

Multiple Supports, Multiple Settings: Introducing the Ecological Model of College Access

Bernadette Doykos

Department of Human & Organizational Development

Peabody College, Vanderbilt University

230 Appleton Way, Box 90 Peabody

Nashville, TN 37203

Abstract

Over the course of the last thirty years, many scholars have pursued an array of important questions regarding the continuing gaps in college access. Despite nearly universal rates of postsecondary aspirations, there is evidence in a meaningful gap in the total proportion of students who enroll in higher education. Such differences are due, in large part, to the influence of social and cultural contexts on students' access to opportunities and support throughout the college access process. Correspondingly, in recent years, school, community, and federal policies have shifted to endorse a "college for all" ethos, rooted in assumptions of students' exposure to perfect information and the temporal linearity of the college access process. However, a number of studies have emerged bringing into question the essential assumptions of seminal college access models. Thus, I introduce the Ecological Model of College Access. The model extends existing models of college access and choice in three important ways. First, it situates the college access process amidst the ecological model, accounting for the role of students' experiences within and across their various contexts. Second, it expands the notion of support to illuminate the ways in which students tap into different varieties of support at different points in their college access process. Finally, the model challenges the assumptions of linearity with the introduction of expanded steps and by highlighting that the combined influence of their experiences and developmental trajectories may introduce challenges at various points throughout the process.

Multiple Supports, Multiple Settings: Introducing the Ecological Model of College Access

Over the last four decades, the number of students pursuing postsecondary education has skyrocketed. Economic changes have spurred the need for a highly educated workforce to ensure that the United States remains competitive in the global marketplace. Accordingly, estimates predict by 2020 more than two thirds of all jobs will require postsecondary training, as compared to less than one third of all jobs in 1973 (Carnevale, Jayasundera, & Hanson, 2012). Between 2000 and 2010, total enrollment across all postsecondary institutions—including two- and four-year colleges—increased by 37% (US Department of Education, 2012), with evidence of increased enrollment across all student subpopulations (e.g., black, white, and Hispanic students; low income and high income students) (Aud, Fox, & KewalRamani, 2010). This surge in enrollment is also a byproduct of the cross-sector investment by politicians, scholars, and business leaders, who tout the promise of higher education as a primary tool for social mobility and the cornerstone of ensuring that the United States remains competitive in the global marketplace (e.g., Duncan, 2011; Obama, 2015).

Parallel to the emergent rhetoric of the promise of higher education, there is evidence of the “college for all” movement, which promotes postsecondary education as a realistic goal for all students. The national commitment to “college for all” manifests in many ways across students’ multiple environments including: the expansion of federal and state sponsored scholarship opportunities for all students (Dynarski, 2000; Heller & Marin, 2002) and school-level creation of a college going culture (Knight, Norton, Bentley, & Dixon, 2004; McDonough, 1997; Sokatch, 2006). The assumptions of “college for all” perpetuate the belief that students have uniform access to college preparatory opportunities and support, independent of their

individual backgrounds and school characteristics, thus eliminating the historical barriers to higher education (Glass & Nygreen, 2008).

In the present paper, I seek to holistically examine the college access literature that corresponds with the expansion of “college for all.” I introduce the Hossler and Gallagher Model of College Choice (1987) and identify its role in shaping the empirical work surrounding college access and choice over the last three decades. I summarize the foundational components of the model, discuss the core assumptions, and highlight its strengths and limitations as a framework for college access research. In response to the flaws that underlie in the model I propose the Ecological Model of College Access, which accounts for a more complex understanding of college access. Cumulatively, the updated model highlights how students’ multiple contexts influence their exposure to and connections with various kinds of support that facilitate their journey to college. I conclude by discussing implications for future research.

Examining Existing Theoretical Models of College Access and Choice

Over the last thirty years, concurrent with the expansion of higher education enrollment, there has been a proliferation of literature that examines college access and choice.

Cumulatively, these studies provide robust foundation for understanding the preconditions that inform students’ successful navigation of the postsecondary pipeline. These include the pursuit of a college preparatory curriculum (Adelman, 2006), the completion of discrete steps necessary to make oneself college eligible (e.g., maintaining a college eligible GPA and graduating from high school) (Avery & Kane, 2004), and developing a familiarity with the diverse array of higher education options (Hill, 2008). However, few studies examine college access as a cumulative process, spanning both time (e.g., K-12) and the multiple environments students engage with throughout their pre-college experience (e.g., home, school, community) (Klasik, 2012). Instead,

students next steps after high school graduation are often thought of as the byproduct of individual behaviors and choices, ignoring the dynamic institutional forces that influence those behaviors. This is due, in large part, to the foundational theoretical models that undergird the majority of college access literature, including Hossler and Gallagher's (1987) Model of College Choice. In the following section, I offer a brief introduction to the model and examine its flawed assumptions.

