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College Choice and College Match Among High-Achieving Pell-Eligible Students: An Instrumental Case Study Exploring Social Actor Influence

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**COLLEGE CHOICE AND COLLEGE MATCH AMONG
HIGH-ACHIEVING PELL-ELIGIBLE STUDENTS: AN
INSTRUMENTAL CASE STUDY EXPLORING SOCIAL ACTOR INFLUENCE**

A Dissertation

Presented to

The Faculty of the Department of Leadership,

School Counseling & Sport Management

University of North Florida

In Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

by

Jennifer A. Perkins

October, 2021

COLLEGE CHOICE AND COLLEGE MATCH AMONG HIGH-ACHIEVING PELL-
ELIGIBLE STUDENTS: AN INSTRUMENTAL CASE STUDY EXPLORING
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by

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Dr. Paul Parkison, Committee Member 2

Dr. Linda Skrla, Committee Member 3

DEDICATION

For DJHx2

You are missed every day.

ABSTRACT

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College undermatch, the pattern of well-qualified students applying to and attending less selective colleges than their academic qualifications would permit, disproportionately affects low-SES students, a particular concern since attending a match college increases the likelihood that a student will graduate and reduces the amount of time to degree. The number of college-going individuals in one's social network (including parents, peers, teachers, mentors, etc.) has a strong influence on whether a student attends a good academic match college, but little is known about the nature of the interactions between students and these college-going influencers. This instrumental case study sought to fill that gap by exploring how students perceived influencers of college choice, the nature of the interactions with and/or among these influencers, and, finally, how these influencers may have impacted the selectivity level of institution attended.

Using participant-aided sociograms within one-on-one interviews, along with constant comparison analysis and classical content analysis, this study found parents and teachers to be the most influential on the college choice decision process of Pell-eligible students. A typology of advice-giving styles blended with three decision-making styles in that process. Participant communication patterns ranged from fully open to fully restricted and, at times, participants intentionally restricted communication about college choice to manage social exchanges. Addressing financial anxiety seemed to be the most salient factor to increase the selectivity of a Pell-eligible student's enrollment choice, and financial counseling from non-family college graduates appeared to be the most

connected to intentional changes of college selectivity level, though that influence occurred in multiple directions. The study's findings suggest new ways to think about college financing, changes in teacher and counselor preparation programs and new directions in college choice and college undermatch research.

KEY WORDS: College attendance; College choice; College match; College students; College undermatch; Colleges; Educational research; High-achieving students; Low-income; Pell-eligible; Social network; Sociology of education

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CHAPTER I

Introduction

Calls for educational reform have been a fixture of our national dialogue. Despite the initial fervor surrounding *A Nation at Risk* (1983), the National Education Association noted that its 30-year anniversary marked few far-reaching changes (Graham, 2013). The same could be said for the President's Commission on Higher Education report from 1947, which saw many of the same concerns expressed in the Spellings Report six decades later. One of the ongoing reform conversations sparked by these publications has concerned access to a quality college education and the socio-economic benefits it brings, particularly in providing social mobility for those from less-privileged socio-economic status (SES).

While the last century has seen substantial growth in college access, the benefits of that growth have not always been as intended. From 1909 to 1968, the number of enrolled 18 to 21-year-olds increased from 5% to 46% (Karabel & Astin, 1975). From 1950 to 2000, postsecondary enrollment grew from 2.3 million students to 15.3 million students unrelated to population increases (Snyder et. al, 2006). Growth in the number of institutions (from 1,851 institutions in 1950 to 4,084 in 2000) has paralleled this growth in enrollment (Mullen, 2010). However, this increase in college enrollment has been coupled with increasing disparity in who attains a college degree (Carnevale, 2010; Zink, 2005). For example, in 1970 bachelor's degree attainment by age 24 by those in the highest income quartile was 40% compared to 6% for those in the lowest quartile (Carnevale, 2010). In 2016, those numbers were 58% and 11% respectively (Carnevale, 2010). Perna (2006) states the impact more broadly noting that, "Current trends in the

economy and financial policies and practices related to the affordability of college seem to be working in contradiction to intentions to close gaps in college choice” (p. 104).

Problem Statement

Rationales for this continued gap in educational opportunity have typically fallen into one of three categories: (a) inadequate academic preparation of students from disadvantaged K-12 schools, (b) lack of financial aid programs for low-SES students, and (c) inadequacy of information about the college search process for low-SES students (Perna, 2006). Studies have found, however, that even with the highest academic qualifications, along with access to full financial aid, low-SES students are still less likely to attend college, more likely to attend a two-year rather than a four-year college, and more likely to attend a college that is less academically selective than high-SES students attend (Belasco, 2013; Hearn, 1991; Manski & Wise, 1983; Pallais & Turner, 2006; Roderick et al., 2011). This selectivity level is tied to a college’s application acceptance rate and serves as a proxy for a college’s quality.

However, there is evidence that the remaining rationale – differentials in knowledge related to the college search process – makes a discernible difference in attendance patterns (Avery et al., 2006; Cabrera & La Nasa, 2000; McDonough, 1997). McDonough (1997) noted that low-SES students lack knowledge about how to identify a range of college options that best meets their needs. One aspect of this information differential is understanding the importance of *where* a student enrolls and earns a degree. That is, whether a student attends a two-year, four-year, or selective four-year college will have lasting effects on both educational and post-graduation outcomes.

Even when controlling for academic ability, a college's selectivity level has been shown to affect the probability of completing an undergraduate degree and predicts both adult income and long-term occupation status (Carnevale & Rose, 2003; Mullen, 2010; Raines & McAdams, 2006). Students who first enter college at a four-year institution are more likely to attain a bachelor's degree than students who first enter at two-year institutions (Dougherty, 1994; Melguizo et al., 2011; Reynolds, 2012; Shapiro et al., 2019), and students who attend higher selectivity schools are more likely to graduate and in shorter amounts of time than students who enroll at less selective colleges (Bowen et al., 2009). Kingston and Lewis (1990) also note that higher selective institutions "channel graduates into lucrative careers but also confer direct benefits on graduates independent of their other personal characteristics" (p. 150).

Unfortunately, calls for increased access and programs that support access often ignore selectivity distinctions. In fact, these initiatives can drive low-SES students toward less selective colleges. This practice, however, lowers the likelihood that students will graduate, increases time to graduation increasing college costs while delaying employment, and limits future career opportunities (Bowen et al., 2009; Carnevale & Rose, 2003; Hoxby & Avery, 2013; Kingston & Lewis, 1990; Muskens et al., 2019; Ovink et al., 2018).

The match between a student's academic ability and the selectivity level of a college they apply to and/or attend is known as *college academic matching*, frequently shortened to *college match*, or *academic match*. *Undermatch* occurs when high-ability students choose lower-selectivity schools; *overmatch* occurs when students choose higher-selectivity schools than their academic qualifications would warrant; and *close*

match occurs when students choose schools that strongly correlate with their academic ability (Dillon & Smith, 2017). While other types of matching, such as religious affiliation or special areas of study, are important to both individuals and institutions, mismatch generally represents missed educational opportunities (Dillon & Smith, 2017).

Patterns of undermatch and overmatch are connected to SES, with low-SES students more often undermatching and high-SES students more often overmatching (Dillon & Smith, 2017; Hoxby & Avery, 2013; Mullen, 2010). In fact, low-SES students are 24% more likely to undermatch than high-SES students (Bowen, 2009; Smith et al., 2013). Close to 92% of low-SES students apply to colleges that are less selective than they would qualify for (Smith et al., 2013), and approximately 60% of low-SES students do not apply to even one institution that matches their academic qualifications (Belasco & Trivette, 2015). While some low-SES students may intentionally forego the educational and economic benefits of attending higher-selectivity schools, most do so without a full understanding of those benefits or the available financial resources.

Purpose and Research Questions

While lack of information has been shown to affect college undermatching (Belasco & Trivette, 2015; Hoxby & Turner, 2013), phenomenon is also influenced by the number of other college-going individuals in one's social network (Dillon & Smith, 2017). In fact, the likelihood that a student will choose a more selective institution increases as the number of influencers endorsing college increases (Engberg & Allen, 2011). What is the nature, though, of the interactions between students and these college-going influencers as it relates to the college choice decision process, and how can

practitioners and policy makers more effectively help high-achieving low-SES students leverage the advantages of higher selectivity institutions in their favor?

Most of the studies on college choice have used national databases and followed a quantitative design to identify barriers to college access, which include the lack of information (Perna, 2006). While there have been more recent qualitative studies, few have focused on the quantitatively identified influencers of college choice (e.g., parents, peers, mentors, etc.). Moreover, Grodsky and Rieglecrumb (2010) note that there are “few empirical studies of any sort on which to build to understand how habitus shapes postsecondary outcomes” (p. 31). That is, how do unconscious preferences, behaviors, and styles of relating affect college choice decisions?

Using participant-aided sociograms within interviews, a practice found in social network analysis, this study sought to extend the literature by exploring how those in one’s social network influence a student’s college choice decision process. This qualitative, instrumental case study focused on high-achieving Pell-eligible students enrolled in the honor’s college at a somewhat-selective regional institution in the southeast United States. The following research questions guided the study:

1. How do members of a high-achieving Pell-eligible student’s social network influence their college choice decision process?
2. What is the nature of the interpersonal interactions between and/or among students and the various relational influencers of college choice (e.g., parents, mentors, coaches, admissions representatives, etc.) as perceived by high-achieving Pell-eligible students?

3. Which interpersonal interactions between and/or among students and their personal college influence network have the most salience for high-achieving Pell-eligible students in choosing a college's selectivity level?

Significance of the Study

Brand and Xie (2010) have noted that the “individuals who are least likely to obtain a college education benefit the most from college” (p. 273). Attending a match college increases the likelihood that a student will graduate and reduces the amount of time to degree with a faster return on financial and time investments (Bowen et al., 2009). In Bowen and colleagues' study of North Carolina students, those who attended a match school were nearly 23% more likely to graduate than those who undermatched. Furthermore, of those who matched, 59% earned their degree in four years, compared to 44% for those who undermatched.

Unfortunately, Pell-eligible students often describe a sense of randomness in how they end up at the institutions that they do and often express having difficulty navigating situations on their own (Hurst, 2009; Stuber, 2012). With limited information about how to select institutions and courses of study, students from low-SES backgrounds need more guidance in goal pathways (Baum, 2015). Part of that assistance includes helping prospective students and families understand the true costs of college (Baum, 2015), as well as the outcomes associated with higher selectivity institutions. Practitioners working directly with students and their families would benefit from a better understanding of how social network influences a student's college choice and how one might better support not just students, but those in their networks as well.

Theoretical Perspective

Hatch (2002) has noted that paradigms are “competing ways of thinking about how the world is or is not ordered, what counts as knowledge, and how and if knowledge can be gained” (p. 19). Hesse-Biber and Leavy (2006) identify three major stances regarding theoretical perspectives for qualitative studies: postpositivist, interpretive and critical. Many scholars, most notably Guba & Lincoln (2005), argue for hard distinctions between these paradigms and their associated research questions and methods. Others like Creswell and Plano Clark (2011) argue that more pragmatic and situational approaches can be appropriate. What seems to be missing, though, is a full discussion of paradigms that hold tenets across these divisions.

Belief in a paradigm concept does not negate belief in the respective concept in another paradigm. To believe that one can discover knowledge while also believing that social meaning is co-constructed through meaning-making activities is to acknowledge a both-and construct rather than an either/or one. Perhaps an aspect of one paradigm may not fit well with an aspect of another in a particular context, but the adherence to a strict restriction of paradigms excludes worldviews that hold assumptions across “recognized” paradigms. For example, it is possible to believe in the value of tradition and the need for change at the same time.

The arts of dance and acrobatics offer a metaphor for holding seemingly contradictory truths simultaneously. In dance or acrobatics, a performer must engage with what is sometimes called a push-pull dynamic to find and maintain balance. The level of tension in one direction must be offset by an equal level of tension in the opposing direction. This push-pull dynamic is what stabilizes a performer and makes a myriad of

motions possible. One tension without the other may have power, but it will lack artistic control. It has been said that research is both science and art, making this both-and, push-pull dynamic important.

While the literature situates the topic of undermatch in its broader sociological context, this study itself was focused on the pattern of relationships within the college choice decision process grounding it in a postpositivist paradigm. However, the study was also informed by both interpretive and critical ideas. From an interpretivist point of view, both students and parents navigating the college choice decision process are social actors trying to make meaning of their experiences. The way each individual actor engages that process and the ways those actors interact with one another constantly reshape the social world. Rather than negate the concept of relational patterns, though, this truth enriches that knowledge and contextualizes it. The study also gives nod to the critical notion that while we create patterns together, we can interpret them differently and the result is often unequal across groups. In sum, this study sought to explore the social interactions enmeshed in the meaning-making activities of the college choice decision process to find patterns of interaction that shape the current educational reality that varies by SES.

Conceptual Framework

Informed by this theoretical framework, the conceptual framework for the study used assemblage theory to bring together three research literatures to better understand the relational aspects of the college choice decision process. According to Buchanan (2015), assemblage theory works not because the individual pieces assembled necessarily work in a literal sense but because the arrangement creates new associations and leads to

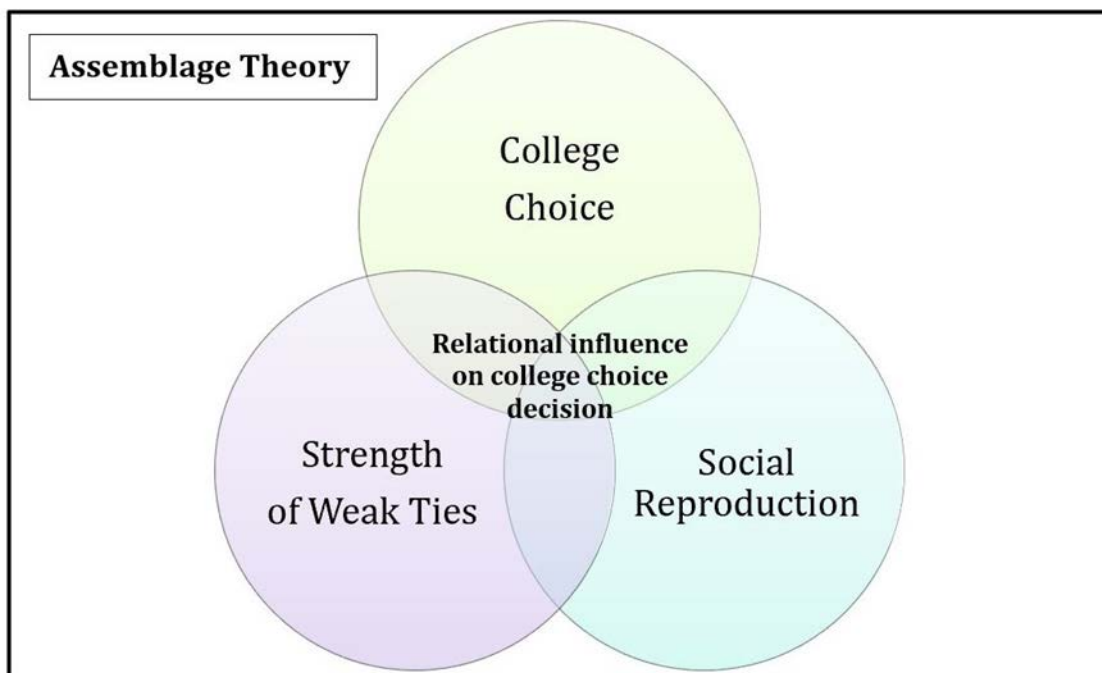
new and important ways of thinking. First proposed by Deleuze and Guattari, assemblage theory troubles the distinction between single and multiple and focuses on “working arrangements” that describe ongoing processes rather than static situations or products (Buchanan, 2015, p. 383). Deleuze and Parnet (2007) have provided a thorough examination of assemblage theory and offer the following definition:

What is an assemblage? It is a multiplicity which is made up of many heterogeneous terms and which establishes liaisons, relations between them, across ages, sexes and reigns – different natures. Thus, the assemblage’s only unity is that of co-functioning: it is a symbiosis, a ‘sympathy’. It is never filiations which are important, but alliances, alloys; these are not successions, lines of descent, but contagions, epidemics, the wind. (p. 69)

Unlike organismic and structuralist conceptions of society that align with a *relations of interiority* perspective, assemblage theory challenges these metaphors with one that also accepts *relations of exteriority* (Bryant, 2010). That is, assemblage theory acknowledges the relations within the assemblage, while also acknowledging that the individual components exist apart from the assemblage (Bryant, 2010). Components can be assembled, disassembled, and reassembled into a variety of “working arrangements” with varying interactions across diverse assemblages (Bryant, 2010). Assemblage theory has the potential to bridge varying perspectives, while also creating new ones. Buchanan (2015) writes, “There is only one reality, but that reality is multiple in and of itself and we need conceptual tools like Deleuze and Guattari’s concept of the assemblage to disentangle it and render visible its constitutive threads” (pp. 386-387).

The three theories, or components, and related literatures brought together in this study were: *college choice*, *social reproduction*, and *strength of weak ties*. College choice provided the framework for the intellectual task of finding and selecting a college; social network analysis (SNA) and strength of weak ties provided the framework for better understanding the relational aspects of this choice process; and social reproduction placed the college choice process and the related relational relationships in a broader sociological context. Figure 1 provides a visual representation of the intersection of these constructs, each of which is described in more detail below.

Figure 1



College Choice

The college choice literature focuses on the complex and overlapping factors that shape student attitudes about college and how students make decisions to attend a specific institution (Hossler & Gallagher, 1987). It is a holistic process in which students decide *whether* and *where* to go to college (Bergerson, 2009; Hossler & Gallagher, 1987; Mullen, 2010; Perna, 2006) and sometimes *what type* of institution to attend, such as a public versus a private institution (Bergerson, 2009). The dominant theoretical perspectives on college choice fall into two categories: an economic perspective with a focus on human capital investment or a sociological perspective that emphasizes status attainment (Perna, 2006). However, theoretical and conceptual approaches within college choice are becoming more diverse with researchers drawing on multiple, varied perspectives and blending approaches (Perna, 2006).

The research on college choice has evolved significantly over the past several decades. According to Bergerson (2009), studies in the 1970s typically focused on one of three perspectives. Sociological studies identified the effects of student background characteristics on enrollment; psychological studies focused on how the institutional environment and climate interacted with those characteristics to shape decisions, and economic studies analyzed cost of attendance, availability of financial aid, price sensitivity and perceptions of the return on investment versus the cost of a degree and potential loss of wages upon enrollment (Bergerson, 2009). The 1980s saw a shift toward the entire process of college choice and the creation of particular choice models, which range from three to seven stages (Bergerson, 2009; Perna, 2006). In the 1990s, the literature shifted away from comprehensive models toward the continued social

stratification of higher education in the United States with this focus now dominating the literature (Bergerson, 2009).

Hossler and Gallagher's Model. The most well-known college choice model is that of Hossler and Gallagher (1987) which conceptualizes college choice as a three-phase process: *predisposition*, *search*, and *choice*. Within each phase, both individual and organizational factors interact to result in particular student outcomes. The predisposition phase involves emerging aspirations shaped by a student's background characteristics including academic ability, SES, and educational activities, as well as the attitudes of parents and peers. As early as junior high, students are already seeing themselves in potential career paths and considering whether college is for them (Cabrera & La Nasa, 2000). It is in the search phase, that students acquire information related to college and create a *choice set* of institution options (Jackson, 1982). For traditional-aged college students, the search phase typically occurs between 10th and 12th grades (Perna, 2006). Finally, closer to high school graduation, students evaluate their choice set and make a final decision related to enrollment. Figure 2 provides an overview of Hossler and Gallagher's (1987, p. 208) three-phase model of college choice.

