	29 (65.9%)	
First-generation				0.605
Yes	6 (4.4%)	18 (13.3%)	111 (82.2%)	
No	9 (6%)	25 (16.6%)	117 (77.5%)	
Pell Eligible				0.252
Yes	9 (4.8%)	24 (12.8%)	154 (82.4%)	
No	7 (4.7%)	29 (19.5%)	113 (75.8%)	

Table 27: Academic Connections to Cultural Community

Scale	Frequency	Percent
Disagree	27	8.1%
Neutral	87	26%
Agree	220	65.9%

Table 28: Academic Connections to Cultural Community

Academic Connections to Cultural Community	Low	Moderate	High	P Value
	N	N	N	
Sex				0.505
Male	8 (11.4%)	17 (24.3%)	45 (64.3%)	
Female	19 (7.2%)	70 (26.5%)	175 (66.3%)	
Race				0.299
White	16 (9.4%)	43 (25.3%)	111 (65.3%)	
Black	4 (4.9%)	22 (27.2%)	55 (67.9%)	
Latino/a	1 (2.6%)	8 (20.5%)	30 (76.9%)	
Other	6 (13.6%)	14 (31.8%)	24 (54.5%)	
First-generation				0.065+
Yes	10 (7.5%)	26 (19.4%)	98 (73.1%)	
No	16 (10.7%)	44 (29.3%)	90 (60%)	
Pell Eligible				0.866
Yes	14 (7.6%)	47 (25.4%)	124 (67%)	
No	13 (8.7%)	40 (26.8%)	96 (64.4%)	

Table 29: Overall Retention

Variables	N	Survey %	Urban Center Population %	% Difference
Fall 18 to Fall 19	378	83%	75%	8%
Fall 18 to Fall 20	296	65%	68%	-3%
Graduated by Spring 22	249	55%	38%	17%

Table 30: Binary Logistic Regression Table – College Readiness

	Fall 2019 Retention	Fall 2020 Retention	Fall 2019 SAP	Fall 2020 SAP	On time Graduation
College Readiness					
HS GPA					
Mid	0.87	0.78	0.73	0.6	0.64
High	1.64	1.44	2.24*	1.61	1.49
AP/IP					
Mid	1.14	1.14	0.92	0.89	0.846
High	0.541	0.78	0.61	0.84	0.717
First-generation	0.959	0.72	0.97	0.82	0.99
Pell Status	0.999	1.08	0.8	0.92	1.03
Peer College Attendance	2.61**	3.09***	1.84*	3.22***	1.71

+p<0.1, *p<0.05, **p<0.01, ***p<0.001

Table 31: Binary Logistic Regression Table – Supportive Campus Relationships

	Fall 2019 Retention	Fall 2020 Retention	Fall 2019 SAP	Fall 2020 SAP	On time Graduation
Supportive Campus Relationships					
Academic Support					
Mid	1.1	0.58	0.75	0.44	.41*
High	1.01	0.92	0.99	0.89	0.535
Sense of Belonging					
Mid	2.39**	3.8***	3.58***	3.04***	2.83**
High	6.74***	7.3***	5.57***	4.96***	3.38***
Support for Personal Success					
Mid	0.54	0.7	0.7	1.2	1.48
High	0.45	0.37**	0.55	0.71	1.23

+p<0.1, *p<0.05, **p<0.01, ***p<0.001

Table 32: Binary Logistic Regression Table – Supportive Home Relationships

	Fall 2019 Retention	Fall 2020 Retention	Fall 2019 SAP	Fall 2020 SAP	On time Graduation
Supportive Home Relationships					
Pre-College Friends Strain					
Mid	0.68	0.97	0.64	0.9	0.75
High	0.73	0.94	0.82	0.9	0.99
Family Strain					
Mid	1.64	1.48	1.24	1.32	0.74
High	0.57	0.74	0.56	0.69	0.47*
Support for Cultural Community					
Mid	3.13	3.27	2.23	3.04	1.95
High	5.32**	4.93**	2.3	4.08*	2.97
Academic Connections to Cultural Community					
Mid	0.555	0.63	0.49	0.44	5.7
High	0.388	.33*	0.4	.30*	0.62