Hossler and Gallagher's Model of College Choice

Throughout the 1980s there was an observable increase in the literature focused on access and choice in higher education. Prior to this time, higher education scholars limited their research studies to market research methods, adopting an institutional lens to create a broader understanding of enrollment trends (Hossler & Gallagher, 1987). The majority of research stemmed, primarily, from three scholarly fields: sociology, psychology, and economics (Bergerson, 2009). Sociological studies sought to isolate individual level variables (e.g., socioeconomic status, race, gender, academic achievement) that informed one's likelihood to attend college. For example, in his study of college selection, Hearn (1984) found a significant effect of both academic achievement and socioeconomic status on college enrollment, concluding "the rich become 'richer' while the... 'poor' become poorer" (p. 22). Psychological studies (e.g., Nowicki & Duke, 1974) focused more on the conditions and climate of higher education (e.g., location, size, cost of attendance). Finally, economic studies (e.g., Kohn, Manski, & Mundel, 1976) constructed college selection as a rational choice during which students assessed the perceived investment require to college against the anticipated long-term reward.

As students began to enroll in higher education at increased rates and the narrative of its role in social mobility became more prominent, the focus of college access research moved away

from enrollment forecasting exclusively. Scholars began to develop studies aimed at understanding the steps students needed to complete to secure college admission. Concurrently, several models of college choice emerged (e.g., Chapman, 1981; Hanson & Litten, 1982; Kotler & Fox, 1985). The theoretical models separated themselves from earlier empirical work in that they explored how students' background characteristics interacted with institutional variables to inform their choice. Of these early models, Hossler and Gallagher's College Choice Model (1987) emerged as the most popular and continues to be used widely (e.g., Roderick, Coca, & Nagaoka, 2011).

Culminating from an extensive review of empirical literature, Hossler and Gallagher's (1987) model highlighted three discrete, linear phases that combine to construct the path to college choice: predisposition, choice and search. The successful completion of each of these steps results in students' matriculation into an institution of higher education following their high school graduation.

Predisposition. As the first stage in the model, predisposition lays the foundation for students' postsecondary pursuits. Hossler and Gallagher (1987) define predisposition as "a developmental phase in which students determine whether or not they would like to continue their education beyond high school" (p. 209). Students are expected to solidify their postsecondary predisposition by the tenth grade. Hossler and Gallagher identify a number of variables that may influence students' development of postsecondary predisposition, including socioeconomic status, the perceived costs and returns of attending college, and academic performance; however, they fail to discuss how these variables interact with their model. Current literature operationalizes predisposition as either students' indication of postsecondary

aspirations or expectations, and several studies conflate those two terms (Hurtado, Inkelas, Briggs, & Rhee, 1997; Koyama, 2007; Goyette, 2008).

Search. Upon solidifying their predisposition towards higher education, students next engage in an active college search. The search phase is defined as the time in which “potential matriculants start to seek more information about colleges and universities” (Hossler & Gallagher, 1987, p. 213). During the search phase, students receive information about institutions of higher education and begin to make sense of their diverse capacities (Bergerson, 2009). Hossler and Gallagher (1987) note that the search is not a “static process for all students” (p. 214), and cite individual level variables, such as parental educational attainment, as influential to their experiences in and completion of this stage. By the conclusion of the search, students ideally have developed an enhanced understanding of the array of postsecondary options and identified a subset of schools that will best meet their educational and career goals in addition to their academic, social, and financial needs.

Choice. Hossler and Gallagher’s (1987) Model of College Choice culminates in a third and final phase: choice. Choice is the result of “an interaction between students and their attributes and increasingly specific information about institutional quality, net price, and academic programs” (p. 218). More simply stated, a range of factors inform students’ postsecondary choice, including their financial preparation to accommodate the increasing costs of college, academic record, and social and emotional readiness to make the transition (Conley, 2008). The final set of schools to which students apply are characterized to be the best matches for their academic, social, and economic needs to thus facilitate a successful transition to college (Hill, 2008; Hoxby & Avery, 2012; Smith, Pender, & Howell, 2013). However, as I will examine in the next section, these assumptions overlook how institutional and structural forces that frame

their choice.

Unpacking the Assumptions of Hossler & Gallagher's Model of College Choice

Over the last three decades, Hossler and Gallagher's (1987) three-phase model has been widely cited. It serves as a convenient framework when considering the path to higher education; however, it vastly oversimplifies the college access process. This is due, in large part, to two assumptions that drive the model: 1) that college access is a linear process consisting of three discrete steps and 2) that rational choices theory drives students' decisions regarding higher education.

Assuming temporal linearity. Hossler and Gallagher's (1987) Model of College Choice takes a linear orientation towards understanding college choice. Each phase is discrete and sequential. However, few students, independent of their backgrounds, experience such a seamless process (Bergerson, 2009; Klasik, 2012). Rather, a range of obstacles and advantages that students encounter across their multiple contexts combine to inform their pre-college experiences and, thus, their postsecondary journey. For example, intersections of geography, race, and class frame students' opportunities as well as their exposure to individuals familiar with higher education who help them draw connections between short-term actions and long-term goals (Farmer-Hinton, 2008). These experiences manifest as destabilizing forces that threaten the assumption of linearity. Thus, understanding the dynamic nature of the college access process is critical. Students' experiences, as informed by their social ecological contexts, pose important differences and suggest that students' path to college access is far more complex than three steps.