Figure 2*Hossler and Gallagher's Three Phase Model of College Choice*

Phase	Influential Factors		Student Outcomes
	<i>Individual Factors</i>	<i>Organizational Factors</i>	
Predisposition (Phase one)	<ul style="list-style-type: none"> • Student characteristics • Significant others • Educational activities 	<ul style="list-style-type: none"> • School characteristics 	Search for: <ul style="list-style-type: none"> • College options • Other options
Search (Phase two)	<ul style="list-style-type: none"> • Student preliminary college values • Student search activities 	<ul style="list-style-type: none"> • College and university search activities (Search for students) 	<ul style="list-style-type: none"> • Choice set • Other options
Choice (Phase three)	<ul style="list-style-type: none"> • Choice set 	<ul style="list-style-type: none"> • College and university courtship activities 	<ul style="list-style-type: none"> • Choice

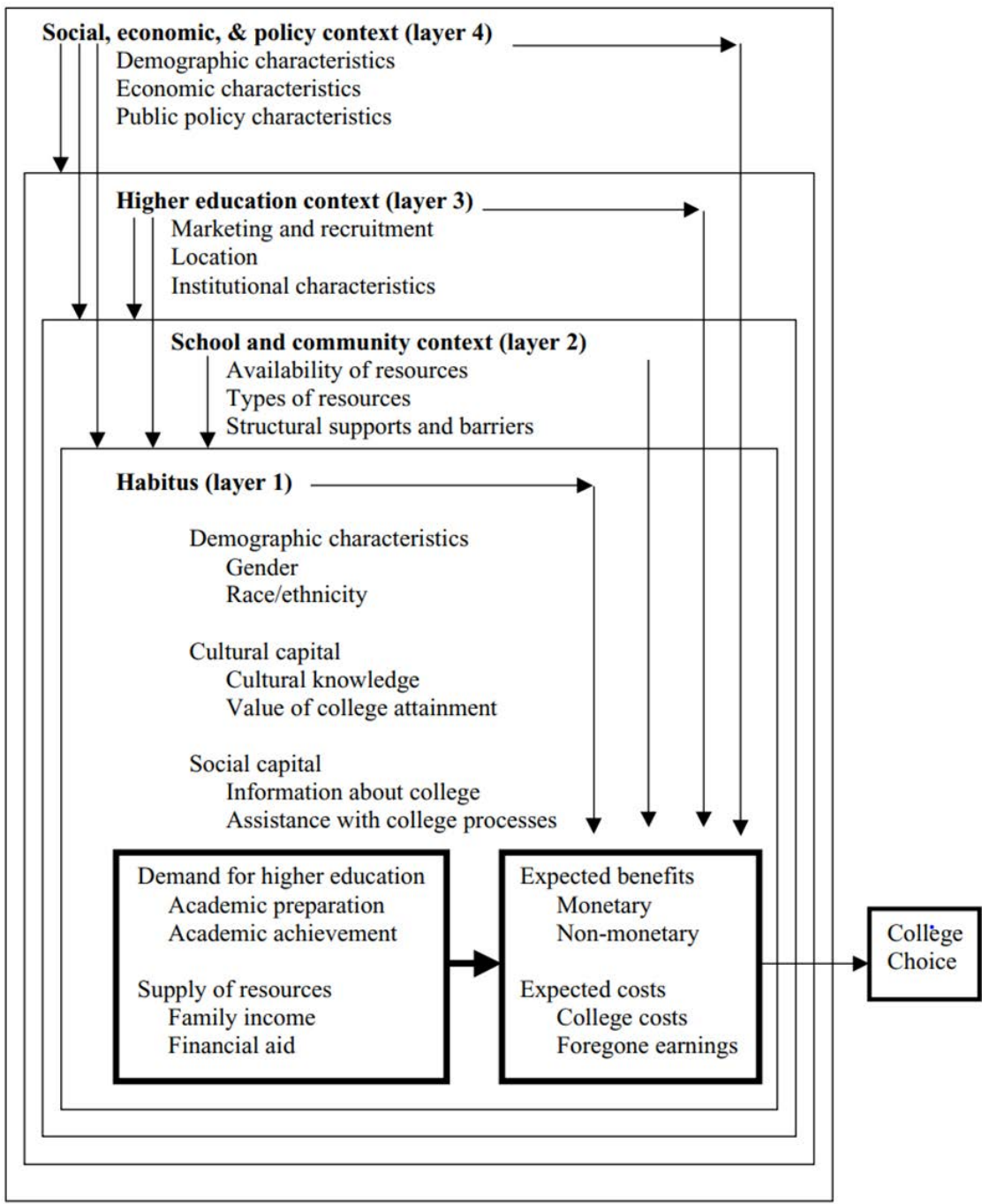
Perna's Proposed Conceptual Model. Perna (2006) has conceptualized a newer college choice model that attempts to bridge the various economic and sociological perspectives of previous models, while simultaneously addressing social stratification concerns. Her proposed model includes four contextual areas or *layers* that overlap and influence an individual student's college choice decision process. A description of each layer is below, and Figure 3 provides the visual conception of the model offered by Perna (2006, p. 117).

- *Layer 1 – Habitus.* The first layer, habitus, includes demographic characteristics such as gender, race/ethnicity, and SES. It also includes the social and cultural capital available to a student, his or her attitudes about college and expectations regarding the benefits and costs of college.

- *Layer 2 – School and community context.* The second layer, school and community context, includes the availability and type of resources a student has access to, as well as the structural supports that expand opportunities and the barriers that restrict them.
- *Layer 3 – Higher education context.* The third layer, higher education context, includes the marketing and recruitment practices of college and universities, what Hossler and Gallagher (1987) refer to as college courtship procedures. This layer also includes the influence of geographic location and specific institutional characteristics.
- *Layer 4 – Social, economic and policy context.* The fourth layer, social, economic and policy context, includes state merit-based scholarships, state college savings plans and the availability of federal funding.

Taken together, these four layers provide more individualized contexts for students, as well as a more robust understanding of student college choice across SES levels (Perna, 2006). For example, the model helps explain how high-SES students have more cultural knowledge related to college options and enrollment processes and more economic capital to visit campuses and pay multiple application fees. While this contextualization is helpful in understanding the college choice decision process situated in a larger system, Hossler and Gallagher's model still proves useful in thinking about the progression of the college choice decision process from a student's perspective. Thus, both models were used in framing this study.

Figure 3



Social Reproduction Theory

Perna's (2006) proposed conceptual model builds on the work of many researchers of college access and college choice who have drawn from social reproduction concepts (e.g., Calarco, 2014; Engberg & Allen, 2011; Hurst, 2009; Teranishi & Briscoe, 2006). In fact, social reproduction has been identified as both the central normative and central explanatory theme in the sociology of education (Gewirtz & Cribb, 2009). There are two inherent challenges to using social reproduction theory, though (Gewirtz & Cribb, 2009). Epistemologically, it is difficult to find the balance between a conception too general to provide explanatory power and one that is too specific to offer explanatory power across settings (Gewirtz & Cribb, 2009). Ethically, it is difficult to recognize and address the many value hierarchies used (Gewirtz & Cribb, 2009).

Bourdieu's (1977) *social reproduction theory* (SRT) asserts that while education reflects a society's social stratification, it is also the means by which that social stratification is reproduced. That reproduction process happens through the interplay of habitus and four types of *capital*. Bourdieu (1977) first introduced the concept of habitus to mediate the conflict he saw in the binary opposition of the concepts of structure and agency (Maggio, 2017). "Habitus is neither structure nor agency; it is effectively both simultaneously" (Gewirtz & Cribb, 2009, p. 47). Habitus includes the unconscious preferences and behaviors that are shaped during childhood and helps explain why given new situations individuals habituate toward familiar patterns of thought and behavior (Grotsky & Riegler, 2010). However, habitus is not fixed and can be influenced by subsequent experiences (Nash, 1999).

Habitus operates at an individual, family and even organizational level with some elements class-based (McDonough, 1997). For example, Grodsky and Rieglecrumb (2010) found that SES was related to both the likelihood and timing that a student developed a *college-going habitus* which sees college as legitimate and attainable and which shapes college application behaviors. However, once that college-going habitus was developed, educational outcomes were similar across SES. Grodsky and Rieglecrumb (2010) assert that, “[T]he fact that habitus works largely independently of social class origins opens up the possibility that habitus may have the potential to undermine rather than reinforce social inequalities” (p. 30).

The four types of capital are *economic, cultural, human, and social*. Economic capital concerns the amount of income and wealth available to an individual or family. It determines access to and accumulation of cultural capital, the shared perspectives, knowledge, and skills passed down from one generation to the next. Human capital refers to access to employment and other valuable opportunities like college. For example, the choice to attend college and where to attend is considered a human capital investment. Finally, social capital is concerned with networks of belonging which provide access to information that leads to opportunities and employment. These four forms of capital interweave with habitus to shape college enrollment patterns across institution types and selectivity levels.

Students and colleges interact in a series of inter-related application, admission and enrollment processes that affect eventual student attendance and create SES patterns across institution type and selectivity level, a process known as *college sorting* (Reardon et al., 2016). For example, nearly half of the students from low-SES backgrounds enroll

in two-year colleges (Mullen, 2010). Similarly, the 146 most selective schools educate 74% of the wealthiest quartile of families but only 3% of the poorest quartile (Carnevale & Rose, 2003; Raines & McAdams, 2006).

Many scholars criticize colleges for these patterns. For example, Kingston and Lewis (1990) argue that, “Not enough attention has been given to the fact that admissions policies that stress high school grades and standardized test scores systematically create not only student bodies of high academic achievement, but also highly affluent student bodies” (p. 105). However, several researchers have found that college admission decisions do not account for most of this pattern (Dillon & Smith, 2017; Hoxby & Avery, 2013; Mullen, 2010). Rather, students’ application and enrollment decisions drive most undermatch and overmatch as part of class-based educational self-selection (Dillon & Smith, 2017; Hoxby & Avery, 2013; Mullen, 2010).

Dillon and Smith (2017) found that only 6% of undermatch resulted from admission rejection decisions, with the remaining 94% resulting from student and parent decisions. Of that 94%, lack of applying to a closely matched college accounted for 74% of cases, and turning down an acceptance from a closely matched college to attend a lower-selectivity college accounted for the remaining 22%. Hoxby and Turner (2013) have noted that, “The vast majority of even very high-achieving students from low-income families do not apply to a single selective college or university” (p. 67).

This class-based self-selection is related in part to unequal information about college. For example, low-SES students often underestimate the benefits of college, as well as the advantages of higher selectivity institutions, while also overestimating college costs (Avery & Kane, 2004; Grodsky & Jones, 2007; Reardon et al., 2016). While substantial

financial aid packages are often available to very high-achieving students from low-income families, students and families are often unaware of these options and instead choose to apply to and attend lower-selectivity institutions (Dillon & Smith, 2017; Hoxby & Turner, 2015). Yet, when high-achieving low-SES students actually apply to and attend higher selectivity colleges, their educational paths are similar to high-SES peers reaping the same educational and life outcomes (Hoxby & Avery, 2013).

Social Network Analysis

SNA helps clarify how social networks impact the gathering and transmission of various types of capital that lead to college selection. Though currently better known for its quantitative aspects, SNA evolved out of distinctly qualitative designs. SNA was built on the early work of psychiatrist and educator J. L. Moreno, who first developed *sociograms* as visual representations of social behaviors (Wasserman & Faust, 2009). Researchers have found sociograms to be helpful in uncovering complexities among “differently positioned actors” (Contandriopoulos et al., 2018, p. 71) making them useful in analyzing the relational dynamics on the college choice decision process of Pell-eligible students.

To identify and describe patterns of relationship, social network analysts look for deep social structures and how they influence social behavior and social change (Teranishi & Briscoe, 2006). The unit of study in SNA can range from an individual to a group to an entire organization or network (Teranishi & Briscoe, 2006). The use of personal, ego-centered networks that focus on one person are useful in the study of social support (Wasserman & Faust, 2009). A personal network includes the focal individual known as the *ego*, the individuals with direct and indirect connections to the ego called

alters, and the connections or social relations among the ego and alters called *ties* (Wasserman & Faust, 2009). Egos and alters are represented by points, and ties are represented by lines (Wasserman & Faust, 2009). These social relations can have direction that flow from one alter to another which are represented by arrows (Wasserman & Faust, 2009).

Sociogram Visualizations. One distinction between quantitative and qualitative SNA designs is how network visualizations are used. While quantitative designs see network visualizations as a way to describe data that has already been collected, qualitative designs can use network visualizations within the data collection phase (Hogan et al., 2007).

Using participant-aided sociograms within interviews where personal networks are co-constructed through the exchange of the participant and the researcher can provide a wealth of information about how participants define their network, including how it may have evolved over time since participants often “talk through” where to place individuals (Hogan et al., 2007; Ryan et al., 2014; Tubaro et al., 2016). Tie-level data can also be better explored as participants consider how individuals in their personal network relate to one another (Hogan et al., 2007). The benefits of using participant-generated sociograms within in-depth interviews support the exploration of how students define the network of individuals who influenced their college choice decision process and how that network may have evolved over time. It also supports exploring the nature of the interactions between and among the individuals in the network as perceived by the participant.

Strength of Weak Ties Theory. Different types of social networks have been shown to have an important influence on postsecondary enrollment (Engberg & Allen, 2011). Granovetter's (1973) *strength of weak ties theory* provides a useful way to view the research on college choice in general, and undermatch in particular. *Strong ties* include family and close friends who are more motivated to offer help and who do so in a faster manner. Strong ties are seen as more credible and are the most influential in regard to decision making. *Weak ties*, on the other hand, are acquaintances. Having a broader array of weak ties results in more access to information and less dependency on any individual choice or option (Granovetter, 1973). Positive effects of both strong ties and weak ties are documented in the college choice literature.

Relatives, friends, teachers, and community mentors, all of whom could be considered strong ties, have a strong positive impact on high school performance and overall educational attainment (Erikson et al., 2009). While mentoring is more likely to occur for those with more resources, teacher mentors are particularly effective for disadvantaged youth (Erikson et al., 2009). With the increase in the number of influencers endorsing college, the more likely a student is to choose a four-year institution over a two-year institution (Engberg & Allen, 2011). Students with more parental involvement and more frequent parental encouragement are also more likely to enroll at a four-year institution over a two-year one (Engberg & Allen, 2011). This increase in expectations for a four-year degree and graduate/professional school is only partially accounted for by parental education (Reynolds & Johnson, 2011).

Those who utilize counselors and college admission representatives, or weak ties, are also more likely to enroll in four-year institutions over two-year ones (Engberg &

Allen, 2011). Another weak tie example can be seen in an experimental study by Bettinger and colleagues (2012) in which half the families received assistance in completing the Free Application for Federal Student Aid (FAFSA) and half received only information about the FAFSA. Families receiving help from financial professionals, who were only acquaintances, completed the FAFSA at higher rates, and those students enrolled at higher rates the following fall and received higher financial aid award amounts.

Definition of Terms

A variety of terms in the respective literatures of college choice, social reproduction and strength of weak ties were briefly introduced above. These terms are highlighted below along with additional operationalized terms central to the study.

College Choice

- *Academic match.* The congruence between a student's academic ability and the selectivity level of colleges they apply to and/or attend.
- *Choice set.* The group of institutions a student chooses to apply to and seek more information about (Hossler & Gallagher, 1987; Jackson, 1982).
- *Close match.* When students choose colleges that strongly correlate with their academic ability (Dillon & Smith, 2017).
- *College academic match/College match.* Synonymous with academic match.
- *College choice decision process.* Process of students deciding if they will attend college, what type of institution they will attend, and where they will attend; not necessarily in that order.

- *High-achieving*. Students within the top quartile of academic achievement, typically measured by an SAT score of 1200 or higher or an ACT score of 26 or higher (Hoxby & Avery, 2013); approximated in this study as those enrolled in the honors college of a somewhat selective college which has an average SAT score of 1200 (CollegeSimply, n.d.).
- *High-SES*. Estimated family income is in the top quartile of income distribution (Hoxby & Avery, 2013).
- *Low-SES*. Estimated family income is in the bottom quartile of income distribution (Hoxby & Avery, 2013).
- *Overmatch*. When students choose higher-selectivity schools than their academic qualifications would warrant (Dillon & Smith, 2017).
- *Pell-eligible*. Eligible to receive a federal Pell Grant award; estimated total family income is \$50,000 or less, though usually \$20,000 or less (Scholarships.com, 2021).
- *Selectivity*. A college's application acceptance rate; imperfect proxy representative of a college's quality.
- *Undermatch*. When high-ability students choose lower-selectivity schools (Dillon & Smith, 2017).

Social Reproduction Theory

- *Capital*. Forms of knowledge, connection or resources that are passed from generation to generation, including cultural, economic, human, and social capital.
- *Cultural capital*. Shared perspectives, knowledge and skills passed down from one generation to the next.

- *Economic capital*. Income and wealth available to an individual or family which can determine access to other types of capital. Also called financial capital.
- *Habitus*. Collection of mostly unconscious preferences, behaviors, and styles shaped during childhood but influenced by subsequent experiences.
- *Human capital*. Access to employment and other valuable opportunities like college.
- *Social capital*. Networks of belonging which provide access to information that leads to opportunities and employment.

SNA and Strength of Weak Ties

- *Alters*. Individuals with direct or indirect social connections to the individual or unit being studied; represented by points on a sociogram (Wasserman & Faust, 2009).
- *College influence network*. Subset of participant's ego-centric network that includes self-identified influencers on their college choice decision process.
- *Direction*. The path of information or interaction flow in a social exchange; represented by arrows on a sociogram.
- *Ego*. The focal individual of the network under study (Wasserman & Faust, 2009); i.e., participants
- *Ego-centric/ego-centered network*. An individual's social network.
- *Participant-generated sociogram*. Sociogram co-created through the exchange of the researcher and participant.
- *Ties*. The social connections between alters; represented by lines on a sociogram (Wasserman & Faust, 2009).

- *Sociogram*. A diagram representing the pattern of relationships between and/or among individuals.
- *Strong ties*. Strong relational connections, typically friends and family; motivated to help and considered more influential in decision making (Granovetter, 1973).
- *Weak ties*. Acquaintances who expand access to information or resources (Granovetter, 1973).

Assumptions

The study of undermatch presupposes that the attendance of high-achieving low-SES students at highly selective schools maximizes opportunities for both the student and the college. Thus, the study of undermatch accepts, at least to some extent, assumptions bound up in a variety of hierarchical structures including academic qualifications and college selectivity, as well as occupation status and income levels. Admittedly, each of these concepts has been socially constructed and, in some ways, can help reinforce class inequities. Kingston and Lewis (1990) argue that, “without fundamental changes in the definition of academic merit, the educational mission of elite institutions, and the stratifying aspects of early education, elite private colleges and universities are likely disproportionately to enroll children from financially and academically privileged families” (p. 119).

Though addressing one aspect of social hierarchy can merely reproduce another (Nash, 1999), Demaine (2003) has noted:

the serious effort to make schools more effective in the provision of educational opportunity for all, constitute important change ... the possibility of the benefit of improved educational opportunities ... cannot be dismissed, even if unlikely to

make a significant impact on the broader pattern of social inequality, on “social reproduction” or on the “bigger picture”. (p. 137)

While acknowledging that the study of undermatch can be helpful at the individual level, Bastedo and Flaster (2014) argue that the study of undermatch distracts educational researchers from areas that would be more effective in reducing stratification in more systemic ways and challenge three specific research assumptions of undermatch. First, since college selectivity measures are not linear, the cited benefits of matching do not apply to most college students who would match at middle selective schools. Second, holistic admission processes do not allow researchers to accurately predict admissions as studies would imply. Finally, using SAT/ACT scores in study measures only increases dependency on such tests which they believe ultimately hurts equity efforts.

While the study of undermatch may not help reduce stratification in a systematic way, it acknowledges that individuals matter. Low-SES students have the “right” to expand their intellectual capacity and learning to the extent of their choosing – no matter the level of academic matching they choose. Knowing the extent to which that is possible is important for high-achieving low-SES students, and understanding how to inform and encourage such students is important to the researchers who study undermatch. In the words of Eyermann (1995):

The private, selective institutions have been shown to confer the greatest benefits upon its attendees. It is important to identify the factors that encourage low SES enrollment in this segment of higher education. To do otherwise is unfair and places barrier that limit the opportunities that should be open to all students. (p. 31)

Certainly, there are times that academic mismatch may provide better outcomes for individual students (Dillon & Smith, 2017). For example, undermatch can provide less academic rigor, allowing more energy to be spent on other priorities. While being a “big fish in a small pond” can lead to lower graduation rates (Bowen, et al., 2009), at other times it can serve to bolster students’ confidence and thus their college persistence (Ovink et al., 2018). Attending college with other students from similar backgrounds can also improve some students’ social lives (Hoxby & Avery, 2013). Overmatching places students at institutions with better resources and among students with more academic, social, and cultural capital. Finally, as noted previously, other types of matching such as academic interest or religious affiliation is also important (Dillon & Smith, 2017).

Delimitations

While undermatch can happen for students at all academic levels and for students of all income levels, this qualitative case study focused on high-achieving Pell-eligible students who were admitted to the honors college at a somewhat selective college in the southeast United States. The study excluded high-achieving Pell-eligible students who did not apply to the honors college, who undermatched to an even less selective institution, and who did not attend college at all. Data was collected in the spring term of 2021.

Organization of the Study

This study is organized into five chapters. Chapter I offered an overview of the problem of academic undermatch for low-SES students including its association with lower graduation rates, higher time to degree completion, increased college costs and lower employment and income potential. In light of the theoretical perspective, the

chapter then outlined the study's conceptual framework using assemblage theory to form a working arrangement among college choice, social reproduction, and strength of weak ties. The chapter concluded by making definitions, assumptions, and delimitations of the study explicit.

Chapter II outlines a brief history of significant literature that laid the groundwork for the study of undermatch and then review the literature specific to undermatch. The chapter closes with a discussion of how this literature relates to the study's conceptual framework. Chapter III explains the methodological design of this instrumental case study focused on high-achieving Pell-eligible students enrolled in the honor's college at a somewhat-selective regional institution. It details the use of participant-aided sociograms within interviews during the data collection process, as well as the types of analyses used to examine the data. Chapter IV presents the major findings of the study, including which alters were perceived as most influential, what types of advice alters provided, communication patterns of participants related to their college choice decision process, and alter-specific patterns and coaching that seemed most relevant to selectivity choice changes. Finally, Chapter V discusses the theoretical, practice, policy, and research implications of the study.

CHAPTER II

Literature Review

A consistent finding in the educational research is that even with similar academic qualifications, low-SES students are less likely to attend college, more likely to attend two-year as opposed to four-year colleges and less likely to apply to or attend highly selective schools than their more advantaged peers (Hearn, 1991; Manski & Wise, 1983; Pallais & Turner, 2006; Roderick et al., 2011). This pattern of students applying to and attending less selective colleges than their qualifications warrant is known as *college undermatching*. The “big-fish-little-pond” dynamic (Bowen et al., 2009) that undermatching creates leads to lower college and post-college outcomes, including lower college satisfaction, lower likelihood of graduating from college, less likelihood of employment, lower prestige occupations and lower earnings (Bowen et al., 2009; Carnevale & Rose, 2003; Hoxby & Avery, 2013; Kingston & Lewis, 1990; Muskens et al., 2019; Ovink et al., 2018).

Low-SES students are particularly disadvantaged because they undermatch more often than high-SES students – at a rate of 47% versus 33% respectively (Ovink et al., 2018). This undermatch differential occurs at all levels from the least selective to the most selective colleges (Belasco & Trivette, 2015; Ovink et al., 2018). It is estimated that more than 60% of low-SES students who undermatch do not even apply to institutions that match their academic qualifications (Belasco & Trivette, 2015). This trend extends to even the highest achieving students from low-SES families (Hoxby & Avery, 2013). However, low-SES students who do apply to more selective colleges are admitted, enroll,

progress, and graduate at the same rates as their more advantaged peers with similar grades and test scores (Hoxby & Turner, 2013).