+p<0.1, *p<0.05, **p<0.01, ***p<0.001

Table 33: Binary Logistic Regression Table – Overall Analysis

Overall	Fall 2019 Retention	Fall 2020 Retention	Fall 2019 SAP	Fall 2020 SAP	On time Graduation
College Going Capital					
HS GPA					
Mid	0.72	0.65	0.59	0.48	0.52
High	1.49	1.31	2.12	1.51	1.36
AP/IP					
Mid	1.2	1.35	1.08	1	0.98
High	0.45	0.77	0.54	0.77	0.68
First-generation	0.98	0.82	0.99	0.86	0.97
Pell Status	0.94	0.94	0.82	0.88	1.07
Peer College Attendance	2.67*	3.3**	1.71	3.06**	1.62
Supportive Campus Relationships					
Academic Support					
Mid	3.81	0.78	1.9	0.6	0.89
High	1.7	0.88	1.29	0.77	0.76
Sense of Belonging					
Mid	2.05	3.25	2.76+	2.7+	1.69
High	6.01**	6.01**	4.83**	5.13**	2.23
Support for Personal Success					
Mid	0.993	1.33	2.38	2.04	3.16+
High	0.731	0.56	1.71	1.14	2.24
Supportive Home Relationships					
Pre-College Friends Strain					
Mid	0.547	1.07	0.62	1.01	0.69
High	0.923	1.28	1.04	1.53	1.21
Family Strain					
Mid	0.953	0.9	0.8	0.68	0.41*
High	1.66	3.81+	1.37	2.5	0.95
Support for Cultural Community					
Mid	2.89	1.83	1.96	1.14	1.17
High	3.08	2.04	1.15	1.01	1.18

+p<0.1, *p<0.05, **p<0.01, ***p<0.001

Table 34: Binary Logistic Regression Table – Significant Variables Only

	Fall 2019 Retention	Fall 2020 Retention	Fall 2019 SAP	Fall 2020 SAP	On time Graduation
Significant Variables					
Peer College Attendance	1.8	2.4**	1.5	2.4**	1.4
Sense of Belonging					
Mid	1.8	2.6*	2.8*	2.6*	1.8
High	3.7**	3.2**	4.3***	3.4**	2.1+
Support for Cultural Community					
Mid	3.3+	2.1	1.6	1.6	1.3
High	2.3	1.6	1.1	1.2	1.3

+p<0.1, *p<0.05, **p<0.01, ***p<0.001

Table 35: Difference in Persistence for Men

Variables	Sample %	Urban Center Population %	% Difference	Institution Overall
Fall 18 to Fall 19	86%	69%	17%	75%
Fall 18 to Fall 20	62%	62%	0%	68%

Table 36: Difference in Persistence for Latino/a

Variables	Survey %	Urban Center Population %	% Difference	Institution Overall
Fall 18 to Fall 19	92%	79%	13%	75%
Fall 18 to Fall 20	74%	71%	3%	68%

Table 37: Difference in Persistence for First-Generation Students

Variables	Survey %	Urban Center Population %	Variation	Institution Overall
Fall 18 to Fall 19	85%	74%	11%	75%
Fall 18 to Fall 20	64%	67%	-3%	68%

APPENDIX D: IRB APPROVAL

Division of Scholarly Integrity and Research Compliance
Institutional Review Board
North End Center, Suite 4120 (MC 0497)
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-3732
irb@vt.edu
http://www.research.vt.edu/sirc/hrpp

MEMORANDUM

DATE: January 31, 2023

TO: George Robert Still, Toni M Calasanti, Sarah Ovink

FROM: Virginia Tech Institutional Review Board (FWA00000572)

PROTOCOL TITLE: Impact of Belonging on Student Persistence

IRB NUMBER: **23-094**

Based on the submitted project description and items listed in the Special Instructions section found on Page 2, the Virginia Tech Human Research Protection Program (HRPP) has determined that the proposed activity is not research involving human subjects as defined by HHS and FDA regulations.

Further review and approval by the Virginia Tech Human Research Protection Program (HRPP) is not required because this is not human research. This determination applies only to the activities described in the submitted project description and does not apply should any changes be made. If changes are made you must immediately submit an Amendment to the HRPP for a new determination. Your amendment must include a description of the changes and you must upload all revised documents. At that time, the HRPP will review the submission activities to confirm the original "Not Human Subjects Research" decision or to advise if a new application must be made.

If there are additional undisclosed components that you feel merit a change in this initial determination, please contact our office for a consultation.

Please be aware that receiving a "Not Human Subjects Research" Determination is not the same as IRB review and approval of the activity. You are NOT to use IRB consent forms or templates for these activities. If you have any questions, please contact the Virginia Tech HRPP office at 540-231-3732 or irb@vt.edu.

PROTOCOL INFORMATION:

Determined As:	**Not Human Subjects Research**
Protocol Determination Date:	**January 31, 2023**

ASSOCIATED FUNDING:

The table on the following page indicates whether grant proposals are related to this protocol, and which of the listed proposals, if any, have been compared to this protocol, if required.