Rational choice theory. In addition to a foundational assumption that all students embark on a linear path to higher education, the Hossler and Gallagher (1987) Model of College

Choice is grounded in the assumption of rational choice theory. Rational choice theory posits that “individuals act in ways that maximize the likelihood that their preferences will be satisfied, given the constraints they face” (Grodsky & Jackson, 2009, p. 2364). The model asserts that when individuals make a major decision (e.g., the pursuit of a postsecondary degree), it is the end result of an informed assessment of all pertinent variables (e.g., short-term financial costs and long-term benefits) (Bergerson, 2009; Perna, 2007). It also assumes that individuals assess how to best curb risk and maximize potential reward when making decisions (Plank & Jordan, 2001).

Educational attainment is touted as a primary lever for social mobility: if individuals work hard, they have the opportunity to access and complete higher education and, thus, be eligible for a range of high-skill, high-pay jobs. However, many scholars have critiqued this model, especially when considering the diverse backgrounds of students and how they inform educational opportunities and familiarity with the systems that lead to higher education (Beattie, 2002; Hatcher, 1998; Stanton Salazar, 1997, 2011). For example, Hatcher (1998) notes that rational choice theory is most often applied in educational studies when considering students’ outcomes at a distinct transition point (e.g., whether or not they have college aspirations or whether or not they matriculate into a college). However, he notes that this approach overlooks the “the dense fabric of micro-choice which comprise the everyday interaction between the pupil or student and the institution” (p. 21). I would extend Hatcher’s (1998) critique to note that students’ “micro-choices” occur both within the walls of schools, as he discussed, and beyond, in the various environments with which students interact every day (e.g., home, school, community). In his study of the educational decisions of students from Mexican immigrant families, Valadez (2008) concluded that rational decision making processes *and* the social

contexts in which they take place jointly informed students' college going decisions.

Accordingly, he found that students' "irrational" decisions (e.g., deciding to forego college admission) often resulted from the interactive relationship between their educational goals and the realities of their contexts. Additionally, relationships with others, including peers, adults, and community members, greatly influence students' choices—both in the short- and the long-term. In combination, these experiences have a measurable impact on students' successful pursuit of college access, and highlight that students' postsecondary decision making is rooted in a combination of structure and agency.

Although the majority of extant empirical work is limited by its focus on singular contexts, in combination, it suggests students' realities are extraordinarily complex. College access often culminates from a wider range of steps. This conjures von Bertalanffy's (1968) theory of "equifinality" in open systems, which suggests "as far as [open systems] attain a steady state, this state can be reached from different initial conditions and in different ways" (p. 142). In other words, many paths may lead to the same outcome (in this case, college enrollment), and students' backgrounds and their surrounding contexts play a major role in constructing that path. However, Hossler and Gallagher's (1987) Model of College Choice largely ignores the broader contexts and structural forces that stimulate such decisions and the creation of multiple pathways.

The assumptions of linearity and rationality ignore the essential differences in students' exposure to consistent messages regarding higher education communicated through formal and informal networks (McDonough, 2007; Savitz Romer & Bouffard, 2012; Tuitt et al., 2011). Such gaps in rhetoric and practice are most evident in schools and communities that serve disproportionately traditionally underrepresented college-going populations (Aronson, 2008;

Glass & Nygreen, 2003; Rosenbaum, 1999). As a result, many scholars have been critical of the simplicity of the Hossler and Gallagher Model of College Choice. For example, McDonough (2005) summarizes the flaws with the current theoretical models that ground higher education research:

The research evidence on college access suggests that students enroll in college through a complex, longitudinal, interactive process, involving individual aspiration and achievement, organizational structuring of opportunity in high school, and institutional admissions. (p. 74)

Similarly, Perna's (2006) Conceptual Model of Student College Enrollment with Policy Linkages introduces four distinct layers of influence on students' successful postsecondary enrollment. The author distinguishes those "layers" as a means to identify the meaningful differences in postsecondary outcomes: students and family context, school and community context, higher education context, and social, economic, and policy context. Perna notes that this approach "recognizes the differences in the resources that shape college enrollment and choice for different groups of students" (with Kurban, 2014). However, the model falls short, as it overlooks the key steps required for students to successfully enroll in higher education.

Examining Social Support and Social Capital in the Context of College Access

One of the most underexplored elements of the college access process is how students' exposure to diverse social networks and various forms of social capital influences their successful transition to college. A number of studies suggest that students' connections with individuals who have experience with higher education are a significant predictor of students' eventual postsecondary enrollment (Espinoza, 2011; Harding, 2011; McDonough, 1997, 2005), but less is known about what aspects of those relationships inform students' outcomes. Repeated

studies suggest that gaps in students' access to supportive adults may effectively contribute to social reproduction by restricting their exposure to information about the college access process and diverse college options (Noguera & Wells, 2011; St. John, 2000; St. John, Paulson, & Carter, 2005).

The veil of equal access to perfect information perpetuates the assumption that students who do not make it to higher education simply fell short in their commitment to the goal. In reality, individuals who appear to have attained success "on their own" often actually do so in "learn[ing] to appear self-reliant, while acting interdependently" (Stanton-Salazar & Spina, 2000, p. 240). When this veil of individuality is lifted, the complexity of help seeking and support in relation to college access is exposed as a dynamic process situated amidst a multilevel network. Therefore it becomes critical to understand the presence of supportive relationships and the resources and information exchanged through those relationships within the broader contexts where they occur (Stanton-Salazar & Dornbusch, 1995).