Criteria for Literature Selection

While the literature on the broader concept of college choice is well-developed, the literature specific to college undermatch is relatively new and is the focus of this chapter. Emerging in the mid-2000s, the research on undermatch lies at the crossroads of education, sociology, and economics. This chapter analyzes peer-reviewed articles published between 2006 and 2020 found in journals from all three of these fields. Peer-reviewed studies and theoretical articles were generally identified using “college choice” as a subject and either “match” or “undermatch” in the title. Studies specific to “overmatch” were excluded, as were those disaggregated by ethnicity unless referenced frequently in the literature. Additionally, a handful of studies prior to 2006 that shaped the foundations of the undermatch literature were included, as were several pivotal studies published in book form. While the focus of this study and review is on high-achieving low-SES students, several studies focused on students of varying academic abilities. These studies were also included, with an emphasis on the relevant findings, with the exception of one focused on a special education population.

History of Undermatch

The study of undermatch in a systematic way has its roots in a landmark study conducted in 1975 by Jerome Karabel and Alexander Astin “Social Class, Academic Ability, and College ‘Quality.’” While earlier studies had hinted at a disproportionate distribution of disadvantaged, minority, and female students in lower-selective colleges (Hearn, 1985), they tended to focus on the college-noncollege dichotomy (Karabel &

Astin, 1975). Those studies that did address college differentiation did not utilize student ability data, were not nationally representative or lacked clear presentation of relationships (Karabel & Astin, 1975). This construct of college quality was an outgrowth of the expansion of higher education (Karabel & Astin, 1975). That is, even the most affluent colleges began as open enrollment institutions and moved to selective admissions as demand for higher education increased (Karabel & Astin, 1975). With selective admissions, credentials shifted from how much education an individual had, vertical stratification, to the selectivity level of education one had or horizontal stratification (Gerber & Cheung, 2008).

Karabel and Astin (1975) sought to analyze the factors that influenced who goes where to college using data from the 1966 Student Information Form of the American Council on Education and a follow-up questionnaire, as well as corresponding data from university registrars. Their findings showed that while academic ability had the strongest effect, social class did have an independent effect on where students attended college. The authors argued that this new stratification was a corollary of the expansion of higher education, shifting social sorting from high-schools, and later the college-noncollege dichotomy, to where individuals attended college. Succinctly stated, “the most fundamental aspects of tracking — the allocation of students to educational programs which roughly reflect both their social origins and an occupational destination commensurate with these origins — now exists within higher education” (Karabel & Astin, 1975, p. 395).

As Karabel and Astin (1975) rightly predicted, this hierarchical nature among colleges, now generally referred to as *selectivity*, would be increasingly salient for

researchers due to its influence on social reproduction. Over the next 45 years, many of their assertions have been verified and documented in the literature. For example, they predicted the likelihood of an increasing gap between high-SES and low-SES students in terms of attendance at more-selective colleges and the likely role of student-self-selection in that process (e.g., Dillon & Smith, 2017; Hoxby & Avery, 2013; Mullen, 2010). It would be nearly 30 years, though, before the systematic study of undermatch would fully emerge.

Throughout the 1980s, studies on college enrollment particularly for low-income students tended to focus on student background characteristics, the interplay of those characteristics with the institutional environment and/or the financing of higher education (Bergerson, 2009). For example, Leslie (1977) addressed whether student aid programs were meeting their goals but also included a look at how many low-income students were choosing private colleges. Hearn (1985), however, sought to duplicate the Karabel and Astin (1975) study using newer data and presented his findings in “Who Goes Where? A Study of Postsecondary Destinations of 1980 High School Graduates,” a paper submitted for that year’s Annual ASHE Meeting. Making similar conclusions as Karabel and Astin (1975), Hearn (1985) noted that, “The root causes of these unequal patterns seem to be more in socialization than in outright discrimination or lack of financing” (p. 2).

By the 1990s, the college choice literature began to shift toward the continued stratification of higher education enrollment by social class, as well as by race and ethnicity (Bergerson, 2009). Studies of enrollment patterns based on college quality first focused on various combinations of public two-year, public four-year, private four-year and proprietary institutions (e.g., Eyermann, 1995). Eventually, studies became more

nuanced and comprehensive, and by the mid-2000s, the concept of college match/undermatch had emerged.

While Roderick and colleagues at the Consortium on Chicago School Research (Roderick et al., 2006) have been credited with coining the term “undermatching,” Avery and colleagues (2006) were “perhaps the first to identify the phenomena” (Hoxby & Avery, 2013, p. 4). It was Bowen and colleagues’ (2009) *Crossing the Finish Line: Completing College at America’s Public Universities*, though, that seems to have popularized the construct (Bastedo & Flaster, 2014; Sherwin, 2012). The topic also found its way into popular culture, most notably in Yglesias’s (2013) *Slate* article “Smart, Poor Kids Are Applying to the Wrong Colleges,” the subtitle of which read, “How an information mismatch is costing America’s best colleges 20,000 low-income students every year” (Bastedo & Flaster, 2014). The topic now has a small literature (Hoxby & Avery, 2013), and despite critiques that the topic distracts researchers from more effective means of reducing educational stratification (Bastedo & Flaster, 2014), the study of undermatch continues to evolve.

Measuring Undermatch

Before discussing undermatch rates, it is important to understand how those rates are determined. While the notions of “quality” and academic “merit” bring with them a long history of philosophical debate, the focus here is how those constructs have been measured within the undermatch literature. While studies have defined college quality differently, the basic concept of a stratified hierarchy is consistent across the undermatch literature (Bastedo & Flaster, 2014; Karabel & Astin, 1975; Kingston & Lewis, 1990).

Despite differences in how researchers have classified and ranked colleges, the various methods have produced similar lists of colleges (Kingston & Lewis, 1990).

College Selectivity

College quality tends to be defined in relationship to an institution's peers including the career advantages of its graduates (Bastedo & Flaster, 2014). The most widely used measure for college quality is *selectivity*. Karabel and Astin (1975) argue that selectivity is "probably the best single measure of prestige" because it taps into presumed academic excellence and how well an institution is known by outsiders (p. 385). That is, selectivity is a proxy for attracting high ability students. While some studies have also used institution affluence levels such as revenue available per student (e.g., Hoxby & Avery, 2013; Karabel & Astin, 1975), selectivity remains the single most common way to measure college quality in the undermatch literature.

While one or more studies have used U.S. News Rank to measure college selectivity (Pallais & Turner, 2006), the majority of undermatch studies have defined selectivity based on Barron's Admissions Competitive Index (e.g., Bowen et al., 2009; Carnevale & Rose, 2003; Roderick et al., 2006; Smith et al., 2013). The Barron's index includes six ordered categories for four-year postsecondary institutions based on average SAT/ACT scores of enrolled students, the average percent of applicants admitted annually (acceptance rate), and the institution's average/required GPA and class rank (Barron's Educational Series, Inc. [Barron's], 2011). Barron's selectivity levels are: Most Competitive, Highly Competitive, Very Competitive, Competitive, Less Competitive and Non-Competitive, with an additional "Special" category for art and music colleges (Barron's, 2011). Most researchers collapse these categories into fewer levels or "tiers"

ranging from two to four, adding a category for two-year colleges which Barron's does not include, as well as a "no college" category for some studies (e.g., Bowen et al., 2009; Roderick et al., 2011; Smith et al., 2013). Researchers who did not use Barron's rankings typically used exam scores like the median SAT or ACT scores of enrolled students and/or a combination of exam scores and affluence measures (Carnevale & Rose, 2003; Dillon & Smith, 2017; Hoxby & Avery, 2013; Hoxby & Turner 2013).

Student Qualifications

Measuring student academic qualifications or "merit" has similar ambiguities. Data on student qualifications is often obtained through the National Educational Longitudinal Survey and/or through school records. However, descriptive questionnaires have also been used to measure both student achievement and family circumstances (e.g., Pallais & Turner, 2006). The most used indicators in the undermatch literature are SAT/ACT scores, student high school GPA, and participation in Advanced Placement (AP) or International Baccalaureate (IB) courses. Although meritocratic indicators like college entrance exam scores and GPA do not guarantee admission into any particular college, researchers have noted that such scores serve as "a form of currency" in selective college admissions (Bastedo & Flaster, 2014, p. 96). The new test-optional direction of many institutions, however, may affect whether SAT/ACT scores remain a key indicator in future undermatch studies.

Undermatch Rates

What researchers term match schools can also be defined based on how expert college counselors help students identify *peer*, *reach*, and *safety* schools. Peer schools are those with median scores within 5 percentiles of the student's score, reach schools are

those whose median score is 5 or more percentiles above the student's score, and safety schools are those whose median score is 5 to 15 percentiles below the student's score (Hoxby & Avery, 2013). To assign students to a selectivity level, researchers have typically created rubrics based on chosen student qualification indicators and either institutional admissions requirements or institutional admissions data.

For example, in one of the Consortium on Chicago School Research calculations, Roderick and colleagues (2006) created a grid with selectivity level determined based on where students with each combination of GPA and ACT most frequently enrolled. Bowen and colleagues (2009) created a grid of SAT and GPA scores for the most selective schools and calculated likely acceptance rates based on those scores. Students were assigned to the selectivity level where they had at least a 90% chance of being admitted based on scores. Smith and colleagues (2013) used admissions data from a nationally representative dataset and created probability scores for students based on SAT/ACT scores, weighted GPA and whether students participated in AP or IB classes.

The variety of methodological definitions for both selectivity and academic qualifications has resulted in a wide range of undermatch rates (Rodriguez, 2015). Seeking to draw attention to the impact that assigned selectivity level has on all subsequent findings, Rodriguez (2015) compared two methods of defining selectivity and three methods of defining academic qualifications to create six different rates. Comparing the full Barron's Academic Index to a collapsed version made little difference in results, reaffirming Kingston and Lewis's (1990) assertion in the similarity of lists. It also reaffirmed consistent research choices to combine the top two Barron's categories to improve power where there are fewer institutions (Rodriguez, 2015). However, more

diversity was found among the methods of defining student academic qualifications, and there still seems to be no consensus on methodological choices in defining student qualifications.

Not surprisingly, undermatch rates have varied considerably depending on these operationalized definitions of college selectivity and student academic preparation. Rates have ranged from 28% with a nationally representative sample (Belasco & Trivette, 2015) to 40% for qualified graduates within the state of North Carolina (Bowen et al., 2009), and 61% for AP students in a city-wide study of Chicago Public Schools (CPS) (Roderick et al., 2009). While Smith and colleagues (2013) have asserted that undermatch rates declined with more students applying to match institutions, their study was criticized as having “outdated methods and rather lean models to generate findings that, quite frankly, fail to account for the contextual, information, and attitudinal factors associated with college choice and enrollment” (Belasco & Trivette, 2015, p. 235). Adding to the challenge of a definitive undermatch rate, Rodriguez (2015) has observed that “many of the current studies estimated undermatch based on what is observed and not necessarily what is possible” (p. 572).

Influence Factors

Family and Background Influence

Student background characteristics, parental education, parental expectation, and parental encouragement have all been shown to influence college entrance and completion rates (Engberg & Allen, 2011; Karabel & Astin, 1975; Reynolds & Johnson, 2011). These patterns are consistent in the undermatch literature but seem to have a separate effect from socioeconomic measures in helping influence where students go to

college (Nora, 2004). For example, students with less frequent parental encouragement and less parental involvement are more likely to enroll at a two-year school than a four-year school (Engberg & Allen, 2011). Low-SES students who expect to earn four-year or graduate degrees are less likely to undermatch, especially by selectivity level (Belasco & Trivette, 2015).

Significant, however, are the findings of Roderick and colleagues (2011) who found that a student's demographic characteristics, valuation of high school and "parental press" were only associated with aspiration for and plan to attend a four-year college the fall following graduation. It did not always correlate with whether students took the necessary steps to apply and enroll in a four-year college, particularly a match college. One interesting finding of Hoxby and Avery (2013) that has yet to be explored is that high-achieving low-SES students readily report parental income but "are reluctant to report that they have poorly educated parents" (p. 17).

Information Differentials

One of the earliest findings regarding undermatch was that low-SES students have not been exposed to the information and guidance necessary to navigate the college application and financial aid processes (Avery et al., 2006; Cabrera & La Nasa 2000, McDonough, 1997). In fact, Dillon and Smith (2009) found lack of college-related information as the most influential predictor of undermatch. In Bowen and colleagues' (2009) seminal study, they noted:

[T]here is a considerable opportunity to increase social mobility and augment the nation's human capital. The key is to find ever more effective ways of informing high-achieving students and their parents of the educational opportunities that are

open to them — and of the benefits they can derive from taking advantage of these opportunities. (pp. 104-105)

With parent involvement in the college choice process varying by parental level of education, low-SES parents with little exposure to college often leave the college application process and final college enrollment decision up to their students (Eyermann, 1995). Thus, low-SES students are more dependent on high school staff for college-related information. For example, the effect of visiting a high school counselor on the probability of college enrollment was nearly double for low-SES students compared to high-SES students (Belasco, 2013). Sharing student stories from a qualitative study, Eyermann (1995) highlighted: “Hilary told of her confusion about the whole application process and how she ‘just went to the community college because everything else was just crazy.... I mean nobody told me about how to apply or anything. I just didn't know any of that stuff’” (p. 25).

This lack of information for both students and parents translates into lower levels of participation in the college application process, constrained college choices and subsequent lower enrollment patterns (Avery & Kane, 2004; Roderick et al., 2008). Low-SES students often restrict their college search to large public, two-year or nonselective and somewhat selective colleges (Roderick et al., 2008). Additionally, many low-SES students tend to overestimate the requirements of college attendance, while underestimating the amount of financial aid available to them (Avery & Kane, 2004).

Information differentials also show up regarding the financial aspects of college, including the financial aid process which is seen as too complicated (Grodsky & Rieglecrumb, 2010; Luna de la Rosa, 2006). With little exposure to college, low-SES

students find out about financial aid from older siblings, high school counselors, government programs like Upward Bound and college financial aid office mailings (Eyermann, 1995). However, low-SES students are less likely to effectively participate in the financial aid application process (Roderick et. al, 2011). For example, they tend to apply for financial aid later than middle- and higher-income students thereby reducing their access to institutional and state aid (Roderick et al., 2008, 2011).

Low-SES students are also often unaware of the differences between a college's sticker price and its net price (Avery et al., 2006; Roderick et al., 2008, 2011). Selective colleges make strong financial commitments to economic diversity that low-SES students do not always understand (Hoxby & Avery, 2013). In fact, the higher the selectivity level, the lower the cost of attendance tends to be for high-achieving low-SES students (Hoxby & Avery, 2013; Hoxby & Turner, 2013). Perhaps surprising is that it often costs less for high-achieving low-SES students to attend the most selective institutions than it is for them to attend a community college (Hoxby & Avery, 2013; Hoxby & Turner, 2013). Even when such information is shared, it can be difficult for students and parents to believe (personal communication, L. Morgan, October 16, 2020).

Policy discussions have often assumed that if students were well qualified and had access to adequate levels of financial aid, they would be able to navigate the college search process and ultimately enroll in four-year colleges (Spellings, 2006). Yet high-achieving low-SES students who are academically prepared and eligible for substantial amounts of financial aid are not applying to or enrolling in selective colleges as one might expect (Hoxby & Avery, 2013; Roderick et al., 2011). Neither admission guarantees like the Texas top 10% (Black et al., 2015; Koffman & Tienda, 2008) nor full

financial aid guarantees like that of Harvard's Financial Aid Initiative (Avery et al., 2006) significantly increased applications from low-SES students as expected. While other financial impacts must be considered (e.g., transportation costs or lost wages), low-SES students and their families are not aware of the full range of aid opportunities (Pallais & Turner, 2006). Comparing financial aid offers also takes a level of sophistication that many low-SES students do not have, and some low-SES students make enrollment decisions without even considering the type or amount of financial aid available (Eyermann, 1995). What is sometimes more influential is the sense that financial aid staff are trying to help them, and a true understanding of tuition costs does not come until after low-SES students have decided where to attend, have enrolled and have received their first bill (Eyermann, 1995).

At least two experimental programs to help fill this knowledge gap were developed for testing. Using their Expanding College Opportunities-Comprehensive (ECOC) Intervention, Hoxby and Turner (2013) provided application guidance, semi-personalized cost data demonstrating the difference between sticker and net costs, and no-paperwork application fee waivers. The results of the intervention showed a significant increase in total number of applications submitted and in the likelihood of enrolling in a peer institution. In fact, information increased attendance with high-achieving low-SES students 56% more likely to apply to colleges with information and waivers (Hoxby & Turner, 2013). Encouraged by the study's results, the College Board committed to targeting approximately 28,000 high-achieving low-SES twelfth graders with similar mailings (Belasco & Trivette, 2015).

Providing substantially more support and targeting both high and moderately achieving students, the College Match Program (Sherwin, 2012) was developed through a collaboration between MDRC and two key research teams: the authors of *Crossing the Finish Line: Completing College at America's Public Universities* (Bowen et al., 2009) and the Consortium on Chicago School Research (Roderick et al., 2008). The program is delivered through young adult advisers placed in schools but reporting to MDRC and is organized around five key elements: (a) information-sharing and awareness-building, (b) individualized advising, (c) application support, (d) parental engagement, and (e) decision making and planning ahead.

Early results have been encouraging, with students in the program choosing more selective colleges than their controlled comparison group. Percentages of students enrolling at more selective colleges, including the “most/highly/very selective” categories, increased by 11 and 23 percentage points at two of the three pilot schools. The schools also saw a modest increase of students intending to enroll in colleges in the “selective” category. The program also showed a decline in the percent of students who intended to enroll in two-year and propriety colleges from between 30% and 40% in pre-program years to only 23% in the program’s first year (Sherwin, 2012).

Geographical Influences

College match is not just about increased access to information but also about “cultured, classed and regionally informed identities” (Ovink et al., 2018, p. 558). Part of the challenge of fully understanding undermatch is teasing out the regional differences in the choice process (Rodriguez, 2015b). The majority of high-achieving low-SES students automatically constrain their college choices to low-cost institutions close to home

(Hoxby & Avery, 2013), a strategy disproportionately used by low-SES students (Ovink & Kalogrides, 2015). Hillman (2016) demonstrates that low-SES students are particularly disadvantaged through geographical influences and argues that *geography of opportunity* should be taken more seriously in the college choice literature and better accounted for in college choice models. For example, one's state of residence (Pallais & Turner, 2006), how close one's high school is to various types of postsecondary institutions (Hurwitz et al., 2012) and whether one's high school is in an urban, suburban, or rural area (Hoxby & Avery 2013; Lee et al., 2017; Roderick et al., 2011) all play a role in shaping undermatch rates. There are also strong correlations between local job markets, community education levels, rates of unemployment, ethnic demographics, and the availability of four-year and selective four-year colleges (Hillman, 2016).

State differences in the representation of high-achieving low-SES students in higher education results from at least three overlapping economic and educational factors: (a) differences in state income distributions, (b) variance in academic preparedness, and (c) differences in the connection between income and pre-college achievement (Pallais & Turner, 2006). The percent of 17-year-olds at or below the poverty line varies by as much as 19% from the lowest to the highest state (Pallais & Turner, 2006). While the national representation of SAT test takers who achieve a score of 1200 or higher is 18%, the state rates vary from 14% in Virginia to 21% in California (Pallais & Turner, 2006). While only a 7% difference, based on state size, California would have roughly 50% more high-achieving low-SES students in its state applicant pool than Virginia would (Pallais & Turner, 2006).

Geographical distance from four-year institutions and from highly selective institutions also affects overall undermatch rates, as well as rates by selectivity level (Hillman, 2016; Hoxby & Avery 2013; Hurwitz et al., 2012). Regardless of academic ability or college preparation level, the farther a student is from a selective college, the less likely a student is to apply (Ovink et al., 2018). However, this proximity effect on undermatch is mediated if a good college match is within 50 miles of home. With highly selective schools being concentrated in the northeast United States, students in other parts of the country are disproportionately affected, with 46% of the most selective colleges in the Northeast but only 12% of high-achieving low-SES students in the same region (Griffith & Rothstein, 2009).

Perhaps attributable to the distance from four-year and highly selective institutions, local population density also affects undermatch rates (Hoxby & Avery 2013; Hurwitz et al., 2012; Lee et al., 2017). That is, whether a high school's setting is urban, suburban, or rural affects undermatching with students who attend suburban and rural high schools more likely to undermatch overall and by level (Belasco & Trivette, 2015; Hoxby & Avery, 2013; Niu et al., 2006). Belasco and Trivette (2015) found that undermatch rates nearly doubled for low-SES students who had access to Very Selective institutions but who attended rural high schools. This finding aligns with that of Hoxby and Avery (2013) who uncovered two major typologies of high-achieving low-SES students associated with school location – *achievement-typical* students and *income-typical* students.

Though representing only 8% of high-achieving low-SES students, achievement-typical students behave in similar patterns to high-income peers, maximizing attendance

and following the same application, enrollment, and persistence patterns as those of high-SES students with the same academic preparation (Hoxby & Avery, 2013). These students apply to at least one peer college, at least one safety college and no non-selective schools. Of this group 65% live in the main city of an urban area with a population greater than 250,000, and 21% live in nonurban areas though not rural areas. These students are more likely to attend a magnet school or an independent private school. In fact, 70% of achievement-typical students are concentrated in urban schools across 15 of 334 major metropolitan areas nationwide: San Francisco, Oakland, Los Angeles, San Diego, Dallas, Houston, Chicago, Cleveland, Pittsburgh, Portland (Maine), Boston, Providence, New York, Philadelphia, and Baltimore.

Income-typical students are those who indicate a preference for an affordable close-to-home option and represent the majority of high-achieving low-SES students at 53%. Only 30% of income-typical students live in the main city of an urban area. They are more likely to undermatch overall and by level than their more advantaged peers. They do not apply to highly selective schools or even safety schools, and they apply to at least one nonselective college (Hoxby & Avery, 2013).