Social Capital and College Access

Social capital is a complex topic, both in its definition and operationalization (Bourdieu, 1986; Coleman, 1988; Song, Son, & Lin, 2011). I rely on Lin's definition of social capital (1999): "*resources embedded in a social structure which are accessed and/or mobilized in purposive action*" (Lin, 1999, emphasis in original, p. 35). In order to fully understand social capital, Lin (2002) cautions that one must also explore the "mechanisms and processes by which embedded resources in social networks are captured as an investment...[to] help bridge the conceptual gap in the understanding of the macro-micro linkage between structure and individuals" (p. 3). Thus, social capital reflects the resources (e.g., information, access to opportunities) embedded within social ties. Lin (2002) identifies three sequential steps of social

capital transmission: “1. investment in social capital; 2. access to and mobilization of social capital; and 3. the returns of social capital” (p. 19). The first reflects the preconditions of social capital (e.g., socioeconomic status). The second reveals that simple exposure to social capital is insufficient when estimating its impact on individual and collective outcomes. Finally, the third element allows for an understanding of how social capital factors into cost-benefit analyses of certain actions (e.g., enrolling in college in lieu of entering the workforce). Having a staged understanding of social capital in the college access context helps illuminate the progression from students’ exposure to information and support to its activation to enhance their odds of successfully gaining admission to college.

In the context of college access, Hossler and his colleagues (1999) conclude that social capital serves as “the currency students can use to make decisions about going to college” (p. 152). Kirst & Venezia (2005) suggest students’ social capital frames the ways that they are both exposed to and interpret messages regarding higher education. However, students’ access to various forms of social capital is determined by the nature of relationships that they have with supportive alters is often defined by the diverse attributes of the individuals with whom they are connected. Thus, using a network-oriented definition of social capital allows one to better understand how students’ exposure and access to social capital within and across their multiple contexts dictates a range of experiences that cumulatively influence and guide in their college process.

Social Support and College Access

Like social capital, social support is complex and dynamic. Song and his colleagues (2011) define social support as “the aid—the supply of tangible or intangible resources—individuals gain from their network members” (p. 118). Wellman and Gulia (1997) note that

research focused on the topic often operationalizes “support” in a unidimensional way, failing to capture the complexity of the phenomenon and how it manifests in multiple forms and across various spaces.

Individuals generate direct and indirect support from their social networks. As a result, they develop networks of social support, which facilitate their connection to resources within and across their multiple settings (Bess & Doykos, 2014). Social capital is actualized through those connections, helping students to draw connections between how short-term actions impact long-term goals (Espinoza, 2011; Hossler et al., 1999). Direct support includes a number of discreet interactions, including exposing students to a range of college options, helping complete college applications, and making sense of the financial aid landscape (Avery & Kane, 2004; McDonough, 1997). In contrast, indirect support constitutes students’ exposure to couched messages regarding postsecondary education as a realistic option through their families, communities, and schools (Klugman, 2012; Stanton Salazar, 2011; Tuitt et al., 2011). For students who are routinely exposed to adults familiar with the higher education landscape, indirect support is a commonplace occurrence, woven into their everyday interactions; the notion of going to college becomes conceived as a “birthright” (Beattie, 2002). However, the influence of these supportive relationships and the corresponding information capital is often overlooked.

Social support is generated through a number of different types of relationships. For example, Dominguez and Watson (2003) note that social support is often affiliated with “strong ties,” including friends and family members (p. 113). Given the existing relationship and the trust affiliated with that relationship, an individual may be more willing to ask for assistance as well as heed advice about certain behaviors, including those required for higher education. However, Granovetter’s (1973) theory of the “strength of weak ties” provides an alternative take

on the role of network connections in complex processes, such as college access. Granovetter posits that access to new information and opportunities may flow through “bridging ties” that connect external actors (e.g., admissions counselors) and settings (e.g., a student’s school). For students from traditionally underrepresented college-going populations, weaker, bridging ties may provide connections with diverse opportunities and information not otherwise readily available given the limited supply of higher education resources in the contexts of their immediate networks (Stanton Salazar, 2011).

Thus, in order to fully understand how “choices” are made, future studies must seek to understand the cumulative impact of how one’s educational history, networks, local habitus, in combination with their educational and career plans combine to frame postsecondary access. Understanding how students identify and connect with various agents of support, as well as the contexts that serve as the foundation those relationships, helps to clarify the role that various forms of social capital play in the pursuit of higher education (Wellman & Gulia, 1997).

Funds of Support: Identifying Students’ Supportive Connections Across Multiple Contexts

Under the “college for all” ethos, students are purported to have similar exposure to the resources and support necessary to connect their aspirations with their outcomes; however, as previously discussed, this is a flawed assumption. Students’ social-ecological contexts frame students’ connections with individuals and institutions upon whom they can rely for support throughout the college access process, including family members (Hamrick & Stage, 2004), peers (Tierney & Venegas, 2006), teachers (Roderick et al., 2011), guidance counselors (McDonough, 1997, 2005), and non-familial mentors (Ahn, 2010; Espinoza, 2011). To date, few studies have examined the qualities of students’ relationships or the way that these relationships may reinforce or contradict one another as students’ progress towards college. In the section that

follows, I offer brief examples of how multiple contexts have competing influences on students' postsecondary outcomes.

Family-level influence. Educational research repeatedly shows that students' academic outcomes are strongly influenced by their families (Lareau, 2002; Leventhal & Brooks-Gunn, 2000; Rothstein, 2013). For example, students from higher income families are more likely to attend high quality schools and engage in out of school opportunities that prepare them for college while also exposing them to information and support germane to college access (Kaushal, Magnuson, & Waldfogel, 2012). Students who have parents who attended college are more likely to enroll in and graduate from college than their peers who would be the first in their family to attend (Bailey & Dynarski, 2011). Families function as conduits for consistent and sustained messaging about college, which has a critical impact on students' subsequent aspirations and behaviors (Choy, 2001). Walton Radford (2012) found that lower income parents were just as likely to provide their children with encouragement surrounding their postsecondary goals as their higher income counterparts, but offered limited direct support. Myers and Myers (2012) found that when parents' engage their children in conversations about postsecondary education it affects students' subsequent application behaviors, including the types of schools to which they apply. In combination, these studies highlight the impact of "home advantage" (Auerbach, 2009). This home advantage often translates into a higher quality school experience and the development of interconnected strains of social capital that foster students' postsecondary orientation.

School-level influence. Throughout K-12 education, schools serve as a central hub where students connect with support that undergirds their journey to college. Klugman (2012) identifies three primary categories of differences observed between schools: programmatic resources (e.g.,

availability of AP courses), social resources (e.g., access to social capital), and pedagogical resources (e.g., access to high quality teachers). In combination, the diversity observed across students' school settings, even when grounded in a "college for all" mission, has meaningful impacts for students' preparation for and exposure to college. Over the last several decades, there has been evidence of important organizational shifts dictated by federal and state policies that have had direct impacts on schools.

Institutional agents. While a number of forces influence students' expectations and development of realistic postsecondary goals, for students from traditionally underrepresented college going populations, school-based resources have been repeatedly shown to be among the most important (Oakes et al., 2002). Perhaps most important is the presence and availability of "institutional agents." Institutional agents are defined as supportive adult figures in the formal context of educational institutions—usually teachers, administrators, and guidance counselors—who provide students with a range of resources and opportunities aimed to increase school success and the potential for social and economic mobility (Farmer-Hinton & Adams, 2006). Research suggests that students from traditionally underrepresented college going populations rely disproportionately on the support and assistance of "institutional agents" throughout the college preparatory process (McDonough, 1997, 2005; Stanton-Salazar, 1997; Stanton-Salazar & Spina, 2000). Institutional agents often have high levels of social, cultural, and human capital, which they use to frame their interactions with students and help to connect with a range of resources and opportunities related to postsecondary planning and higher education (Ahn, 2010; Stanton Salazar, 2011). These individuals help facilitate the connection between students' college aspirations and acceptance.

In combination, the empirical research suggests that students have different opportunities

to connect with guidance counselors, both within (e.g., high achieving students versus low achieving students) and across schools (e.g., highly resourced schools versus lower resource schools). However, despite the promise of students' connections with various institutional agents, changes in the broader structures and functioning of schools have restricted students' access to them. Across American public schools, guidance counselors are in high demand and short supply. The National Association for College Admissions Counseling (NACAC, 2006) estimates that guidance counselors carry a caseload of 478 students on average, which yields approximately one hour of postsecondary counseling per student. In high-need schools, ratios have been estimated as high as one counselor for every 1,056 students (McDonough, 2005). The role requirements of the guidance counselors have shifted over time further intensifying the heavy caseloads. As a result, counselors have competing responsibilities above and beyond the provision of college assistance to students, including scheduling, personal counseling, and testing coordination (Farmer-Hinton & Adams, 2006; McDonough, 2005, McDonough & Calderone, 2006; NACAC, 2006; Perna et al., 2008). Students often do not connect with their guidance counselors until late in their high school career. Thus, students must navigate the preliminary stages of the college choice process independent of formalized support at their schools, which may result in missed opportunities and derail their aspirations and expectations (Koyama, 2007). In combination, the shift in role expectations impacts both the general availability and the quality of interactions that counselors may have with students.

Beyond schools: Formal funds of support. Given the changing expectations confronting schools and students' differing levels of access to institutional agents, research suggests that many students identify external sources for support throughout the college process. For example, there has been a rise in the availability of and participation in college preparatory

programs, hiring private counselors, and connecting with mentors in the community (Harding, 2011; Perna & Kurban, 2014; Savitz-Romer & Bouffard, 2012). Through these external sources, students may gain many of the advantages traditionally associated with institutional agents, such as information and instrumental support. Additionally, these individuals provide students with alternative forms of bridging capital (Harding, 2011). To date, few studies have examined *how* students' meaningful connections with supporting individuals may improve their postsecondary outcomes, rather they tend to focus on *if* the connections enhance students' outcomes.

Even with increased availability of support for college access beyond school, it is important to note the continuing disparities in support based not only on the contacts that students have to specific individuals, but also through the institutions with which they are affiliated. While few studies have examined the demonstrated impact of differentiated exposure to informational capital and support on students' postsecondary outcomes, empirical work examining other social service institutions highlight it as an important stream of future research. For example, in his study of mothers' social experiences within childcare centers, Small (2008) found that the context of the childcare centers provided women with a place that shaped their social networks. Through their connection to the childcare center, mothers not only bonded with one another around the common issues they encountered as parents, but also cited the childcare center as a bridge that connected them to a range of information, support, and resources. Therefore, in order to fully understand the influence of support may have on an individual's postsecondary outcomes, it is critical to examine the multilevel networked contexts in which a student resides in addition to expanding the notion of support to a multidimensional concept.