Lee and colleagues (2017) recently identified even more nuanced differences in the effects of school location and type on college matching. Students from urban public open schools, suburban disadvantaged public schools, and any type of rural school are all more likely to undermatch than more advantaged peers, even when controlling for family and personal background characteristics and high school opportunities and culture (e.g., AP/IB availability, extra-curriculars, etc.). These findings reconfirm the role of distance

and location in undermatch rates but also demonstrate the importance of high school type and subtype to be taken up below.

High School Effects

There is a “growing body of evidence linking school environment to postsecondary outcomes,” a connection particularly salient for low-SES students (Belasco & Trivette, 2015, p. 255). While parental influence has been shown to shape student attitudes regarding college value and expected attendance, low-SES students often look to non-family adults and high school educators for guidance in the college going process (Roderick et al., 2011). Low-SES students who follow the patterns of their more affluent peers are primarily enrolled in "feeder" high schools, which enroll a high number of students scoring in the top 10% of SAT or ACT test takers (approximately 30 students per grade) and have a *college-going climate* (Hoxby & Turner, 2013).

This college-going climate, also referred to as *college-going culture*, is distinct from college-preparatory opportunities (Lee et al., 2017). College-preparatory opportunities include the availability of a competitive curriculum that includes advanced mathematics and AP and IB classes, as well as the availability of extracurricular activities and college counseling (Lee et al., 2017). For example, students enrolled in high schools with more affluent peers, AP and SAT preparation courses, and lower student-to-teacher ratios are more likely to enroll in highly selective colleges, even after controlling for self-selection and demographic variables (Hurwitz et al., 2012; Klugman, 2012).

Matriculation into highly selective institutions, however, requires precollege activities outside of specific academic work, including “taking standardized tests, completing college applications, securing financial aid, and learning the norms and

expectations of a postsecondary environment” (Belasco & Trivette, 2015, p. 236). For example, visiting a school counselor, submitting a higher number of applications, and completing the FAFSA all decrease the likelihood of undermatch (Belasco & Trivette, 2015).

A college-going climate is highly referenced in the undermatch literature and refers to both an overall norm of achievement, as well as specific behaviors that reinforce those college-going expectations (Belasco & Trivette, 2015). With a norm of achievement, postsecondary enrollment and behaviors associated with attendance at a selective school is the expectation, not a special accomplishment (Belasco & Trivette, 2015; Kim & Schneider, 2005). For example, low-SES students attending a selective private arts institution applied to the school based on high school counselors and friends telling them that "everyone applies to more than one college" (Eyermann, 1995, p. 22).

Investigating college-going climate, Roderick and colleagues (2011) analyzed its effects within urban Chicago high schools. In this study, a college-going climate was measured using the percentages of the previous year’s graduates who reported completing the FAFSA, applying to three or more colleges and enrolling in a four-year college, as well as teacher assessments of a college-going climate regarding teacher expectations and practices. FAFSA completion rates were identified as a new indicator with consistent predictability of not undermatching. The authors were quick to point out that their results were descriptive and correlational (not necessarily causal) and noted at least three influences that could be at play: selection effects, peer and contextual effects, and teacher and staff effects (Roderick et al., 2011).

Their findings indicated that of those who aspired to achieve a four-year degree, students were more likely to apply to, be admitted to, and enroll at a four-year college if they attended a high school with a college-going climate. Those who did enroll were also more likely to enroll at a four-year college that "matched" or was above their academic qualifications. When teachers reported a strong college-going climate, students who applied and were accepted had a 12-percentage point advantage to enroll in a match college than students with similar characteristics but who attended high schools without a strong college-going climate (Roderick et al., 2011).

Decision-Making Debate

While there seems to be consensus on the factors that influence college undermatch, an emerging debate within the undermatch literature is in the theoretical approach to its study. Tiboris (2014) argues that the research of undermatch normalizes high-SES student patterns rather than recognize the rational-decision-making process of low-SES students. This rational decision-making process prioritizes non-academic factors such as cost, location, cultural fit, and the opinions of significant others over academic factors (Tiboris, 2014). While Tiboris has a valid point that student decisions should be respected whether they address equity concerns, acknowledging autonomous decision-making does not diminish the notion of habitus or its effect on the college choice decision process.

For example, the common "close-to-home" strategy of high-achieving low-SES students often obscures other dynamics at play. Founder of The Center One Foundation, a non-profit organization providing holistic college prep services to low-SES high school students, has observed that "close-to-home" often masks fears that students have about

venturing out of their comfort zone (N. McCoy, personal communication, October 16, 2020). It is not until students are pressed for the reasons behind that strategy that they reflect enough to articulate what is truly motivating the inclination (N. McCoy, personal communication, October 16, 2020). This observation is consistent with the findings of Eyermann (1995) who found that “close-to-home” was often intertwined with a “home-like atmosphere.” Eyermann (1995) also noted that decisions were often “made out of habit or through the path of least resistance” (p. 24). It was early personal interactions, though, that put these students at ease and that altered their path from public four-year and two-year colleges to a selective private institution (Eyermann, 1995). Thus, apart from this broadened social and information network at the college, high-achieving low-SES students were more likely to follow the habitus of their upbringing.

Relationship to Framework

Using assemblage theory to form a working arrangement between college choice, social reproduction and the strength of weak ties brings into focus the relational influence on the college choice decision process and how that influence might impact college match and undermatch. While Hossler and Gallagher’s (1987) three-stage college choice model includes the role of significant others as an individual factor in the predisposition phase, it does not directly model the role of these relational influencers throughout the search and choice phases where they continue to play a role. Perna’s proposed model seeks to bridge this process-orientation with the concepts of social reproduction theory, naming the first layer of influence as “Habitus” and specifically noting “social and cultural capital” as part of that level.

The research on undermatch demonstrates the propensity for social reproduction to occur based on habitus and the available level of social and cultural capital. Students naturally rely on their parents and other adult relatives for advice about college opportunities. This reliance, though, disadvantages many low-SES students, as their family and friend networks have limited college information (Hearn, 1991; Kim & Schneider, 2005; Luna de la Rosa, 2006; Person & Rosenbaum, 2006), and these students are less likely to receive advice about college (Hoxby & Avery, 2013). However, the research also demonstrates that there are ways to increase access to social and cultural capital through an increased college-minded social network (Hoxby & Avery, 2013).

The student typology uncovered by Hoxby & Avery (2013) of income-typical and achievement typical students lends support for Granovetter's (1973) strength of weak ties theory. Achievement-typical students enrolled in "feeder" high schools follow the same college enrollment patterns as high-SES students, including more likelihood of applying to and attending highly selective schools, which may be attributable to the increased access to individuals with more social, cultural, and human capital (Hoxby & Turner, 2013). Income-typical students, on the other hand, enrolled primarily at public and rural high schools, have fewer high-achieving students in their network and few teachers or advisors who attended a highly selective school (Hoxby & Avery, 2013). These students more frequently attend somewhat selective regional institutions and/or two-year colleges (Hoxby & Avery, 2013).

When compared to the network of achievement-typical students, the network of income-typical students has fewer baccalaureate degree holders, fewer high-achieving peers and fewer counselors and teachers knowledgeable about highly selective schools

(Hoxby & Avery, 2013). Table 1 offers a side-by-side comparison of network differences found by Hoxby & Avery (2013) between achievement-typical and income-typical students. The less dense college-going network of income-typical students likely translates into less access to the capital that facilitates selective college enrollment.

Table 1

Percent of Network Alters: Achievement-Typical vs. Income-Typical Students

	Achievement Typical Students	Income Typical Students
Baccalaureate degree holders in network	22.0	16.8
Teachers graduated from peer school	2.9	1.1
Teachers graduated from safety school	7.5	5.0
High school cohort peers considered high-achieving	11.2	3.8

Summary

Beginning in the mid-2000s, researchers began to identify and study the phenomenon of low-SES students applying to colleges that were less selective than their academic qualifications would allow. Termed undermatch, this pattern is more common for low-SES students and particularly salient for them because of its negative impact on college and post-college outcomes.

While this pattern is shaped by a student's background and family characteristics, including parent income and level of education, perhaps the most influential factor is lack of information. The information differential for low-SES students is greatly impacted by a student's geographical location and access to social and cultural capital through an

expanded college-going social network. This expanded network can often be found in high schools with college preparatory opportunities and a college going climate, often located in the central city of an urban area.

Using assemblage theory to conceptualize college undermatch at the intersection of college choice, social reproduction and the strength of weak ties offers a useful way to view the research on undermatch. Granovetter's (1973) strength of weak ties theory provides insight into how a student's social network affects the dynamics of social reproduction in college choice. More specifically, the nature of a high-achieving low-SES student's social network is embedded in both geographical and high school-specific contexts that blend to reinforce, stretch, or complicate a student's college decision making process. This intersectionality impacts access to information about selective colleges and either expands or constrains the social and cultural capital needed for enrollment.

While the factors that influence college match and undermatch are widely accepted, most of what is known has resulted from quantitative studies. How do these factors overlap, though, and what do the social interactions look like between and among the social actors who are known to influence the college choice decision process? That is, what is the nature of the interpersonal interactions between these students and those in their social network related to their college choice decision process? Which of those interpersonal interactions seem to have the most salience for these students in choosing the level of institution they will ultimately attend? The next chapter outlines the methodological design used to explore this dynamic.

CHAPTER III

Methodology

The number of college-going individuals in one's social network has a strong influence on whether a student attends a good academic match college (Dillon & Smith, 2017; Engberg & Allen, 2011). These influencers include parents, peers, teachers, mentors, etc., but little is known about the nature of the interactions between students and these college-going influencers or about the nature of interactions among the college-going influencers themselves. This study sought to address that gap through an instrumental case study that explored how students perceived influencers of college choice, the nature of the interactions with and/or among those they perceived as influential, and, finally, how those influencers may have impacted the selectivity level of institution attended. Following an overview of the study's design rationale, this chapter provides the specifics on the data collection and data analysis processes and then concludes with a brief discussion of the study's methodological assumptions and limitations.

Research Design

Qualitative research focuses on the experiences people have and how they make sense of those experiences (Merriam & Tisdell, 2016). One form of qualitative research is the case study, which Yin (2018) describes as “an empirical method that investigates a contemporary phenomenon in depth and within its real-world context, especially when the boundaries between phenomenon and context are not evident” (p. 15). Mills and colleagues (2010) note three types of case studies: intrinsic, instrumental, and collective. With an intrinsic case study, the emphasis is the case itself, but with an instrumental case

study, the emphasis is understanding a particular phenomenon, providing insight, and helping to build theory (Mills et al., 2010). Though an instrumental case study does not allow for generalization in the sense that a quantitative study might, it attempts to identify patterns and themes (Mills et al., 2010). An instrumental case study design served this study well, as it sought insights into the relational influences of social actors on the college choice decision process and looked for patterns that could eventually help build theory surrounding college choice theory.

Qualitative Social Network Analysis

With its emphasis on interpersonal influence, SNA seemed a logical choice to analyze the relational influence on the college choice decision process. While many automatically associate SNA with quantitative research, Contandriopoulos and colleagues (2018) have asserted that “SNA is neither a qualitative nor a quantitative approach” (p. 73). Rather, it can be either or both depending on the preferences and methodological choices of the researcher. However, the enormous growth in the quantitative aspects of SNA over the last several decades has minimized its qualitative aspects (Crossley, 2010). For example, except for a brief introduction to Moreno and his early methods, the 19th reprint of *Social Network Analysis: Methods and Applications* (Wasserman & Faust, 2009) makes no mention of qualitative social network analysis (QSNA) or methodologies. Crossley (2010), though, has identified a variety of authors who have been calling for more advances in the qualitative aspects of SNA.

Scott and Carrington’s (2011) *The SAGE Handbook of Social Network Analysis* helped address this gap with a chapter dedicated to QSNA. Here Hollstein (2011)

reviewed a variety of QSNA studies conducted throughout the 1950s, 1960s, 1990s and the early 2000s that utilized interpretive methods to describe and analyze social networks.

It is not just the structure of networks that matter, but also their content. QSNA addresses the “meanings, feelings, attractions, and dependencies attached to social networks” (D’Angelo et al., 2016, p. 2). Hollstein (2011) identified six areas in which qualitative designs advance network research. Three of these are “primarily descriptive in nature,” (p. 408) and apply to the college choice decision process: (a) exploration of networks, including egocentric networks, (b) network practices, including interactions and communication patterns, and (c) network orientations and assessments, including “perceptions and assessments of the relationships and networks of which they are a part” (Hollstein, 2011, p. 407). Thus, QSNA seemed highly appropriate to explore the patterns within a student’s egocentric college influence network, as well as their perceptions of those relationships and their influence.

As SNA evolved to focus on entire networks, quantitative designs began creating visual representations *after* the data collection stage to represent the findings (Hogan et al., 2007). However, within QSNA studies, such exhaustive coverage is neither feasible nor relevant. Instead, researchers limit network research to a pre-defined subset based on the specific research questions (Killworth et al., 1990). This study pre-defined that network subset as the individuals the participant self-identified as either *very influential* or *somewhat influential* in their college choice decision process.

There are two common QSNA data collection methods: a traditional matrix-based approach and the co-creation of visual representations or sociograms. Kuhns and colleagues (2015) found both methods to produce similar results in terms of the final

network. However, there are some additional advantages to the use of participant-aided sociograms. The practice of creating participant-aided sociograms during the interview process provides enriched data and allows both the researcher and the participant to “see” what they are discussing (Hogan et al., 2007). Since participants “talk through” where to place people on their sociogram, the researcher learns more about how participants define their network, as well as how it may have evolved over time (Hogan et al., 2007; Ryan et al., 2014; Tubaro et al., 2016). Finally, participants must also consider how individuals in their personal network relate to one another, which provides an opportunity to explore tie-level data (Hogan et al., 2007). It is also appropriate for a young adult population (Kuhns et al., 2015).

With these benefits, this design strategy lent itself well to investigating the interactions between and among the various influencers on a student’s college choice decision process. The following research questions guided the study:

1. How do members of a high-achieving Pell-eligible student’s social network influence their college choice decision process?
2. What is the nature of the interpersonal interactions between and/or among students and the various relational influencers of college choice (e.g., parents, mentors, coaches, admissions representatives, etc.) as perceived by high-achieving Pell-eligible students?
3. Which interpersonal interactions between and/or among students and their personal college influence network have the most salience for high-achieving Pell-eligible students in choosing a college’s selectivity level?

Researcher's Context

This study and its research questions were borne out of the intersection of personal, professional, and academic experiences. One of the benefits of a qualitative study is that the researcher can be responsive to participants as “the primary instrument for data collection and analysis” (Merriam & Tisdell, 2016, p. 16). However, this aspect of responsiveness also allows for personal bias. To identify and monitor the possibility of personal bias throughout a study, it is important for researchers to engage in reflexive practice (Merriam & Tisdell, 2016).

The juxtaposition of a Pell-funded undergraduate experience at a local, regional public university and an assistantship-funded graduate experience at an out-of-state, national private university afforded opportunities to contrast these educational experiences. Combined with the professional experiences of teaching Pell-eligible high school students and later serving as a college administrator for both high-SES and Pell-eligible students, these experiences created a blend of emic (insider) and etic (outsider) perspective regarding undermatch and shaped my view of a “good” college experience. With deeply held beliefs that individuals are responsible to develop their own talents and to assist those around them to develop their own, a motivating question became, “How do we as educators help students who want the experience a more selective college has to offer, but for whom that experience seems just beyond reach?”

Reflexive practice helped to identify and monitor personal biases regarding undermatch and the various aspects of the study. Related experiences and perspectives were bracketed in a research journal before the study began and were explored through

the help of three critical debriefers (Yin, 2018). Personal reactions were also recorded within interview memos and debriefed following individual interviews.

Participants

Site and Participant Selection

Following Yin's (2018) notion of a case study bounded by time and place, the selected site for this study was enrollment in the honor's college at a somewhat selective mid-sized, public regional comprehensive university in the southeast United States. In an instrumental case study, the case is secondary to the phenomenon under investigation, and site selection should be theoretically informed (Mills et al., 2010). One common strategy for high-achieving Pell-eligible students is to apply to a somewhat selective public institution in their home state but not apply to their state's more selective flagship institution (Hoxby & Avery, 2013). Thus, the selected site provided access to students who Hoxby and Avery (2013) would classify as income-typical and/or hidden-one offs, versus the achievement-typical students who were more likely to attend the state's flagship institution or other highly selective school. That is, the site provided access to high-achieving students who undermatched, as well as to students who matched but also considered less-selective institutions during their college choice decision process.

Throughout the undermatch literature, high-achieving is frequently defined as the top quartile of test takers, commonly marked by an SAT score of 1200 or higher. Since the average SAT score of students at the selected college is 1200 (CollegeSimply, n.d.), it followed that students within its honors college would meet or exceed this designation. Pell-eligibility was determined based on student self-reporting as currently receiving a Pell Grant or having received a Pell Grant at any time during their college attendance.

Participant Recruitment

Participants were recruited via a series of emails, as well as by personal referrals. The dean of the honors college emailed the initial study invitation which included an attached informed consent document on behalf of the researcher to all 875 students in the honors college. Appendix A provides a copy of the recruitment email with institution-specific information removed. The dean sent two additional reminder emails spaced approximately two to three weeks apart. Additionally, an honors college faculty member and the participants themselves encouraged other students to participate.

Nine students who met the Pell-eligible criteria expressed interest, scheduled an interview, and participated in an interview. Additional students expressed interest but did not schedule an interview or scheduled an interview but cancelled before participating in the interview. Table 2 provides an overview of the participants identified by a self-selected pseudonym, along with their self-identified gender, ethnicity, college status, first generation status, and chosen interview method.

Table 2*Participant Demographics*

Participant	Gender	Ethnicity	College Status	First Generation	Interview Location
Ava	Female	Black/African American	Freshman	Yes	In-person
Jasmine	Female	African American/Asian	Sophomore	No	In-person
Moon	Female	Black	Freshman	Yes	In-person
Rose	Female	Caucasian	Senior	Yes	Zoom
Sarah	Female	Arab-American Egyptian	Junior	Yes	In-person
Shay	Female	African American	Sophomore	No	Zoom
Teresa	Female	Asian	Sophomore	No	Zoom
Tia	Female	Black	Freshman	Yes	Zoom
Trent	Male	Black	Junior	No	In-person

Note. Participant names are self-selected pseudonyms to provide anonymity.

Participant Details

Six participants at some point attended a “feeder” magnet high school that had a highly competitive curriculum, with three of the six attending all four years of high school. Going forward, these schools will be referred to simply as a magnet school. Four of the participants attended multiple high schools. While one of these four participants changed schools related to a family’s geographical move, the other three changed schools

by choice, leaving a magnet school for a less academically rigorous/stressful school. One additional participant attended a highly resourced public school that shared many of the same characteristics as the magnet schools. This school had a mix of socio-economic backgrounds, but the school was well-funded, had an excellent academic reputation and had both AP and IB coursework available. The number and type of high schools attended is listed below in Table 3, along with the identified college choice set of each participant.

Table 3

Participant High Schools and College Choice Sets

Participant	Number of High Schools Attended	Type of High School(s) Attended	College Choice Set
Ava	3	Open public Magnet	In/out of State Two-year/Four-year
Jasmine	2	Magnet Open public	Not identified
Moon	2	Open public	In/out of State Public/Private
Rose	1	Public, well-resourced	In-state only
Sarah	3	Magnet Open public Online	Not identified
Shay	1	Magnet	In-state only
Teresa	1	Magnet	In-state only
Tia	1	Open public	In-state only Two-year/Four-year
Trent	1	Magnet	In-state only

Data Collection

Following a protocol adapted from Hogan and colleagues (2007), individual interviews using participant-aided sociograms were conducted in three phases. The first phase of the interview helped build rapport between the researcher and each study participant and provided a beginning understanding of the participant's individual college choice experience.

The second phase of the interview included a name generator activity and the creation/construction of a personal network sociogram of the individuals deemed to have influenced the participant's college choice decision. As part of this activity, participants identified individuals as either "somewhat influential" or "very influential" in their college decision. Individuals included were those the participant talked to about college and interacted with directly, as well as those who may have had less direct influence on their choice. Participants then designated interaction patterns between and/or among themselves and various alters they identified. The third phase of the interview included name interpreting questions to further explore topics introduced in phases one or two.