Neighborhood-level influence. Individuals, families, and schools are firmly entrenched in the context of their surrounding neighborhoods and communities. Many scholars have sought

to parse out the effects of the neighborhood on a number of youth outcomes, including educational attainment (Brooks Gunn, Duncan, Klebanov, & Sealand, 1993). In relation to college access, the demographic make up of one's community influences the types of resources available, including schools and college preparatory programs. Harding (2011) found that higher income students who lived in homogenous neighborhoods were the most likely to attend college, and identified a distinct neighborhood advantage through the process as compared to their lower income peers. In communities with high rates of residents who have a postsecondary degree, students are more likely to be exposed in both direct and indirect information about the college access process, from setting postsecondary expectations to exposure to particular institutions and information about the academic requirements of admission (Jacob & Linkow, 2011; Walton Radford, 2012). Additionally, these individuals collectively serve as adult role models, who reflect the long-term payoff of postsecondary education, which helps to inform students' calculations of the costs and benefits affiliated with attending college (Espinoza, 2011; Valadez, 2008). In sum, students' neighborhoods dictate their exposure to a wide range of resources and supports throughout their educational trajectory; however, "college for all" largely ignores how these forces directly impact students' postsecondary outcomes.

Examining the Network: Expanding the Exploration of the Role of Social Capital and Social Support in College Access Research

Students' connections with supportive individuals and various forms of social capital manifest at varying points throughout the college access process. These connections—and absence of such connections—combine to affect the gap between the nearly universal rates of postsecondary aspirations and observed rates of college enrollment (Auerbach, 2007; Hoxby & Avery, 2012; Avery & Kane, 2004; Hamrick & Stage, 2004; Klasik, 2012; Rosenbaum, 2001). It

is important to understand not only *with whom* students connect for information pertinent to college access, but also the qualities of those relationships and the contexts in which they take place. Although most schools employ various types of institutional agents with whom students may connect, in aggregate, the research suggests that all support is not equal support. Therefore, future studies must examine how students leverage support and social capital in a way that allows researchers and practitioners to understand the various structural forces that facilitate and impede students' trajectories towards higher education.

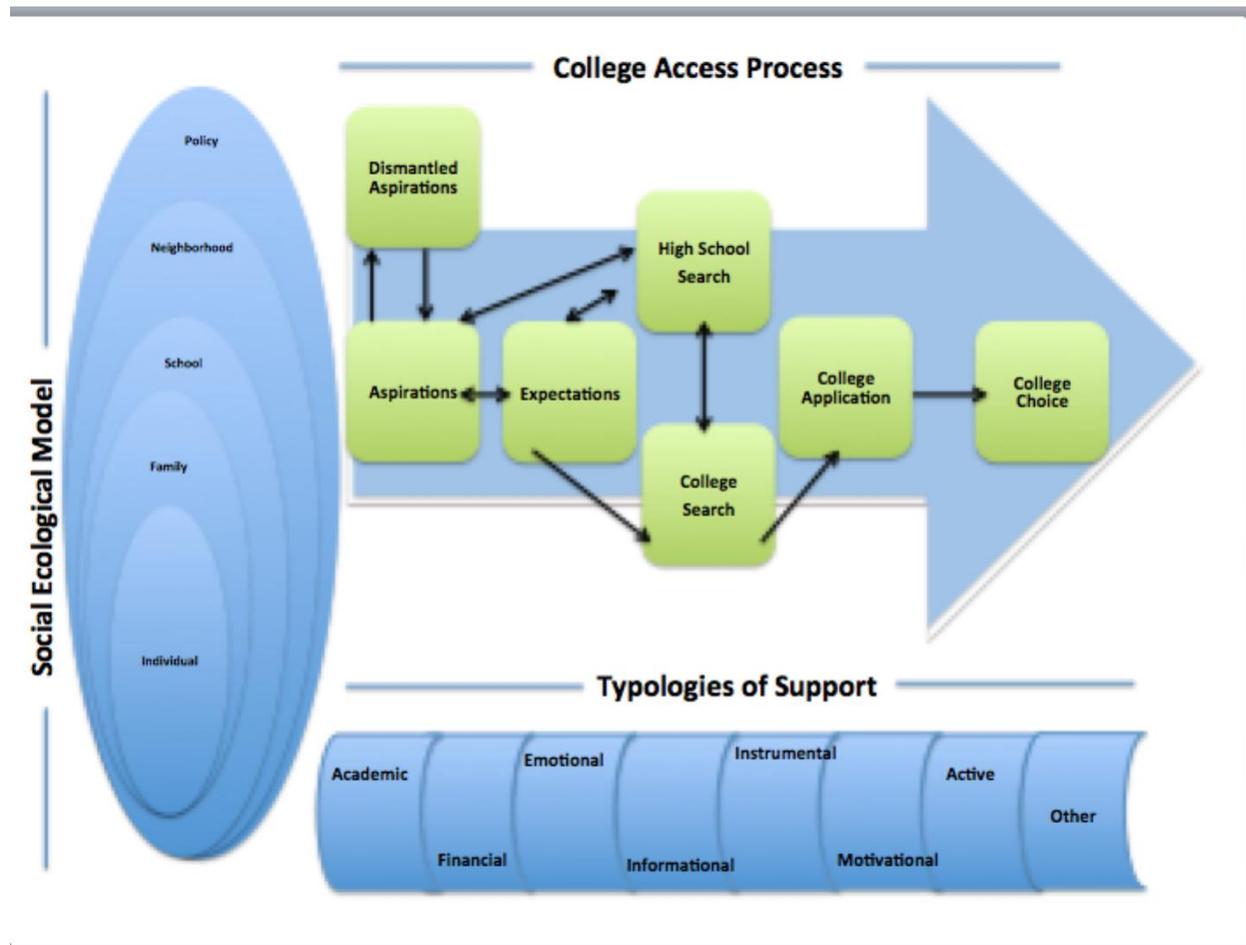
Spanning Time, Spanning Systems: Moving Towards an Ecological Model of College Access

Over the last 30 years, a large number of empirical studies have focused on who gains admission to and graduates from college and how; however, despite these expansive research efforts a number of questions remain. As students navigate the path to college throughout formal and informal education settings, their access to various resources and support embedded in their social networks become critical elements to their success. These points of information and support help them to transition early predisposition towards higher education into a reality over time. However, as evident from the continuing disparities in college access amidst nearly universal rates of postsecondary aspirations, simply setting postsecondary goals is not enough to dictate a successful transition (Manski, 1993). Thus, I propose the Ecological Model of College Access (Figure 2).

The Ecological Model of College Access expands upon Hossler and Gallagher's Model of College Choice. Whereas, Hossler and Gallagher's Model of College Choice identifies three distinct phases that culminate in college *choice*, the proposed model takes a more process-oriented approach at understanding the various components that lead to college *access*. This shift

allows for scholars to consider the dynamic impact of students’ experiences within and across their various social ecological contexts on the development of their pre-college behaviors. In the sections that follow, I break down the three primary elements of the model—the social ecological model, the college access process, and the typologies of support—and discuss how they combine to extend research and thinking about college access as a complex phenomenon.

Figure 2: Ecological Model of College Access



The Ecological Model and College Access

Encompassing the whole model, as depicted by the concentric ovals on the left side, I summon Bronfenbrenner's (1979) social ecological model. In doing so, I highlight the ways in which an individual's diverse and dynamic social contexts interact with one another and collectively influence their behaviors. The application of the social ecological model to The Ecological Model of College Access builds from Perna's (2006) Conceptual Model of Student College Enrollment with Policy Linkages, which considers the cumulative role of four distinct layers on students' successful postsecondary enrollment. The author distinguish those "layers" of influence as a means to identify the meaningful differences in students outcomes: students and family context, school and community context, higher education context, and social, economic, and policy context. The goal of the multi-layer model is to "recognize the differences in the resources that shape college enrollment and choice for different groups of students" (with Kurban, 2014). Specifically, it challenges the notions of rational choice to highlight the multiple levers of influence that frame individual students' opportunities and outcomes.

However, the Conceptual Model of Student College Enrollment with Policy Linkages Perna (2006) obscures the steps that students must take within and across those settings. With its elimination of the pre-college steps from the model, it obscures the process orientation of college access. In the present model I employ the social ecological model to serve as the foundation that informs students' various pre-college efforts. McDonough (1997) notes that students' postsecondary behaviors reflect the norms and values that are embedded within their multi-level contexts. Perna and Steele (2011) note, that "assessing the multilevel influence of students' situated contexts casts a light on the availability of resources and structures that define and delimit college-going opportunities for students" (p. 899). Thus, taking a systems approach

introduces the simultaneous force of higher order impacts, including policies, neighborhoods, families, and schools, on individual students' pre-college experiences.

Typologies of Support

In the second component of the proposed model, the typologies of support, I seek to extend the consideration of support as it pertains to students' experiences in and successful navigation of the college access process. The notion of "support" is intimately tied to students' social contexts and the individuals and institutions with which they connect. Several studies have examined the role of specific elements students' relationships and support systems on their postsecondary outcomes and how they influence their pre-college experiences (Espinoza, 2011; McDonough, 1997; Walton Radford, 2013). However, to date, research has been limited by its conceptualization of "support" in three important ways. First, many studies focus exclusively on the importance of individual, dyadic relationships, such as with an exceptional mentor or counselor (e.g., Espinoza, 2011, McDonough, 1997), ignoring the way that such relationships are embedded in interconnected contexts. Second, many studies are bound by individual settings, such as a school (e.g., Farmer-Hinton, 2008). These studies ignore the comprehensive experiences of students that span multiple environments, each of which has a compounding impact on individual outcomes (Bronfenbrenner, 1979; Perna, 2006). Finally, the extant literature reduces support to a unidimensional concept—measuring only one aspect of support and, thus, ignoring the complex ways in which it manifests throughout the college access process (e.g., academic pursuits, financial aid navigation, and social circumstances that affect educational attainment) (Bess & Doykos, 2014; House, 1987; Lin, 1999; Wellman & Gulia, 1997).