Instruments

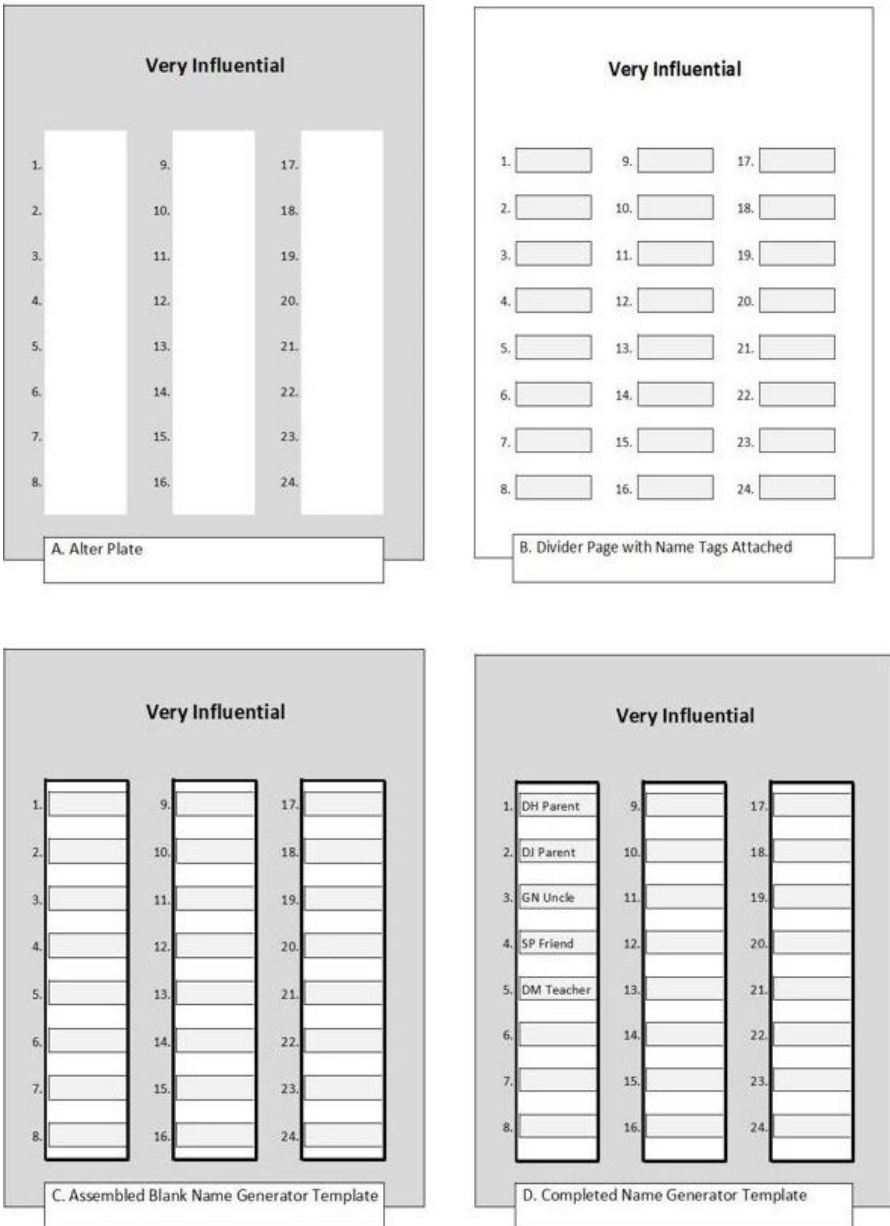
Name Generation Template. Name generation, common in SNA research, was facilitated through a two-sided Name Generation Template adapted from Hogan and colleagues (2007). The five-layer template was constructed from the center outward and then fastened with binder clips. One side of the template was used to list individuals who were “very influential” in the participant’s college choice decision process, and the other side was used to list those who were “somewhat influential” in the participant’s college choice decision process.

The center-most layer of the template, called the *divider plate*, was a heavy piece of cardstock used in a double-sided fashion. It served to hold 24 moveable post-it notes referred to as *name tags* on each side of the divider plate. Participants wrote the names of those they identified as being influential in their college choice decision on these name tags. These post-it notes were 0.5” x 1.75” and were pre-numbered from 1 to 24 to index the list and provide a reference for the original order of recall. It was assumed that students would not have as large a network as the professionals in the model study (Hogan et al., 2007), and, therefore, the number of included name tags was reduced from 30 to the 24 for this study. This number still turned out to be quite high, as the most name tags used by a participant on either side of the Name Generator Template was 8.

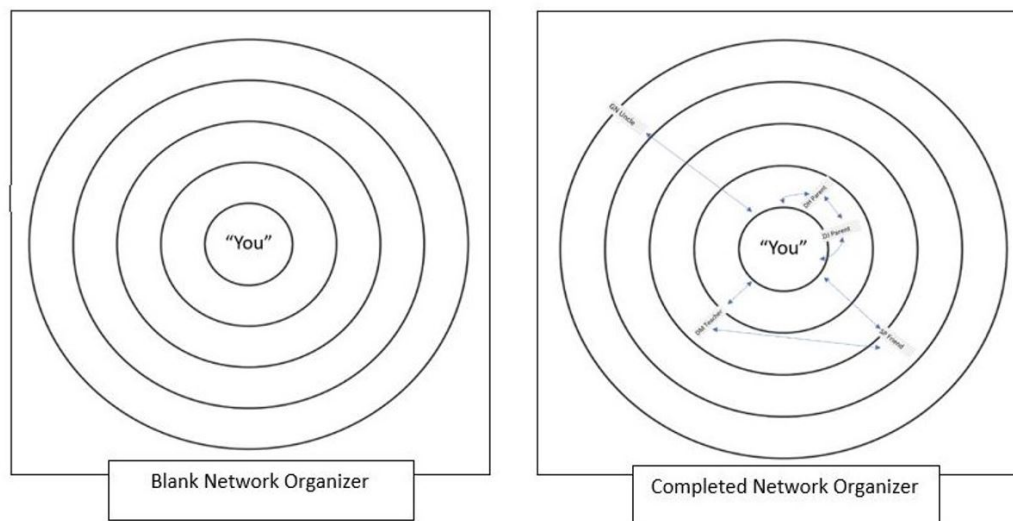
On top of the post-it name tags were two outside layers called *alter plates* made of heavy cardstock. These top sheets were cut special to hold the post-it notes in place while allowing participants to write on the name tags. The top of each page was labeled “Very Influential” or “Somewhat Influential” respectively, and each side was a different color to help distinguish the two sides. Each alter plate had three window openings that

corresponded to the three columns of name tags beneath. The position of each name tag was numbered from 1 to 24. See Figure 4 for examples of the various layers of the Name Generator Template, as well as a completed sample.

Figure 4



Network Organizer Template. Organizing the name tags for the sociogram was done on the Network Organizer Template. To allow plenty of room for name tag layout and the drawing of connections (ties) between alters, the Network Organizer Template was created on a self-stick tabletop easel pad/flipchart page measuring 20 inches x 23 inches. Previous research participants have shown a strong preference for placing items of higher importance either at the top or in the center (Huang et al., 2007). Thus, the Network Organizer Template was designed with the word “You” in the center. Surrounding that were four concentric circles, each representing a different level of influence. The space between each circle was 2” to accommodate the 1.75” post-it notes. Having four circles afforded further differentiation within the very influential and somewhat influential categories, creating four possible levels of influence. Some QSNA studies have utilized quadrants on network organizers for placing alters within categories (e.g., friends, work/school, community, etc.). However, since this may be the first study of this kind applied to the college choice decision process, no quadrants were used to allow participants more freedom in placing alters who knew each other closer together regardless of role. See Table 5 for a visual representation of the Network Organizer Template.

Figure 5*Network Organizer Template****Interview Procedures***

Interviews should be conducted in a setting familiar to the interviewee to put participants at ease. Being comfortable in the interview environment was especially pertinent due to public health concerns surrounding COVID-19 at the time of data collection. Thus, participants were invited to choose between in-person interviews conducted in an on-campus library study room and online interviews conducted via Zoom. For in-person interviews, social distancing guidelines necessitated that both participants and researcher wear face masks and remain at least six feet apart during the interviews. Four students chose to participate in person, and five students chose to participate via Zoom. Though provided for health reasons, two participants noted transportation as the reason they chose to do Zoom interviews.

At the beginning of each interview, the researcher provided a brief introduction and collected a consent form. Once signed, the researcher asked each participant to complete an interview intake form, which is provided in Appendix B. The researcher then facilitated each interview in three phases using a semi-structured protocol, the Name Generation Template, and the Network Organizer Template. On average the interviews lasted approximately one hour. Each interview was audio recorded for later transcription.

In the first phase of each interview, the researcher asked the following introductory questions:

1. Tell me a little about yourself.
2. How did you come to be enrolled in the honors college at this university?
3. Tell me a little about your family.
4. How would you describe your high school?

In the second phase, the researcher described the activity and explained the difference between *very influential* and *somewhat influential*:

- *Very influential*: People with whom you regularly discussed your college options and who were significantly influential in your final college choice.
- *Somewhat influential*: People with whom you ever discussed your college options and who were generally influential in your college choice.

The researcher then provided the Name Generation Template with the “Very Influential” side up and asked the participant to recall and list names using initials or pseudonyms for alter anonymity. Participants were also to list the roles of the individuals noted. Once completed, the researcher asked the participant to flip to the other side and complete the “Somewhat Influential” side. Once names were generated, the researcher instructed the

participant to remove the binder clips from the Name Generator Template for access to the name tags.

The researcher then drew the participant's attention to the Network Organizer Template. The self-stick flipchart page allowed the Network Organizer Template to be attached to the wall for the in-person interviews allowing the researcher to observe the participant's placement behaviors. For the Zoom interviews, the self-stick tab was folded down to allow the template to be mailed. Zoom participants were instructed to unfold the template and then place on an open wall or on a flat surface such as a desk or table for this part of the activity.

The researcher then asked each participant to arrange the post-it notes on the Network Organizer Template placing the most influential tags closest to the center and the least influential tags toward the outside (Huang et al., 2007). Four specific instructions based on the recommendations of Hogan and colleagues (2007) were given when asking participants to lay out the name tags:

1. Place tags on the lines, not between them.
2. The circles represent level of influence, so place the people with the most influence closest to you on the inner circle and work outward.
3. Place people who know each other close together.
4. Rearrange the name tags until you are satisfied. (p. 126)

Once all names were placed on the organizer, the researcher asked the participant to draw lines between individuals who interacted with one another and place arrows in the direction of those interactions. Once participants were satisfied with their sociograms, the researcher took a digital photo and double checked for readability before moving on.

For Zoom interviews, the participant held the organizer up to the screen for the photo. If the photo was difficult to read, the participant took a second digital photo and emailed it to the researcher following the interview. For anonymity, all photos were cropped to show only the sociogram and no surrounding details.

The name interpreting questions in the third phase explored issues or ideas that came up during phase two (Hogan et al., 2007) using the following semi-structured protocol:

1. When you constructed your sociogram, you were asked to identify the individuals with whom you interacted during your college choice process that had an influence on your choice. Tell me more about the individuals you listed and why you placed them where you did.
2. Give specific reasons you listed _____ as “very influential” or “somewhat influential.” (Researcher selected sample alters to ask about based on phase two).
3. Tell me more about the connections you drew between various individuals.

A copy of the detailed interview protocol can be reviewed in Appendix C.

Immediately following each interview, the researcher made a copy of each sociogram and added any post-field notes to the sociogram copy. The researcher then created an inventory of the data set, including interviews, field notes and sociograms, and cataloged new additions (Merriam & Tisdell, 2016).

Data Analysis

Preparing the Data

Audio files of the interviews were sent to GoTranscript Transcription Services. Once interviews were transcribed and sent back, the researcher listened to each recording

while reading through the respective transcript. This process afforded an opportunity to become more familiar with the data as recommended by Merriam and Tisdell (2016) and allowed the researcher to make any necessary corrections to the transcription. As each interview was read and checked, the corrected transcript was saved.

A duplicate of each transcript was then saved and formatted into three columns following the recommendation of Liamputtong and Ezzy (2005). Raw data was confined to the first third of the page with space between major sections of dialogue, allowing plenty of space for coding. The transcript was then printed single-sided and labeled with three column headings: *Raw Data*, *Initial Codes* and *Final Codes*. Additionally, field notes from individual interviews were added to the working copy of each transcript in the left-hand margin. Finally, the working copy of each sociogram was labeled with the respective pseudonym. After all preparations were completed, the researcher began the coding process, always using working copies to preserve original documents (Merriam & Tisdell, 2016).

Constant Comparison Analysis

Hollstein (2011) has described qualitative methods for data analysis in network research as “essentially the same” as other types of qualitative social research (p. 419). In providing a review of 21 qualitative data analysis techniques, Leech and Onwuegbuzie (2007) noted that constant comparison analysis is helpful when seeking to answer general questions of the data and can be used to identify underlying themes within an entire data set. While originally used for successive rounds of interviews, constant comparison has been modified for use with single round interviews and can be completed deductively, inductively or abductively (Leech & Onwuegbuzie, 2007). Thus, constant comparison

analysis provided a natural fit for the exploratory nature of this study's data and for the goal of identify patterns and themes.

The researcher worked in alphabetical order and coded the first interview using an inductive, open coding approach, including some initial in-vivo codes. These preliminary jottings were recorded in the second column of the working transcript under "Initial Codes." Once the entire transcript was coded, the researcher transitioned to a more abductive approach. To help visualize data related to various alters, a highlighting system was developed to represent abductively-determined categories. The colors representing each category of alters was as follows:

- Parents – Green
- Siblings – Yellow
- Grandparents – Red
- Aunts, Uncles, Cousins – Orange
- Friends – Light blue
- Family friends/Friends' families – Coral
- Peers/Classmates – Dark blue
- Teachers – Bright purple
- Counselors – Dark purple
- College staff – Pink

For example, all references to a parent or stepparent were highlighted green and so on.

The same color-coding system was then applied to the sociogram with any parent or stepparent name tag highlighted green and so on. This visualization system assisted with later readings related to specific alters.

Once the transcript was open coded and color coded, and the sociogram was color coded, the researcher followed the same procedures for the second interview. The two transcripts were then compared for similarities and/or inconsistencies in coding. Initial codes were adjusted as needed before coding the next set of data. This process was continued until all transcripts were both open coded and color coded and all sociograms were color coded. Final codes were added as they emerged from the data and logged into a master Microsoft Word document. Using an interactive process, codes were then grouped by likeness into categories and eventually themes. To increase rigor and create a way to find related codes for writing up findings, a master crosstab of codes by participant was also created.

Classical Content Analysis

A second approach classical content analysis was used to analyze the alter data from the sociograms, as well as data from the interview transcript that intersected with alter placement on the sociogram. Classical content analysis is similar to constant comparison analysis but analyzes codes related to frequency rather than themes (Leech & Onwuegbuzie, 2007). In challenging two anti-number myths regarding qualitative research, Sandelowski (2001) acknowledges the tension in using numbers in qualitative research but also provides a well-argued position for their use with supporting examples. According to Sandelowski's (2001), "Counting is integral to the analysis process, especially to the recognition of patterns in data" (p. 231) and numerical displays can prompt new ways of thinking about data and narrative groupings. Regarding the current study, the rejection of the either/or mindset regarding words and numbers fit with the theoretical underpinnings of the study and served to uncover patterns more clearly.

This phase of the data analysis occurred in two steps. First, the researcher used Excel to create frequency charts related to alter inclusion on the sociograms using the same categories mentioned above. For each participant, frequency was first determined for the total number of alters listed on his or her sociogram by category. Then frequency was determined for the total number of alters by category within influence level. Finally, alters for all participants were added together and frequency was determined for total number of alters by category and by category within influence levels.

The second phase of classical content analysis analyzed content that intersected alter and influence level. The researcher utilized a blank Network Organizer Template to consolidate reasons given for alter influence level placement. References to why an alter was placed in a certain influence level were recorded in the corresponding influence level circle on the master Network Organizer Template. These rationales were then consolidated according to meaning, counted, and used for ascribing trends to influence levels.

Internal Validity and Reliability

The trustworthiness of this investigation was increased by following a strict protocol for data collection and analysis. Writing about the importance of triangulation, Merriam and Tisdell (2016) note that, “*triangulation*—whether you make use of more than one data collection method, multiple sources of data, multiple investigators, or multiple theories—is a powerful strategy for increasing the credibility or internal validity of your research” (p. 245). In this study, triangulation was accomplished through a multi-stage data collection process that provided multiple types of data and allowed for multiple forms of data analyses.

Additionally, before beginning any data collection, a bracketing protocol was used to explore the investigator's assumptions and identify potential biases. Noting related experiences and assumptions in a research journal and making use of personal response memos during the interview process provided a constant reminder to keep biases in check. This reflexive research journal combined with the detailed account of the data collection and analyses processes described earlier provides a detailed audit trail that is essential to ensure reliability.

Limitations

By selecting participants who had already matriculated to college, the study was able to glean information from participants regarding the differences between their choice set and the institution in which they eventually enrolled and whether that final choice was a good academic match. Access to the level of match, however, was dependent on whether and how detailed participants were regarding their college choice set and the other colleges that admitted them. While this may have limited the available data for answering research question three, it did not limit the data available to answer questions one and two which were related to the college choice decision process more broadly.

While using participants who had already matriculated to college allowed for an analysis of salient data related to match and undermatch, it also resulted in a retrospective recreation of the college choice decision process. In such designs, recollection biases and other cognitive limitations can affect responses (Killworth, et al., 1990; Knoke & Yang, 2008). It was assumed that students would be able to recall and name the individuals with whom they discussed their college options, that they would be able to differentiate levels of influence among those individuals and that they would be able to explain how those

influencers may have interacted with one another. However, participants may have forgotten individuals with whom they discussed their college options, may have skewed memories of interactions and may have forgotten how they felt about interactions at the time they occurred, all of which could have affected data accuracy.

The methodological challenges of using sociograms should also not be underestimated (Carrasco et al., 2008; Hogan et al., 2007; Ryan et al., 2014). Participants typically have positive reactions to the process of creating a sociogram, finding it an interesting, and even fun, activity (Hogan et al., 2007). However, some participants can become uncomfortable when completing a sociogram (Carrasco et al., 2008; Hogan et al., 2007; Ryan et al., 2014). Discomfort can arise from ranking relationships into different levels, leaving a significant relationship out my mistake, or being surprised by a visual representation that does not match their internal sense of network, such as fewer or different types of connections than they had imagined (Carrasco et al., 2008; Hogan et al., 2007; Ryan et al., 2014). In this study, noticeable differences in the fluidity of participant responses were observed in the interview process. That is, the fluidity of responses between the questions in phase one and phase three were noticeable. One possible explanation of this difference is that participants were unsure what to share regarding alters and/or were engaged in new ways of thinking about those involved in their college choice decision process.

While there are many benefits to using numbers to represent aspects of qualitative data, there are also limitations or complications in this use. Sandelowski (2001) notes that “Numbers illuminate but also obscure and thereby complicate the necessary tension between science and art in qualitative research” (pp. 235-236). Four types of

complications including verbal counting, overcounting, misleading counting and acontextual counting can occur with the use of numbers. The researcher attempted to minimize such issues by balancing narrative descriptions and numerically displayed data, as well as by limiting frequency counts to overall participant alters with a total of 87, well above Sandelowski's (2001) suggested cut-off of 25 persons or entities.

Finally, the health protocols related to COVID-19 influenced the interviewing environment affecting in-person and Zoom interviews differently. While Zoom interviews provided the opportunity for researcher and participant to see each other's facial expressions and hear one another more clearly, it provided less opportunity to observe the organization of the Network Organizer as it occurred and to use the organizer as a prompt during phase three questions. Additionally, digital photos of the sociograms did not always offer the same differentiation as the larger in-person organizers did. In contrast, the physical barriers of face masks and social distancing affected in-person interactions, and audio recordings of the in-person interviews often had muffled sections reducing the amount of data captured in the recordings.

Summary

This instrumental case study investigated the subset of individuals who were influential in the college choice decision process as perceived by Pell-eligible honors college students at a somewhat selective college in the southeast United States. Following a QSNA design, participant-aided sociograms were used within one-on-one interviews to explore student perceptions of the influence of their social network on their college choice decision process. The interviews and sociograms focused on the ego-centric network of the subset of individuals the participants considered very influential and

somewhat influential in their college choice decision process. Sociograms were co-constructed through the exchange of the participant and the researcher using a Name Generator Template and a Network Organizer Template.

Two methods of analysis were used to analyze the data. Constant comparison analysis was used to analyze the interview transcript and classical content analysis was used to analyze the sociograms, as well as related aspects of the interview transcript. While acknowledging the limitations of the study, the benefits of the methodological choices in discovering more about how participants define their college choice influence network and how those individuals may have interacted with one another was made. The next chapter explores the major findings of the study.

CHAPTER IV

Findings

When it comes to the college choice decision process, high-achieving Pell-eligible students are influenced by their social network. What is the nature, though, of the interpersonal interactions surrounding this influence? Seeking to better understand the relational dynamics within the college choice decision process and hoping to help high-achieving Pell-eligible students better leverage the advantages of more highly selective institutions, this study asked the following questions:

1. How do members of a high-achieving Pell-eligible student's social network influence their college choice decision process?
2. What is the nature of the interpersonal interactions between and/or among students and the various relational influencers of college choice (e.g., parents, mentors, coaches, admissions representatives, etc.) as perceived by high-achieving Pell-eligible students?
3. Which interpersonal interactions between and/or among students and their personal college influence network have the most salience for high-achieving Pell-eligible students in choosing a college's selectivity level?

This qualitative study investigated these questions using a participant sample from the honors college at a regional comprehensive institution in the southeastern United States. The ego-centric college influence network was defined as the subset of individuals who were influential in the college choice decision process as identified by the participants. This chapter presents the major findings of the study along four themes: decision-making, alter patterns, communication, and selectivity level changes.

Participant Overview

All nine participants self-reported being academically focused students who valued family, liked helping people and volunteered in one form or another. Participants were aware of their parents' and family members' pride in them and frequently indicated a desire to make their parents proud. While a low-cost, close-to-home choice set is common for Pell-eligible students (Hoxby & Avery, 2013), more nuanced pathway goals related to these aspects were seen in these data. These goals included moving closer to an extended family member, creating distance between the participant and parents who "babied" them and creating distance/getting away from negative high school experiences.

Some type of in-group/out-group dynamic with peers while in high school was reported by most participants. For some participants, this was AP versus dual enrollment status; for others it was IB versus non-IB status or Trio versus non-Trio status. Five of the nine participants transferred from one high school to another, and two students transferred twice. For these students, the sense of in-group and out-group also presented as local versus newcomer and/or as academic-focused versus apathetic/party-focused. Most also self-identified with some level of introversion. The combination of introversion and this in-group/out-group dynamic seemed to influence college choice in the type of college campus culture participants were seeking. That is, participants showed a propensity for smaller, quiet, "non-chaotic" campuses. Participants seemed satisfied, if not pleased, with their choice of college.

Sociogram Alters Overview

As noted in the Methodology section, participants were first asked to identify individuals (alters) who were very influential in their college decision process and then to

identify those who were somewhat influential in that decision. During the sociogram activity, participants further differentiated these categories into four possible levels of influence: level 1/very influential-high, level 2/very influential-low, level 3/somewhat influential-high and level 4/somewhat influential-low. The number of alters identified ranged from 4 to 15, with a total of 87 alters across all participants. Table 4 provides an overview of the 87 alters according to type. The mean number of alters was 9.6. The median was 9 alters, and the modes were 9 and 15. The number of alters by participant was as follows:

- Ava: 15
- Jasmine: 7
- Moon: 9
- Rose: 15
- Sarah: 9
- Shay: 14
- Teresa: 6
- Tia: 8
- Trent: 4

Table 4*Frequency of Alter Types for All Participants*

	Absolute	Relative	Cumulative
Immediate Family			
Parents	15	0.17	0.17
Siblings	3	0.03	0.21
Extended Family			
Grandparents	4	0.05	0.25
Aunts, uncles, cousins	7	0.08	0.33
Friends			
Friends	11	0.13	0.46
Family friends	5	0.06	0.52
Friends' families	1	0.01	0.53
High School/College			
Peers/classmates	5	0.06	0.59
H.S. Teachers	15	0.17	0.76
H.S. Counselors	8	0.09	0.85
H.S. Volunteers	0	0.00	0.85
College Faculty/Staff	8	0.09	0.94
Community			
Member/Professional	5	0.06	1.00
Total	87	1.00	

Decision-Making Process

The decision-making styles of the participants and the advice-giving patterns of the influence network alters combined to influence the college choice decision process. Each participant's tendency toward a particular decision-making style was an internal factor related to personal and/or family habitus that combined with the external factor of alter advice-giving to shape both choice sets and final enrollment decisions.

Decision-Making Styles

Participants showed habitus toward both autonomous and collective decision-making approaches, with these two styles sometimes blending. Autonomous decisions were ones that were informed, uncoerced, and intentional. In describing how her social network helped her "piece together" her college plan to make an autonomous decision, Ava, a first-year student who attended three different high schools, recalled, "I felt that even some people who were down the list, not number one, they still had a majority of – just to get me thinking type of thing, to decide on what I wanted to do."

Others, like Sarah who attended three different high schools based on family moves, reported more collective decision-making patterns. Sarah described the more collective decision-making process common in her Egyptian family:

In my culture, we listen to our elders, and we're very family-based. The decision of the person affects everybody...everybody has a say.... sometimes people are upset about it, or they're just like, "It's my life. I can do whatever I want," but it's a collective effort.

These approaches blended for some participants. For example, Jasmine described monitoring her friends' choices while still making her own decision. She explained:

I think I still chose what I wanted to do, but I wanted to wait and see where [my friends] were going and have their input as well...I wanted to see what everyone was doing before I made a solid choice.

Shay described a process that blended individual and collective forces a bit differently. Her process began more autonomously. She explained, “I was just applying to every...state school.... the bigger state schools.... ‘I should apply here, just because you should do that to be smart about where you’re going.” She had also applied and been admitted to a most highly selective school out of state. However, later for her final decision, she engaged in collective decision-making to make her final college decision. In this instance, she was influenced by one primary alter. After a college visit to the school in which she ultimately enrolled, Shay recalled:

I told my friend on the ride back, ‘I’ll commit...right now if you go.’ She was like, ‘I guess.’ We were like, ‘Okay, we’ll just go to ____.’ It sounds like I was just blowing it off, but it was actually important.

Advice-Giving Patterns

The nature of advice-giving from alters fell into five distinct patterns: directive, introspective, networking, explanatory, and supportive. Below is a quick overview of these five types followed by an in-depth look at each:

- directive – gave directives and/or defined expectations
- introspective – encouraged reflection and introspection
- networking –recommended reaching out to others
- explanatory –explained how processes worked
- supportive – provided encouragement or a listening ear

Directive Advice Giving. Participants often encountered a directive approach to advice-giving early in the college choice decision process when parents were defining expectations for their student's search process. Direct advice giving focused on both the financial and academic aspects of the college experience. For example, for financial reasons Teresa's parents defined expectations that she would attend an in-state college, thus limiting her choice set early. Moon, on the other hand, received directive advice from her godmother after being admitted to college and invited to the apply to an honor's college. Moon recalled, "I had been asked to be in the honors program. I don't know what it was at all, so I asked my godmother, and she said, 'No, it's a good thing. You need to go there. Go there.'"

Tia's stepmom encouraged her early to seek a career that required a master's degree. Tia commented, "She [my stepmother] hopes that I get a masters, and I'm a person who wants to make my parents proud." Participants also received directive advice from alters outside of their family. For example, Tia recalled:

My pastor probably had the most direct impact because he was the one who called my stepmother, which is why she was also involved, and she drove me down to his house, and we sat down with my laptop. He told me "Apply to this university. Apply to this university." He basically gave me a lot of college advice.

Sarah received similar positive-push directive advice and shared, "My counselor and then my TRIO...coordinator...They also pushed me to look at opportunities, apply to colleges."

Introspective Advice-Giving. Other alters provided more reflective advice, encouraging participants to look inward for answers. This pattern urged self-exploration and introspection, rather than focusing on the financial implications or a strict career-orientation. Moon had two alters who engaged in this type of advice-giving. She noted, “My other brother...he was more open, ‘Find the answer yourself. You’re the one who really knows what you should do.’” Regarding her father’s best friend, who she considered family and with whom she lived, “My uncle...[kept] asking me, telling me, ‘Oh, what would you like to do?’” Moon seemed to really value this advice giving but did not identify either of these alters as highly influential in her college decision process.

Perhaps Ava, a first-generation student, shared most succinctly how her mother’s introspective advice encouraged her to follow her own habitus. While stated in a directive form common to other parents in the study, the essence or message was noticeably introspective and could be connected to her not having college experience herself. Ava recalled:

I acted on a lot, a lot of her advice. Just general, “Do what you feel is best.” That was most likely her number one thing that she would always say, “Do what you feel best. Do what feels good to you,” basically. That was the number one major thing that I took away from her.

Networking Advice-Giving. A more diverse group of alters recommended the benefits of networking and information gathering in the college choice decision process. Tia shared the networking advice that she received from her youth pastor who attended a highly selective institution:

My youth pastor had an indirect – he was somewhat influential because he did go to university. He went to the University of Florida. He talked about his experiences, and he gave the youth group advice. He told us to go up to our guidance counselor, become friendly with them, and you'll find more financial aid opportunities. That's one thing I remember still.

Others received this networking advice-giving from teachers. Sarah described the advice her teachers from her Title I school gave her, "...my two teachers that influenced me, who I looked to and I loved talking to, and they gave me advice on where to go and who to talk to and like that."

Rose recollected receiving networking advice from high school teachers at her high-resourced public school, as well as from college paraprofessional staff. "They [my teachers] encouraged me that it's okay to reach out to teachers, to professors. They're all here for us, and things along those lines, essentially." Rose went on to describe an example from one of her college visits:

...the tour guide was who recommended me reaching out to the dean of the arts college and to the head chef. The tour guide encouraged me that reaching out was even recommended, and it was completely acceptable. Because I had this fear of intruding on their days, as if they couldn't just move on from an email after a three-sentence reply.

Explanatory Advice-Giving. Sometimes the nature of advice-giving was more explanatory, explaining how processes worked. The guidance counselor at Moon's open, public school seems to have provided this type of advice. Moon reported:

But my guidance counselor did counsel me...He was the one who actually made sure I graduated, and then when I got accepted to ___ and ___, he used to give me advice on what to do, when it comes to everything.

Although graduating from high school with a 4.2 GPA and in the top 25% of her class, Rose found this type of advice from her teachers to be especially helpful. "College is this mythical thing where...everything is going to be difficult. We're about to go into this next phase of our lives...no one knows what they're doing. She [my teacher] helped demystify that." Later Rose added:

I suppose if there's any particular advice that stood out from there, is to take it one day [at] a time, and that college is there to help you improve. You're not expected to have a senior graduating portfolio on your first day going in. College is meant to help build up every single skill that you have. Even if you're good at drawing per se, there's Drawing 1 and you're not immediately expected to produce a whole graphic design portfolio to get into the program.

Supportive Advice-Giving. Participants also described alters as being understanding, encouraging and more like a sounding board. This type of advice-giving seems to be more about personal or emotional support than providing specific college direction, though that was also present. For example, in describing her teachers, Rose said, “Them – really advising me to take one day at a time helped ground me in that sense.” One particular teacher stood out to Rose who shared:

My gov and e-con teacher in high school, she was a veteran, and she was always incredibly down to earth about college.... She always made it her job to encourage everyone and to encourage everyone to go to college as soon as they can.... She made college feel a lot more accessible to both myself and to my peers in that class.

Rose also found encouragement from her peers:

My peers online have always been supportive of me; they always were. I have my peers within my circle ... mostly high school friends. They were influential, and I was able to bounce ideas off of them. Whenever I had positive news, like getting into ___ within a week of applying, getting into the honors college, getting my merit-based scholarship, and anything along those lines, getting the private dorm that I needed for proper accommodations at first year. They were there for me to bounce ideas off – both groups. They were all there to encourage me and to help me celebrate those mini victories.

Moon also found the sounding board nature of interactions to be helpful. “My cousin, he didn’t really say much. He just listened to me.” While giving their opinions, the tone of her friends’ advice seemed to be more supportive than directive as well. Moon

shared, “They are my best friends, and I always go to them for advice. They will tell me what they think would be best for me...they show me they only have my best interest at heart.”

Mixed Advice-Giving. While Moon’s cousin or friends might have given one specific type of advice, other alters provided a mix of advice styles. Receiving both directive and introspective advice, Ava recalled that her influence network helped her “piece together” her plans to make her own decision. Ava noted:

Honestly, it was my aunt who was like, “You will do that and maybe political science or something like that.” She was the one who was like, “No, you should not take a gap year. You need to go straight into college.” ... But basically, they were like, “Look at what you want to do, look at who you are, and look at the person you want to become and debate whether or not you will be happy being a teacher.”

It seems that Trent received the most comprehensive advice from his IB, magnet school teachers receiving directive, explanatory and networking advice. He explained:

My teachers were more along the lines of... “Here’s what you’re gonna, uh, do. Here’s what you’re going to need to know.... There’s always funding available. Please make sure you are always applying for something, always reaching out, always checking on resources...”

Style and Pattern Interaction

The alignment between a participant’s decision-making style could be well-aligned or misaligned with the advice-giving pattern(s) of alters. That is, the two could complement one another or compete with one another. Though they had different

decision-making styles, Tia and Trent were both examples of good alignment between their decision-making style and the advice-giving patterns of their respective alters. Following a more collective-decision-making process, indicated by her frequent use of “we,” Tia seems to have benefited from the directive advice of her pastor. She shared, “Then, we started signing up for universities...I had a collection of slides I got from universities asking me to apply. We applied to those. Then we also checked my emails and applied to those.” Thus, it was the alignment between directive advice and her collective decision-making approach that gave her the confidence to apply to and attend a four-year institution.

Trent, a four-year IB student at a magnet school, offered an example of good alignment between his autonomous style and his parent’s more introspective and supportive advice-giving pattern. Trent pointed out, “I live in the household with them, so they definitely, their decision and their opinions definitely mean a lot to me, but sometimes I think they’re just opinions, but they definitely mean a lot to me.” In another exchange Trent, whose father had been in the military, expressed his parents’ explicit support of his autonomous decision-making. “So, he [my dad] definitely didn’t recommend that [going into the military], but he said, ‘If there’s something you really want to do, we’re all for it. We’re going to support you...at the end of the day, it is your decision.’”

In contrast, Moon at times seemed to struggle with misalignment. While one of her brothers, as well as the uncle with whom she lived, engaged in more introspective advice-giving, her mom and oldest brother seemed to provide only directive-advice. Moon shared, “My mom...she always ‘tells’ me...I did go to her, but at the same time,

she would just tell me what to do. That's my mom." Moon also received directive advice from her oldest brother, "My brother...he was more of, 'Do as Mom tells you,' and 'I will tell you.' I will go to him for advice, and he will come back to me with what I should do."

Sarah also experienced a type of misalignment. Desiring more autonomy but conscious of the collective decision-making process that is part of the habitus of her Muslim culture, Sarah negotiated the specifics of her living arrangements rather than her specific college. She shared:

My mom said that she wanted me closer because I'm the eldest in my family...My mom just felt like I was still young, and I needed to be close to her, so we agreed that ____ [the somewhat selective school in the study] was a choice. Then, we compromised, and I said, "I want to live on campus to get the college experience" even though I lived 15 minutes away. We compromised on that.

Alter Patterns

In addition to advice-giving styles, patterns related to alter types also emerged from the data. The first pattern related to a conceptualization of alters in terms of the authority and/or expertise participants perceived them to have. The second pattern concerned the type of alters participants tended to place within each influence level. The third pattern related to specific network dyads or triads that stood out in the data. These three patterns will each be discussed below in more detail.

Authority and Expertise

Alters could be categorized into a matrix based on two continua criteria: authority/non-authority and expert/non-expert. See Table 5 Authority and Expertise

Matrix. In describing influence levels, participants often referenced alters in terms of the amount of authority they held in relation to the participant. Authority figures, in this case, refers to people who the participant identified as having authority over them. These alters were primarily parents but could also be other family members with whom a participant lived. Non-authority influencers acted more as sounding boards and/or provided personal support and reassurance in the college choice decision process. Moon described this dynamic well when talking about how she evaluated the influence levels of her network alters. She shared, “My mom, because her and my father they were both like – I’m their child I was....so as a child, I do what my parents expect of me even if I don’t want to do it.” In contrast, Moon shared about a family member she did not perceive as having authority over her:

She [my godmother] would be understanding. She would give me advice and talk to me, but at the same time, she wasn’t telling me what to do. If she was telling me what to do, I don’t have to depend on her advice. Therefore, she wasn’t that much influential.

Additionally, she noted, “There are a lot of people I just want to seek some advice, but at the same time, they don’t have much to say about what would have happened or which college I would go to.”

Participants also referenced influencers in terms of their expertise which was often, though not solely, associated with familiarity with the college system. This expertise was often connected to being a college graduate and/or having a professional education role, such as a teacher or counselor. However, a parent of a current college student was also viewed as better informed about college, and thus, more expert in terms

of their advice. However, participants also identified expertise in terms of how well an alter knew them personally. Again, Moon described this well when explaining how she identified the influence level of her friends, “I decided that my best friends would be closer because having somebody that is like you.... not that they were going through the same thing, but I figured they would understand me better than my mom or...brother.”

Table 5

Authority and Expertise Matrix

	Expert	Non-Expert
Authority	<ul style="list-style-type: none"> • Parent or stepparent with some college or a college degree 	<ul style="list-style-type: none"> • Parent or stepparent with no college experience
Non-authority	<ul style="list-style-type: none"> • High school teacher • High school guidance counselor • Parent of a college student • Friend in college • Friend who knew participant well 	<ul style="list-style-type: none"> • Extended family member with no college experience • Friend with no college experience

Influence Level Categorization

Classical content analysis of the rationales that participants offered for categorizing alters among the four influence levels also yielded distinct patterns among alters at each level of influence. While each participant’s sociogram depicting the alters they perceived as influential in their college choice decision process varied, level patterns emerged in the narrative, which was also reinforced by the alter relative frequencies. See Table 6 for the relative frequencies of alter types by influence level.

Table 6*Relative Frequency by Influence Level for All Participant Alters*

	Level 1/ Very Influential High	Level 2/ Very Influential Low	Level 3/ Somewhat Influential High	Level 4/ Somewhat Influential Low
Immediate Family				
Parents	0.46	0.04	0.07	0.13
Siblings	0.08	0.04	0.00	0.00
Extended Family				
Grandparents	0.08	0.07	0.00	0.0
Aunts/uncles/cousins	0.08	0.07	0.04	0.25
Friends				
Friends	0.00	0.15	0.25	0.00
Family friends	0.04	0.04	0.07	0.13
Friends' families	0.00	0.04	0.00	0.00
High School/College				
Peers/classmates	0.00	0.00	0.18	0.00
H.S. Teachers	0.13	0.33	0.11	0.00
H.S. Counselors	0.00	0.07	0.21	0.00
H.S. Volunteers	0.00	0.00	0.00	0.00
College Faculty/Staff	0.08	0.07	0.07	0.25
Community				
Member/Professional	0.04	0.07	0.00	0.25
Total	1.00	1.00	1.00	1.00

Level 1/Very Influential-High. Seemingly based on closeness, the alters in level 1/very influential-high were nearly always strong ties and typically included the alters with whom the participants lived. This level tended to be parents (.46 relative frequency) but could also be other family members the participant lived with, such as siblings, grandparents, or extended family members (.08 relative frequency for each of those three categories). Most of the *directive advice-giving* happened at this level, though some *introspective advice-giving* was also present. Participants valued the opinions of those in this level, and familiarity sometimes led to directness of advice and the salience of that advice. For example, Ava mentioned, “I put them close to me because their opinion mattered to me. It would affect how I look at things.”

Trent described both the physical and emotional closeness that surfaced in this influence level:

Not only, like, I guess like physical location, but like, I guess it brings them in order of like what they mean to me.... Their level of importance or influence on my decisions were definitely the parents. I live in the household with them, so they definitely — their decision and their opinions definitely mean a lot to me.

Teresa explained it this way:

Because my parents are the ones who basically helped plan out my college and where to go study, while the people on the outside are more people I get advice from for application and other advice in how to adjust life, and other people were the ones who are just there to support me and are like, “Congratulations.”

Participants identified the *parent as payer* as part of this influence level, as well. Teresa noted, “My parents because they're the one who helps pay for me to go to college....” Shay specifically connected the value of her parents’ opinions to their financial support in stating, “My parents, I don't know, I always value what my parents have to say when it's their money.”

Level 2/Very Influential-Low. The alters in level 2/very influential-low tended to be those who were more familiar with the college system. Alters in this level tended to be teachers (.33 relative frequency) but could also be high school counselors or college faculty and staff, as well as friends and family. Alters in this level tended to push students to look at opportunities and to apply to colleges. They provided practical assistance with both college and scholarship applications, as well as transportation for campus visits. Individuals at this level provided more networking advice-giving and helped students figure out what to do, including where to apply and what majors to consider.

For example, Sarah shared, “Then my two teachers that influenced me, who I looked to and I loved talking to, and they gave me advice on where to go and who to talk to and like that.” Communication at this level tended to be frequent, if not daily, perhaps partially explaining the influence of teachers. Sarah went on to explain:

My teachers, I saw them every day, and I would talk to them about my struggles with family but also college. They were influential with college and helping me figure out what to do next because I was lost in, "What do I major in?" ...They were influential.

Level 3/Somewhat Influential-High. The alters in Level 3/Somewhat Influential-High were a mix of both strong and weak ties. Alters in this level tended to be friends (.18 relative frequency) and peers (.25 relative frequency) who either knew the participant well or were going through similar experiences. In describing the influence of a friend for this level, Sarah explained:

Then my best friend, she was there as a friend for support, giving me advice, but she wasn't a professional who had gone through it. She is influential in my life, but for my college decision, she wasn't that influential, because we knew that we'd major in different things and have different pathways....

Shay also noted the influence of a friend at this level:

At the very bottom [of the sociogram], we have my friend who, I mentioned earlier, we would just talk about school a lot, just because we had a lot of classes together. It wasn't really that influential on my college decision, but we talked about it. It probably influenced me in ways that it wouldn't have had we not talked.

Regarding peers more broadly, Tia shared:

High school classmates had a somewhat influential impact on me only because of the environments. It's just, if you're in an environment of high achievers, you think you have to be a high achiever as well. If everyone you know is going to ___ and ___, then it's like, "Oh, okay."

This level also tended to include high school counselors (.21 relative frequency) who helped make sure participants were meeting admissions requirements and helped participants with scholarship applications. Tia captured this notion when she said:

My college guidance counselor, she worked directly with me, but she didn't influence my decision to come to _____. She didn't influence my decision to go anywhere except to make sure my grades were good and to make sure I fulfilled the requirements of admissions for those schools.

Level 4/Somewhat Influential-Low. Level 4/Somewhat Influential-Low were often weak ties or strong ties without authority-roles. However, most participants did not place any alters in this level. For those who did, the alters were college staff (.25 relative frequency), community members (.25 relative frequency), extended family (.26 relative frequency) or family friends (.13 relative frequency). Participants identified individuals in this level as easy to talk to and having a welcoming, non-judgmental attitude toward them. These individuals helped reduce participant anxiety throughout the process, helping them feel “grounded” and/or helping them manage their emotions. Individuals at this level tended to be seen as supportive of the participants' decisions and “having faith” in the participant.

For example, a sense of fit at their chosen college seemed to be reinforced by interactions with college faculty and advisors that put them at ease. Rose shared:

I was amazed by how personable they were because I had still been in my shell at the beginning of college. I had been nervous talking to people because it's a growing process, but when I was able to talk to actual Honors faculty and learn more about Honors to see what Honors did, all of it, it was just a no-brainer choice that _____ [the somewhat selective school in the study] and Honors was a place for me.

Later, she also recalled:

There's the dean of the honors college who I'm sure you know, alongside the honor's academic advisors. Everyone was incredibly easy to communicate with, even in my mildly anxiety ridden state at the time. They were always happy to answer any kinds of questions that I had. They created this welcoming environment that I knew I was making the right choice.

One stark exception to the pattern tendencies among the influence levels was Rose, who placed three teachers and two college faculty members in level 1/very influential-high and her parents, who she reportedly has a good relationship with, in Level 4/Somewhat Influential-Low. While Rose was not the only first-generation student in the study, this status likely helped shape her assessment of influence. One other notable rational that Rose noted as being influential in her college choice decision process was the emotional support she received from her cat. She explained:

I wanted to stay close to my cat because I'm very attached to her even though she isn't a person. She's my emotional support perfectly. I didn't want to take her out of an environment that would put her out of her element and would possibly make her uncomfortable.

While the four levels of influence yielded distinct patterns, other patterns cut across these levels. For example, high school counselors were listed much less frequently than teachers, with an overall relative frequency of .09 versus .17 respectively. Counselors were also identified as less influential than teachers, with teachers most frequently placed in level 2/very influential-low, while counselors were most frequently placed in level 3/somewhat influential-high. Following are the findings related to specific dyads and triads.

Participant-High School Counselor Dyad

While high school counselors may have helped participants meet the criteria for college admissions, participants did not perceive them as being as helpful or influential in their college choice process as one might expect. Inconsistent connections and infrequent interactions likely led to counselors being viewed as less influential than other alters, particularly teachers.

The only participant to share exceptional relationships with his counselor(s) was an IB student from a magnet school. Trent explained:

Because for IB, I mean, they treated us like, we were kings and queens. So, uh, we had our own little area inside of, like, our guidance office. Things like, in our school, we had, uh, four different guidance counselors, and where most grades only have one guidance counselor. So, it was definitely a lot easier for us to talk to, um, my guidance counselor, when needed.

This was the exception, though. Given the lack of funding for counseling positions and the high ratio of students to counselors, this is not unusual within public schools. Other participants rarely saw their counselor(s). For example, having left a magnet high school for a regular public high school, Sarah described the opposite experience of Trent:

I just had to stand out. There were four or five of them [counselors]. It was all split up by last names. Still, I feel like they neglected the student body and the ones that really appeared –. They only focused on the IB kids, which I also saw because [my high school] had an IB program and the regular program, and I was

part of the regular student body. They always focused on the IB kids, but they didn't focus on the student body that also deserved the same treatments.

Ava's comments regarding what constituted seeing her counselor "a lot" was perhaps very telling when she reported, "I talked with the guidance counselor a lot throughout the year...I think within those two years, I may talk to her, maybe twice a year, like at the beginning and in the middle, or somewhere along those lines."

In addition to infrequent interactions, some participants also experienced inconsistency in counselor relationships, ensuring they remained weak ties. Jasmine told of her experience at a magnet high school, commenting, "They [the counseling services] weren't the best. I remember at [the magnet school], it was always – they were going through a time, the letters of the names. Then, they would switch our guidance counselors, and it wasn't consistent."

While most participants saw counselors as helpful with finding scholarships for which to apply, there was a disconnect between the advice they wanted from counselors and the advice they received from them. In terms of scholarships, Ava shared simply, "The guidance counseling, it's okay. My guidance counselor, in particular, she was very nice; she was very assisting. She helped me get recommendations for scholarships and stuff like that."

Sarah described, however, how she became aware of the disconnect between what she wanted from her counselor and what she received from her counselor after transferring from her magnet school to a regular high school:

My first three months at [my new school], I came into my counselor's office, and I was crying because I was like, "I'm not fitting in. I don't have any friends." I felt

like she was supposed to be there to help me, but she was like, “I don't know what to do for you,” and I figured, “You're just there to help me with college, but you're not there—” What I had in mind was that she's there for support too and mental health. No, so I had to deal with that on my own. I eventually found friends. I knew that now they were there for college, careers, scholarships.

Students were also looking for help in selecting a college and a specific major.

Sarah pointed out:

At high school, they don't really tell you what to major in, or they don't tell you career paths. They just say, ‘Go to college,’ but they don't tell you what to do. It's just really hard when you don't have any guidance from home or anywhere else.

Tia, who did dual enrollment her last two years of high school, described what she was looking for from a guidance counselor:

Since I was only at the school for two years, for me, guidance counseling wasn't really that helpful, and I don't think it was helpful for my peers as well. Especially for my peers who were with me at the community college for two years. We felt like we didn't get much guidance on choosing a university and knowing what we wanted to do. The guidance counselors didn't really help us with that. The only thing that they talked about was [state-funded merit-based scholarships], like, oh, make sure you do this, this, and this Make sure you get in your volunteering.

Participant-Parent-Alter Triads

In addition to being identified most frequently as the most highly influential alters, parents were at the center of influential social network triads (ego-alter-alter patterns) discussed by participants.

Parents as go-betweens. Parents often served as go-betweens with extended family, the parent's personal network and the broader community. For example, Moon described the interactions between her mom and other family members related to her college decision process:

I know that my uncle talked to my mom. My uncle told my mom that one. My mom talked about it to my biggest brother. They're like really close. My mom was very close to all of us. Since he's the oldest, and you have to be the oldest, so my mom just talks to him a lot.

Rose described this dynamic as well:

One of the last connections I drew had to be between my family friends and my family unit because since I'm a first-generation college student, and I am an only child on top of that, my mother makes a point to say that I am her pride and joy. She, of course, talks about my achievements extensively with family friends. Through the whole process, family friends knew, and they also interacted with her, talking about how, say, "This is good. She did good here," that kind of stuff.

Shay explained that many of her weak ties came through her mom's personal network. She pointed out, "Really all of the connections I have are, if they're not directly, like they're not my parents, then they're all just people I know through my mom's work circle."

Sarah described weak ties more broadly in the community, stating, "I listed a community member who was a representative of the community, who doesn't particularly talk to me, but then they talk to my mom, and then my mom relays that to me." Later she explained this more:

They're just like, "What school is she going to?" They want to see so that they can tell their kids and tell them, "Oh, did you see...so and so's daughter? Oh, she got into this school." It's part of the gossip, but also like, "Okay, we're doing great things as a community. What school did she go to? What major she's studying? What does she want to do? Does she get any scholarships?" They're being nosy but also wanting to find out information to also help their kids. It's a little bit of both.

Alter-parent alignment. At times, alters aligned with parents, creating a triad relationship that reinforced the parental role. Two participants described a type of sibling-parent alignment that seemed to reinforce parental authority, particularly as it related to the notion of parent as payer. In describing her older brother, Moon remarked "my other brother was more of a, do what mom tells you to do because she's paying for college." Jasmine experienced something similar with a younger sibling:

My sister, she's been involved for a long period of time. My sister's also very bossy. Sometimes it seems like she's more in the same role as my parents.... I think she was on the same page as my parents about saving money and what my goals and priorities were.

Alter-alignment also occurred with professionals aligning with parents. Tia may have felt more pressure to apply to and attend a four-year school because both her pastor and parents agreed. Tia remarked:

Unfortunately, since I did apply very late in the season, a lot of the applications were closed. I was just scrolling around the internet trying to find somewhere I could apply because my pastor and my family really wanted me to apply to

university. I felt this pressure to attend university in the Fall rather than the Spring.

Teresa described this professional-parent alignment between her therapist and her parents, “The connection [on the sociogram] was mainly about my parents because it was basically how they interact with each other and what choice they make, and then the therapist just agreeing with them.”

Parents of peers. At times it was the parents of peers who were at the center of a network triad. Shay most clearly articulated two examples of this – one with the parents of peers at her high school and one with the parent of her close friend. Describing parent volunteer career counselors at her high school, Shay explained, “Our guidance counselors they supported us all and stuff like that, but I'd say that they contributed to this really hard or toxic environment of, ‘Oh, where's your kid going to school?’” Later she went on to add:

I felt sometimes I didn't need to tell my business to these women that were going to go gossip with other moms. I also felt some of them were trying to be saviors for some students which was weird. That's how I felt, but I felt that way about the whole school sometimes. It was a good school, just [chuckles] everyone has their issues.

A seemingly more positive experience for Shay included the parent of a friend:

At the time I was really obsessed with University of Pittsburgh, I think. Is that what's it's called? I don't know, Pitt? It's called Pitt. I really wanted to go to school there because they had a great Philosophy program, and I thought I would like cold weather. I'd never left outside of the South. I don't know where I got that idea

from. My close friend and her mom are from New Jersey. They know how it's like there. She [my friend's mom] was like, "Oh, I don't know about that." She drove us up to ___ one day while my mom was at work or something, I can't remember what we were doing. I think it was like a senior skip day, or we had a day off.

The descriptions of the interactions with other parents also demonstrate the importance of communication patterns between participants and alters, which will be taken up below.

Communication Patterns

Participants appeared to have engaged in three levels of communication sharing regarding their college choice decision process: open sharing, limited/restricted sharing, and closed/non-sharing. Likely part of a participant's habitus, these communication patterns influenced social exchanges and the flow of information regarding the college choice decision process. An open-sharing communication pattern was characterized by frequent and un-filtered conversations with alters about their college choice decision process. Jasmine expressed this type of open-sharing pattern among her family regarding her college choice process. "All my family, they always communicate. All the decisions are like everyone knows everyone's business, so it was always talked about." Trent described this open sharing pattern among him and his peers:

When we had already done that [class project], there was nothing really else to do. So, everyone was talking about, 'Okay, well, here's the college that I got into,' or 'Here's when application deadlines are kind of going to come out.' It kind of carried over into my other IB English classes as well. So, everyone was pretty open about where they wanted to go, where they applied to, and where they were accepted to.

Other participants engaged in more limited or restricted sharing patterns. Though Rose described her family as being “extremely supportive of any opportunities I have and anything I succeed in,” she still limited sharing about her college choice decision process with them. Rose noted:

My family unit and family friends, of course, they were able to celebrate those victories with me. They were all very proud of me and very supportive of my ultimate decisions. They had faith in me. I didn't bounce ideas off of them per se. I just let them know about the end result because it was just easier that way.

Teresa was perhaps the least open to discussing her college choice decision process and engaged in a more closed or non-sharing pattern. Perhaps connected to a broader personal habitus, Teresa seemed to associate her closed approach with her introversion, stating:

I'm more like an introvert, so I don't really share much...If it's going to be like something for my future, "Oh, what job do I plan to do? Where do I want to go to college?" Even simple things. Like, what kind of foods do I like and what am I going to plan to make today. I prefer to keep that all to myself, so you wouldn't have to handle the criticism that could ever happen.

Restricted and closed sharing communication patterns appear to be based on comfort level with alters rather than length of relationship and seem to have helped participants manage social exchanges. Although Shay secured admission at a top selectivity school, she refrained from sharing this information with high school peers she had known since junior high. She described the type of open sharing that her peers engaged in before explaining why she practiced a more restricted approach:

There was this girl I knew, and we were all trying to get into really big schools. She wanted to go to Duke. At the time I had applied to NYU and got in, and so I really wanted to go to school there, but I couldn't afford that. I guess, SAT scores, people are slowly moving away from those, but she would go around and talk to people that we knew in our IB program. I wasn't in IB, but I was in mostly AP classes. We would all talk to each other, and we all went to middle school together or just knew each other from high school. She would ask people what their scores were, and people would rank how their chances of getting into different schools, compared to other students in our class that were applying to that school.

I remember my friend at the time, he had gotten in and then some other people hadn't, but he wasn't in IB and stuff like that. He was like, "Don't tell anybody cause I don't want people to think that I'm some affirmative action kid or something like that." People would think that. I don't know if people thought that about me either, but there were only two of us who applied, I think, to NYU. I'm not sure. I don't know. You just kept everything under wraps, or it was everybody knew about it.

Shay's explanation demonstrated how participants in this study intentionally restricted information flow with alters to manage social exchanges. While these participants gained something from their restricted sharing or non-sharing pattern, they also likely reduced the advantages of a higher number of weak ties in their network and limited their access to additional social, cultural, and human capital.

Selectivity and Academic Match

The level of awareness regarding college selectivity levels varied significantly among participants. Not surprisingly, none of the participants who attended a magnet high school or a privileged public high school for all four years of high school ever referenced a two-year college in their choice set. They also referenced higher selectivity schools among their and their peers' options. Of the two participants who gave serious thought to attending a two-year college, one had attended a magnet high school with a competitive curriculum but not for all four years. A couple of participants applied to more selective colleges but were not admitted. The majority of participants never referenced two-year colleges or an awareness of selectivity levels of institutions.

There were clear examples of changes in participants' college choice sets and enrollment decisions that affected academic matching. Changes in matching level seemed most connected to financial anxiety and the related advice-giving conversations with alters, particularly non-family college graduates. This financial coaching occurred in multiple directions helping both to increase and decrease match. Relationship goals were also central to match level changes. While enrollment changes related to family relationships was intentional, the change in selectivity level did not seem to be. Taken together, these examples demonstrate the salience of financial coaching from non-family college graduates for high-achieving Pell-eligible students to enroll in a match school.

For example, Ava wanted to strengthen a family relationship, which helped lead her to the regional state institution she attended, rather than the community college near her home:

I don't mind going to the community college that's right down the street from my mom's house, but at this particular time in my life, I wanted to be closer to my grandma. She's getting older. She's in her 60s. I want to make sure that the relationship that I have with her is very close, so that's when I decided to apply to _____.

While attending college close to family (close to home) is often associated with undermatch, as would have been the case if Ava had attended the two-year college near her mom's, in this instance, moving to be near an extended family member helped Ava enroll in a better match institution.

Increasing Match: College as Investment

“College as investment” coaching increased attendance from a two-year public to a four-year public choice for Tia but did not completely alleviate her anxiety about finances:

[The somewhat selective school in the study] wasn't my original plan for college or university. At first, I wanted to go to [the local community college] to study sonography because I thought it'd be more practical for me. While in high school, I had a lot of fear about going to university. Not in regards to grades because I have the grades, but in regards to finances, so there was that.

Tia went on to share:

Coming close to my graduation day, my pastor had a talk with me after he saw my transcript. He asked why I was going to [a two-year college] when I had such a high GPA. I told him about my fears and insecurities about finances within going to university. He told me not to worry about it. Specifically, he told me like,

“University is an investment.” He used the analogy of buying a house. He’s like, “When you buy a house, you’ll go in debt, but you pay it off eventually. Even if you do go into a little bit of debt while in university, you’ll pay it off eventually.”

That calmed me down and comforted me a bit.

Parent’s commitment to financial risk also eased financial anxieties for participants. For example, Tia shared, “I told her [my mother] about my insecurities, and she told me, “Don’t worry about it. Me and your dad and your stepmother we’ll find ways to help you financially along the way.” She also relayed a story of a friend in a similar situation that demonstrates the lingering presence of her own financial anxiety related to her choice:

We talk to each other a lot about college and university. We still talk to each other a lot right now about it. She’s in community college right now, and she’s going to university soon, and she’s having the same anxieties as me, which is about the financial question of university.

While college as investment coaching, as well as her parent’s reassurances, increased Tia’s level of match, she still might have attended an even more selective institution.

Decreasing Match: No Need for Debt

“No need for debt” coaching decreased attendance from a top national, out-of-state university to an in-state regional public university for Shay. Shay was surrounded by peers going to highly selective schools and gained admission to a highly selective school herself. However, she described her financial anxieties regarding her college choice decision process:

Well, I talked to my parents a lot, because I stress a lot. Maybe I should have mentioned this at the beginning. I stress a lot over money, probably unhealthy for me. I talked to my mom a lot. My dad, he was there for the conversations, he was in the room, but I didn't really talk to him about money, but it was mainly my mom. I was saying, I did all of the like scholarship applications just by myself.

However, it was the advice of a family friend with a terminal degree (J.D.) that seems to have clinched the choice to choose the less selective in-state school. Her friend's mother advised, "Don't waste a lot of money on places like NYU for an undergrad degree.... when you can get just as good education in the state." Shay contrasted this advice from what she heard at her magnet school:

At school it was all really, you have to do the best and have to – It was all about names and stuff like that. It didn't really matter what the money was. I think a lot of the students could afford it, they didn't really think that other people, I don't know. I guess they thought either you could afford it or you're willing to go in debt for it, and I realized I was not willing to go in debt for NYU.... There wasn't really any of that, "save your money" type of thing, or I didn't experience it.

Though Shay had never heard a *no-debt perspective* discussed at her magnet school, she was more inclined to follow the advice of the non-family weak-tie whose advice aligned with her own financial conceptions of debt, which resulted in undermatch.

Lack of Debt Philosophy Coaching

Perhaps the absence of discussing how college loans and debt worked decreased attendance from an out-of-state and/or a private institution to an in-state regional public university for Moon. While Moon listed a variety of reasons for attending the in-state,

local regional institution, the discussion of finances with her high school counselor seemed especially salient:

My high school counselor did know that I was accepted to all the colleges I applied to. I told him about that.... I feel like if it wasn't for him, I probably would be at [the private university] right now.... I got almost a full scholarship, but I wanted to go to [the out of state university]. My mom...she wanted to give me what I wanted to do. I had told her that it was okay even if I didn't go ... because I would have no out of state tuition.... "I can still go to [the private university] because I've got a scholarship, and I will work." But my guidance counselor calculated everything, and it was like...at the end of my four years, I would have about \$4,000 to give to them because the school is expensive.

While it is difficult to assess a lack of debt coaching based on this one exchange, it supports the broader pattern related to addressing the financial anxiety of Pell-eligible students. Taken together these examples demonstrate the importance of financial coaching from non-family college graduates for high-achieving Pell-eligible students in their college choice decision process overall and in choosing a good academic match school.

Conclusion

This chapter presented the major findings of a qualitative investigation into the social network influence on the college choice decision process for high-achieving Pell-eligible students. Consistent with previous findings, this study found that members of participants' social networks could serve to constrain the college choice set (Roderick et al., 2008; Avery & Kane, 2004). Participants' decision-making styles, combined with

alter advice-giving patterns, influenced both the choice set and the final enrollment decision. Parents and teachers were the most influential network alters due to frequency of contact, as well as their parental authority and expertise statuses respectively. It was the coaching of non-parent influencers, though, that most led to selectivity level changes that both increased and decreased match. Addressing financial anxiety particularly related to student debt seemed most salient to increasing match. Using open, restricted/limited, and restricted/non-sharing patterns of communication, participants at times intentionally restricted information flow with both strong and weak ties to limit or manage social exchanges. The implications and recommendations based on these findings are discussed in the next chapter.

CHAPTER V

Discussion

To date, most studies of college undermatch have been focused on the factors that influence high-achieving Pell-eligible students to constrain their college choices to low-cost institutions close to home – background characteristics, information differentials, geographical factors, and the influence of high schools. While the influence of parents, teachers and peers has been documented in the literature (Dillon & Smith, 2017; Engberg & Allen, 2011; Hossler & Gallagher, 1987), little has been studied regarding how that influence occurs. This study sought to investigate those relational dynamics to find avenues to help additional high-achieving Pell-eligible students find their way to more selective schools.

Following an instrumental case study design, this study used participant-aided sociograms within one-on-one interviews to investigate the subset of individuals Pell-eligible honors college students considered influential in their college choice decision process. The study answered the following questions:

1. How do members of a high-achieving Pell-eligible student's social network influence their college choice decision process?
2. What is the nature of the interpersonal interactions between and/or among students and the various relational influencers of college choice (e.g., parents, mentors, coaches, admissions representatives, etc.) as perceived by high-achieving Pell-eligible students?

3. Which interpersonal interactions between and/or among students and their personal college influence network have the most salience for high-achieving Pell-eligible students in choosing a college's selectivity level?

Summary of Findings

In this study, a typology of alter advice-giving styles (directive, introspective, networking, explanatory and supportive) that blended with participant decision-making styles (autonomous, collective, blended) to shape the college choice decision process emerged. Participants' college influence networks served both to constrain the participants' college choice set and expand that choice set to include more selective institutions.

Parents of participants often constrained choices early in the college search process limiting choices to in-state public institutions. These limitations on the early choice set were often set through directive advice giving, which most participants felt obligated to follow based on the authority nature of the parent-child relationship. While consistent with the extant literature on low-cost, close to home search strategies for low-SES students, this study revealed that geographical decisions were often driven by the economic assumptions regarding in-state tuition pricing and state-sponsored savings plans and state-sponsored merit-based scholarships.

After parents, the next most influential set of alters was teachers. The influence of teachers is at least two-fold. Teachers are college educated and have daily or near daily interaction with students. While teachers did not help constrain or expand the choice set, they were critical in helping participants understand the process and increased feelings of competence in navigating the college choice decision process. Other college-educated

non-family alters (e.g., pastor, friend's parent) influenced students to expand their choice set from two-year to four-year colleges and influenced participants to forego a highly selective college for the somewhat selective in-state college in the study.

To navigate the college choice decision process, participants used a variety of communication patterns with alters, including open, restricted/limited, and restricted/non-sharing patterns of communication. There was some evidence that patterns aligned with personal preference or habitus. For example, one participant noted being a very private person and not sharing much information with others regardless of topic. Other participants engaged in varying levels of sharing relative to the closeness they felt with alters. At times participants intentionally restricted information flow with both strong and weak ties to limit and manage social exchanges.

Finally, financial coaching from non-family college graduate alters appeared to be the most connected to college match. Seemingly most salient was advice related to debt, along with alters' perceptions of the value of higher selectivity schools. College as investment coaching helped to increase match, while no need for debt coaching contributed to decreasing match.

Implications for Theory

This study has theoretical implications for the components in the assembled framework. It is assumed that students with access to more college-going capital, either through a denser network of college-going high school peers or through weak ties have more access to college going information and are more likely to enroll in a higher selectivity school. However, the findings of this study demonstrate that a larger college going network and access to college-educated weak ties does not always translate into

accessing the type of capital needed for enrolling in a higher selectivity institution. These implications will be discussed further following a discussion of the alter patterns that inform the college choice models used in the conceptual framework.

College Choice

Perna's proposed conceptual model. The patterns that emerged within the study's four levels of influence loosely correspond with the first three layers of Perna's model as indicated below:

- level 1/very influential-high – layer 1/habitus
- level 2/very influential-low – layer 2/school and community context
- level 3/somewhat influential-high – layer 2/school and community context
- level 4/somewhat influential-low – layer 3/higher education context

The correspondence between the levels of influence in this study and the layers in Perna's model lends support for the conceptualization of the layers, as well as their order. In level 1/very influential-high, both elements of individual habitus and family habitus seemed to play a role in participants' college choice decision processes. For example, personal communication styles and ingrained decision-making styles affected how and with whom students discussed their college choice decision process. Additionally, dynamics like sibling-parent alignment reinforced parental perspectives strengthening the direction of that influence.

The next two levels of influence within the study correspond with Perna's second layer, school and community context. However, there were distinct patterns between these two influence levels, with teachers more often in level 2/very influential-low, and counselors and peers more often in level 3/somewhat influential-high. These findings

suggest that classroom experiences and daily interaction with teachers may warrant more differentiation in this layer. The distinct influence of teachers found in this study aligns with previous research that teacher mentors are particularly effective for disadvantaged youth (Erikson et al., 2009) and that students who have strong commitments to teachers and who discuss college at high school more frequently enroll in good match colleges (Roderick et al., 2008). The higher influence of teachers, though, might not hold across SES levels, and additional studies with higher-SES participants are needed to determine that.

The final level of influence, level 4/somewhat influential-low, correlated to some degree with Perna's layer 3, higher education context. While level 4/somewhat influential-low included alters from a variety of categories, and participants placed college faculty/staff in all four levels of influence, the categories share of relative frequency was highest for level 4/somewhat influential-low. However, in terms of absolute numbers, this pattern should not be overstated.

Though participants did not use industry language in their references, higher education marketing and recruitment practices were noted by participants. Though a few advisors and tour guides were mentioned, the most notable aspect of the higher education context was the involvement of faculty in the college recruitment process. While it is possible that subsequent experiences with those faculty following matriculation influenced recall, participant references were very specific to meaningful moments during the college search process. These references included personalized emails from the dean of the honors college and personal encounters with faculty at recruitment events. Surprisingly, college admission counselors were less frequently cited in this study.

Finally, higher education location also mattered with most participants referencing in-state choice sets.

While there was no influence level that corresponded with Perna's layer 4, social, economic, and policy context, elements of this layer were referenced by participants in relation to specific alters. These references demonstrate how the layers overlap in shaping student college choice. For example, state savings accounts and state-sponsored merit-based scholarships helped shape parents' preferences for in-state choice sets. State-sponsored merit-based scholarships also shaped the interactions between counselors and participants.

While states have a vested interest in keeping intelligent and resourceful young adults within the state, the pull of state-sponsored savings accounts and scholarships can work against high-achieving Pell-eligible students attaining degrees from highly selective schools. With proximity to highly selective schools having an impact on enrollment, high-achieving Pell-eligible students living in states outside of the northeast, which accounts for 46% of the most selective schools (Griffith & Rothstein, 2009), are already disadvantaged in terms of college match. Adding financial incentives for students to enroll within a state increases this disadvantage. It also adds to the difficulty of teasing out the regional differences in undermatch discussed by Rodriguez (2015).

Hossler and Gallagher's Model. While Perna's proposed model is more holistic, Hossler and Gallagher's (1987) three-phase model still provides a framework for the overall sequencing of the college choice decision process and the components that play a key role in each of those phases. Hossler and Gallagher (1987) noted the importance of significant others in the predisposition phase. The findings of this study align with that premise but also demonstrate the importance of both strong and weak ties throughout the search and choice phases as well. There are also meaningful differences among significant alters in terms of when their influence is most felt. Parents, generally perceived as the most influential of all, are frequently setting parameters for the search process, while teachers are coaching students regarding college itself, and friends and extended family are often providing the emotional support needed throughout that process.

Hossler and Gallagher's (1987) model is considered interactive between students and organizational characteristics at both the high school and collegiate levels, and teachers would be considered part of the organizational structure of high schools. However, this implied influence does not seem to capture the importance of teachers found in this study, where teachers were most frequently placed in level 2/highly influential-low and consistently referenced in regard to understanding college and the college process.

Additionally, the phases of the college choice decision process are not discrete (Cabrera & La Nasa, 2000). Rather, students move back and forth between search and choice as students add new options and engage in process of elimination thinking. In this study, participants demonstrated that their predispositions toward financing college and

toward the type of college campus they were looking for were still influential throughout the search and choice phases.

Thinking of Hossler and Gallagher's (1987) three-phase model as having multiple progressions may better capture the type of social interactions found in this study. For example, while predisposition impacts students' perceptions of college and early intent to enroll, predisposition also affects student perceptions of college financing and perceptions of what determines a good "fit" institution. Thus, predisposition shows up prior to search, throughout the search phase and in the choice phase.

Similarly, students constantly take in information about which colleges are "appropriate" for them. Thus, the search phase begins with unintentional strategies before progressing to intentional search strategies, even if these strategies are a bit haphazard or random. As the search phase progresses, students actively engage in ways that either expand or limit the sharing and receiving of information to help them navigate the social dynamics of the college choice decision process.

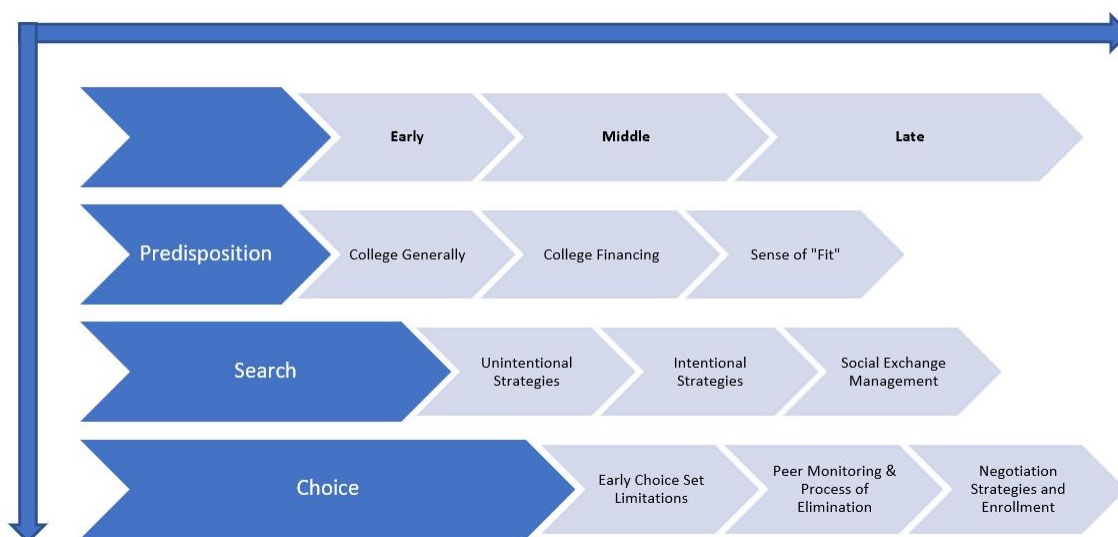
The choice phase also varies chronologically. The choice set is often limited early for Pell-eligible students to low-cost, in-state institutions. As students progress through the choice phase, they continue to make a series of choices eliminating some institutions and adding others, all while monitoring the choices of their peers. Finally, in conjunction with the final enrollment decision, students negotiate related decisions with their parents and peers, and even with themselves. For example, one participant negotiated with parents to live on campus in exchange for attending a local college, another negotiated with a friend to attend an institution together, and one participant self-negotiated to trade

funds saved by attending a local college and living at home for the funds needed to participate in study abroad.

Figure 6 offers a re-envisioning of Hossler and Gallagher's (1987) three-phase model of predisposition, search and choice as having a dual progression that happens throughout the college choice decision process.

Figure 6

Envisioned Dual Progression College Choice Decision Model



Social Reproduction

This study demonstrated how individuals can use agency in ways that help perpetuate existing inequities. While many of the participants had access to the social capital available through magnet schools, they often did not take advantage of that capital. For some, this meant intentionally choosing to leave a magnet high school for a less stressful academic environment to reduce stress and participate in leadership and extra-curricular opportunities. The pattern of not taking advantage of available capital

was particularly noticeable for one participant who fit most aspects of an achievement-typical student. Attending a magnet high school in a large city for all four years of high school, the participant not only had the credentials to attend a highly selective college but had also been admitted to one. However, disliking the “gossipy” nature of her higher-SES peers and their parents, the participant intentionally restricted interactions with these weak ties to avoid negative social interactions.

Ovink and colleagues (2018) have argued that if limiters are motivated by purposeful choices, then those choices should be deemed autonomous. Thus, in leaving a magnet school or in limiting social interactions, participant actions can be seen as autonomous because they were intentional. Regardless if autonomous or not, though, leaving the magnet school and the lack of sharing information to avoid unwanted social interactions both limited access to social and cultural capital that might otherwise have been available.

Strength of Weak Ties

Granovetter (1983) has called for additional studies of the exact circumstances under which individuals use weak versus strong ties, including which ties actually serve as bridging ties. With some exceptions, participants demonstrated a tendency to list strong ties as more influential than weak ties. In defining “highly influential” as discussing college often, as well as having a high impact, there was a built-in association between frequency of interaction and influence. It is possible that additional weak tie alters were influential in participants’ college choice decision processes, but that participants did not list them or discuss them due to the infrequency of contact. It is also possible that high school students are not (yet) accustomed to reaching out to and/or

interacting with those they do not know well. Understandably, weak ties were most significant when “bridged” by a strong tie. For example, parents served as bridging ties with their social networks, and friends served as bridging ties to their own parents. In fact, it was weak ties bridged by strong ties that mostly impacted changes in academic match, although that influence occurred in both directions.

Competitive Curricula

There were two unexpected findings in the data concerning competitive curricula that could not be linked directly to college choice but that may have a strong connection to college match decisions. The first was related to participant decisions around AP and dual enrollment courses. Participants showed a strong propensity to choose the academic option that gave them the most surety around the outcome. For example, dual enrollment was often preferred over AP because the student was guaranteed credit and not dependent on a high-risk test at the end of the course. Whether this is an indicator of low-risk tolerance, the desire to maximize one’s time, or something else is difficult to determine from the data, but a preference for a lower-risk environment, a safe choice, or a “sure thing” could be connected to the selection of a less selective school.

The second finding described participant attitudes toward competitive curricula overall. Participants who left magnet schools because of a family move and who enrolled in less rigorous schools suddenly found time to participate in extra-curricular opportunities not previously possible with the time commitment of their studies. Others intentionally left their magnet school to escape the pressures of the curriculum and/or to create time for other opportunities. Having some distance from her high school experience, one participant noted that looking back she could now see the unhealthy

environment of her highly competitive high school. It is possible that participants carried these mindsets, whether intentional or not, into their college choice decision making process and looked for a university that was less selective to minimize stress and/or allow them time to participate in more co-curricular experiences.

Implications for Policy and Practice

College Financing Initiatives

This study suggests that a new approach to college financing is warranted. It is imperative that high schools and colleges work together to address financial anxiety as it is critical both to student mental health and to increasing college match. While it has been noted that high-achieving Pell-eligible students can receive more aid as a college's selectivity level increases, award amounts are not provided until after students have enrolled at a particular college. This timing is well after students and their families have already restricted the college options they will consider based on finances. For the families of Pell-eligible students, the financial aspect of college attendance is often one of the first considerations to be made regarding college attendance. Rather than expect students and their families to trust in *potential* financial aid, policy makers and practitioners need to rethink aligning the financial stages of college enrollment to fit this finances-first conception.

Currently, most college financing workshops advise attendees that because of in-state tuition rates, public in-state schools will be least expensive (N. McCoy, personal communication, June 30, 2021). This advice aligns with parental assumptions that in-state institutions will be less financially burdensome, which may not be accurate. Private counselors, however, have strategies to address this mismatch timeline between families

and institutions. These counselors coach students to email *any* college of interest to request the typical aid amount for a student who matches their personal academic profile. Responding colleges do not provide a guarantee of financial aid, but they do provide useful information for families to see the type of aid that would likely be available to them at a particular institution. Such interactions can help expand the types of institutions students would not otherwise have considered due to finances.

One novel approach for practitioners and policy makers to explore is how the notion of being “pre-approved” for a car or house loan could translate to the college financing landscape. Hoxby and Turner’s (2013) ECOC intervention has already demonstrated the increase in applications and the likelihood of enrolling in a peer institution with even semi-personalized information. Could all Pell-eligible students receive standardized profiles that would allow them to compare typical award amounts across various types of institutions before starting to apply to colleges? Such a practice could save colleges time in responding to individual emails while broadening the reach of this helpful practice. Taking this idea further, could there be a Pell-eligible student clearinghouse that would allow students to view colleges which match their academic profile, along with estimated award amounts? Perhaps a two-way tool could also allow college admissions recruiters to see eligible students from all over the country who fit their school’s profile?

Debt coaching is another critical aspect of the financing landscape for Pell-eligible students. Currently, there are programs related to the acceptance of student loans, but these programs are not required until after a student has been offered and accepted one or more loans. These required programs are typically completed just before loan

disbursement. For most people, it is not possible to absorb detailed financial information quickly enough to process thoughtfully or realistically. More importantly, this type of financial coaching is taking place after college choice sets have been constrained and enrollment decisions have been made.

Rather, training or educational programs that explain how student loans work, ways to determine reasonable loan amounts and how repayment is made should be delivered in the junior year of high school. Such programs could serve to educate not only students but also their families and help broaden college options for Pell-eligible students. The National Endowment for Financial Education (NEFE) (2018) has noted that:

For most college-bound high school students, financing postsecondary education is their first large financial decision. However, many students don't have the necessary knowledge to appropriately address their options. Less than one-third know how to compare loans, over half do not calculate future payments, and over half wish they could change their college financing decisions. (p. 1)

While the NEFE (2018) study did not see changes in the likelihood to attend college or the level of selectivity attended based on exposure to financial education, it did show that students with a low family contribution (\$5,000 or less) were more likely to apply for aid and more likely to accept grants and subsidized loans over private loans. They also had lower credit card usage rates and worked fewer hours while in college (NEFE, 2018).

Teacher and Counselor Preparation Programs

In addition to shaping college financing conversations, this study's findings could also help reshape teacher and counselor preparation programs. Though school counselors are often seen as more influential in the college choice decision process since they guide students regarding college academic requirements and scholarship opportunities, the daily interactions students have with teachers help create stronger relationships and more opportunities for interaction around college conversations. Thus, teachers could have more influence in guiding students through the college choice decision process, especially for Pell-eligible students.

To improve college counseling at the high school level, secondary teacher preparation programs should require at least some training regarding the college choice decision process and college admissions. Ideally, these programs would include coursework related to college match, coaching students through the college search process, and what students need to understand about college majors before enrolling in a college. This training could also include introduction to financial philosophies and the availability of financial resources, especially at more selective colleges.

Surprisingly, it is not just secondary teacher education programs that have not included college decision/enrollment coursework, though. In 2004, the National Association of College Admission Counseling (NACAC) found that not even 10% of counselor education programs offered training in college admissions or financial aid. Beginning around 2016, NACAC's special interest group on graduate coursework drew attention to this issue and set an objective that every counselor training program in the United States would include a specific course on college counseling (NACAC, 2016).

As college counseling coursework increases, whether in counselor or teacher education programs, attention should be given to increasing the frequency of college-related interactions with students. For example, counselors might visit classrooms more often, walk high school hallways between classes or conduct more group workshops, especially evening sessions with both students and parents.

Implications for Further Research

With a qualitative method design that may be unique to the college choice literature, this study has new implications for future research. Similar studies with the selection of a different participant sample would prove useful in reaffirming and/or contextualizing the findings of this study. For example, do the patterns of advice-giving and alter influence level remain consistent with another group of Pell-eligible participants? Do they differ with a group of high-SES participants? How do results compare at a different type of institution or one in a state without state-sponsored scholarships or savings plans? Adjusting other delimiters would also help further explicate results. For example, how are the influence level distributions by alter type affected if frequency of discussion is removed from the definitions of “very influential” and “somewhat influential”?

Other design changes would also advance the research regarding alter influence on college choice and college match. For example, using the same participant-aided sociograms within interviews with a longitudinal design and a sample of high school students would provide a real-time view of the process and eliminate the possible effect of college matriculation on the influence level of college faculty/staff. A quantitative design could be used to test the validity of the advice-giving typology, or another

qualitative study could help refine the typology. Studies that explored the college choice decision process from the viewpoint of parents or teachers could also inform both theory and practice, such as studying how high school teachers perceive their role regarding college advice-giving. Finally, using another theoretical or conceptual framework, such as symbolic interactionism, would be a way to explore the communication patterns that emerged in the data.

Summary and Conclusion

College academic undermatch, the decision to attend a less-selective college than one qualifies for, is a complex phenomenon. Though this pattern of attendance occurs for students of all backgrounds, it disproportionately disadvantages high-achieving Pell-eligible students. Undermatch is shaped by a variety of inter-connected factors: a student's background and family characteristics, lack of college and financial information, geographical location, and whether a student attends a high school with a college-going climate. While the choice to undermatch may be intentional to stay close to family or limit the need for student loans, that choice is usually made without an understanding of other long-term implications such as graduation rates, time to degree, and post-college employment and income opportunities.

Attending a college with a good academic match is also influenced by how many college-going individuals are in one's social network (Dillon & Smith, 2017; Engberg & Allen, 2011). Using assemblage theory to form a working arrangement among college choice, social reproduction and strength of weak ties, this instrumental case study explored with whom high-achieving Pell-eligible students discussed their college choice options and who they perceived as influencing their college choice decision process. It

also explored the nature of the interactions between/among the participants and the subset of individuals in their college influence network and how interactions may have influenced the level of academic match in their final college enrollment choice.

The site selected for this study was the honors college at a somewhat selective public regional institution in the southeast United States, with an average SAT score of 1200 or higher. Using participant-aided sociograms within interviews afforded an opportunity for participants to identify the alters they considered both highly influential and somewhat influential in their college choice decision process and to place alters within more differentiated levels of influence. Using both constant comparison analysis and classical content analysis allowed the researcher to analyze both the interview data and the sociogram data.

The study found that participants' decision-making styles combined with the advice-giving patterns of alters to influence both the choice set and the final enrollment decision. The most influential alters were parents who shaped the college choice set most significantly by constraining options early. The next most influential set of alters was teachers who had frequent, near daily contact with students and who offered specific advice regarding what college was like. Participants used a variety of communication patterns ranging from being fully open about their process to discussing it only with their parents and high school counselor. In fact, participants sometimes intentionally restricted information flow to limit and/or manage social exchanges. Addressing financial anxiety, particularly related to student debt, seems to be the most salient factor to increase academic match for high-achieving Pell-eligible students.

From a theoretical standpoint, the findings provide more context for Granovetter's strength of weak ties theory and for social reproduction theory. They also inform both college choice models used to frame the study. More specifically, the findings reinforce Perna's proposed conceptual model of college choice, reinforcing the order of the layers of the model and suggest a new dual progression for Hossler and Gallagher's originally conceived three-phase model of college choice. The findings also suggest practical considerations in how college financing is addressed at both the institution and national levels, and in how teachers and counselors are trained regarding college admission and financial aid information. Finally, the study's design and findings suggest a variety of new research opportunities to conduct contrasting or complementary studies that could be used to further both the college choice and college undermatch literatures.

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APPENDIX A

Recruitment Email Content

Re: Voluntary Research Participant Opportunity

Dear Honors College Students:

You are invited to participate in a voluntary research study... [college-specific details].

This study is open to all Honors College students. I would also like to extend a special invitation to students who are the first in their families to attend college, those who have received Pell Grants or other need-based scholarships, and those who are current first-year students.

Participation in this study involves a two-hour audio-recorded interview in which you will:

- Answer questions about why you enrolled in _____'s Honors College
- Complete a sociogram activity about who influenced your decision to attend _____
- Answer questions about your experiences since enrolling at _____

Each participant will receive a \$5 dining card as a thank you for participating in the interview. You can read more about what to expect and any potential risks of participation in the attached Informed Consent Form.

Remember, this is completely voluntary. You can choose to be in the study or not. If you would like to participate in this study, please contact Ms. Perkins at _____ to schedule an interview time.

For additional information about this study, please contact [college-specific details].

Thank you for your consideration, and once again, please do not hesitate to contact [college-specific details] if you are interested in learning more about this Institutional Review Board approved project.

Dean, Honors College

APPENDIX B**Participant Intake Form**

First Name: _____

Last Name: _____

Preferred Pseudonym: _____

Race/Ethnicity: _____

Gender: _____

Preferred Pronouns: _____

Class/Standing Year: _____

First in immediate family to attend college? Yes No

Pell Grant recipient? Yes No

Other need-based scholarship recipient? Yes No

APPENDIX C

Interview Protocol

Background and College Choice

1. Tell me a little about yourself.
 - a. Probe: What is important to you, what you're studying, what you're interested in...
2. How did you come to be enrolled in the Honors College at this university?
 - a. Probe: How did you learn about the University and/or its Honors College?
 - b. Probe: What was important to you about the University and/or its Honors College?
3. Tell me a little about your family.
4. How would you describe your high school?
 - a. Probe: In terms of academic rigor; counseling services; college-going culture...

Sociogram Network Activity

1. Describe briefly the multi-part activity and provide instructions for "naming" participants so that real names are not used.
2. Explain the difference between "somewhat influential" and "very influential":
 - a. *Very influential*: People with whom you regularly discussed your college options and who were significantly influential in your college choice.
 - b. *Somewhat influential*: People with whom you ever discussed your college options and who were generally influential in your college choice.
3. Provide Name Generation Template, "Very Influential" side up.
4. Participant completes "Very Influential" side of Name Generation Template.
5. Participant completes "Somewhat Influential" side of Name Generation Template.
6. Provide the Network Organizer Template and give the following instructions:
 - a. Place name tags on the lines, not between them.
 - b. The circles represent level of influence, so place the individuals who were most influential closest to you on the inner circle and work outward.
 - c. Place people who know each other close together.
 - d. Rearrange ties until you are satisfied.
7. Provide instructions regarding connections:
 - a. Draw lines between individuals who interacted with one another.
 - b. Place arrows to represent the direction(s) of those interactions.
 - c. Draw circles around any "cliques."
8. Confirm participant is satisfied with sociogram.
9. Take a digital photo of the sociogram.

Interpreting Questions

1. When you constructed your sociogram, you were asked to identify the individuals with whom you interacted during your college choice process who had an influence on your choice. Tell me more about the individuals you listed and why you placed them where you did.
 - a. Probe: What advice did they give or what role did they play? To what extent did you act on their advice?
 - b. Probe: Who did you talk to about: financial aspects of college choice; academic aspects; social aspects?
2. Give specific reasons you listed _____ as “very influential” or “somewhat influential.”
3. Tell me more about the connections you drew between various individuals.
4. Is there anything else you would like to add or any additional comments concerning what we have talked about today?