Enhancing the conceptualization of support as an essential part of the model allows for an expanded understanding of students' exposure to a complex array of information and

opportunities across their multiple environments throughout the different stages of the college access process. The model highlights various categories of support that are essential throughout the college access process: academic, financial, emotional, information, instrumental, motivational, active, and other. Each of these may be provided by an diverse array of alters in both formal and informal ways. Due to the complex process orientation of the model, it lends the opportunity to unpack when such experiences of support may manifest and by whom. For example, many studies suggest that although students who will be among the first of their families to attend college may not be able to secure instrumental support from their parents (e.g., application completion), they do rely upon them immensely for emotional, motivational, and financial support (Auerbach, 2004; Knight et al., 2004; Koyama, 2007). When considered in combination with other discrete experiences with support throughout the college access process, these experiences may impact the development of postsecondary aspirations and expectations and to influence the ways in which students prepare for, apply to, and enroll in college.

Developing a Process-Oriented Model of College Access

The third part of model expands upon the three phases of college choice proposed by Hossler and Gallagher (1987). As previously discussed, Hossler and Gallagher model adopts a time-bound, deterministic model of college choice. However, empirical work suggests that it is limited in its application, especially with students from traditionally underrepresented college-going backgrounds.

Table 1 offers a glossary of the terms included in the model and aligns them with the three phases included in the seminal Hossler and Gallagher Model (1987). Although the expectation is that students' will complete all the steps as they graduate from high school and transition to higher education, the proposed model challenges the notion that all students have a

uniform, linear experience. Additionally, it acknowledges how multiple contexts may inform the dynamic nature of each phase.

Expanding “Predisposition.” The evident drop off in the proportion of students’ who aspire towards college (nearly 90%) and the observed numbers of students who enroll in college immediately after high school (around 70%) suggests that “predisposition” is a limited concept (Bowen, Kurzweil, & Tobin, 2005; Conley, 2008; Jacob & Linkow, 2011). First, the seminal Model of College Choice treats “predisposition” as a static concept, assuming that once students identify a postsecondary plan to attend college they subsequently connect with the resources and supports required to achieve their postsecondary goals. Second, Hossler and Gallagher’s

Table 1: Glossary of Model Terms

Hossler & Gallagher’s Model of College Choice	The Elements of Ecological Model of College Access	Definition
Predisposition	Aspiration	Indication of students’ intentions for education following high school graduation
	Dismantled Aspirations	Reconsideration of postsecondary plans in light of individual and context-specific factors
	Expectations	Reflection of students’ commitment to pursuing higher education as a realistic option. Extends students’ Expectations “reflect not only a hope, no matter how fervent, but also some genuine element of prediction and commitment”
Search	High School Search	Assessment and selection of opportunities, both at school and beyond, that combine to prepare students to apply to, enroll in, and succeed in college
	College Search	Exploration of the higher education options (e.g., 2- and 4-year options, urban and rural) and pursuit of a deeper understanding of the requirements for application and admission
Choice	College Application	Identification of a discrete set of institutions to which to submit completed applications. Generally reflects the assessment of which schools will meet the social, financial, and academic needs of students.
	College Choice	Selection of the school to which a student will

		attend
--	--	--------

definition of “predisposition” lacks the complexity necessary to understand the influence of students’ social contexts on their development of college-going aspirations and expectations and how these may change over time (Boxer et al., 2011). These include parental encouragement (Perna & Titus, 2005), exposure to adults across their multiple environments who have successfully completed college (McCarron & Inkelas, 2008), and the presence of a college going culture at the school level (McDonough, 1997).

I hypothesize that the phase that Hossler and Gallagher identify as “predisposition” actually consists of two distinct elements: aspiration and expectation. These two elements of the college access process are represented in the first two boxes of the model. I introduce time-related arrows that reflect that students’ may have changing postsecondary plans throughout their high school career (e.g., aspirations that never transition to expectations or aspirations and expectations that emerge later in the high school experience). I use an arrow to demonstrate that, for some students, developing postsecondary aspirations and expectations is mutually reinforced by their surroundings, which may have a direct impact on students’ subsequent engagement with information and support (Boxer et al., 2011). In the following sections, I highlight the ways in which aspirations and expectations differ from one another and build off on another, thus providing the foundation of students’ college access processes.

Aspirations. In the present model, aspirations serve as the primary step towards college access, orienting students towards the long-term goal. Goyette (2008) defines aspirations as: “indicators of the level of education students would ideally like to attain or desire to attain” (p. 466). Although this ideally happens by the earliest phases of high school, research suggests for some students, especially those from traditionally underrepresented college-going populations,

aspirations emerge as late as senior year (Avery & Kane, 2004; Holland, 2010). Aspirations are dynamic concept and may change given the influence of students' social contexts and the erratic nature of adolescent development (Marcia, 1980) The extant literature does little to examine how and why aspirations develop, and even less attention focuses on how they may dismantle (Rowan Kenyon et al., 2009). Further research is needed to understand the development of aspirations as a process in order to help identify potential barriers and facilitators to their successful progression in the college access process.

Expectations. Developing a postsecondary orientation is more complex than simply expressing one's hopes to attend college (i.e. aspirations); thus, I introduce the concept of expectations as the second element of the expanded model. There are many ways in which expectations differ from aspirations, but the two concepts are often conflated. Glick and White (2004) distinguish expectations from aspirations noting that they "reflect not only a hope, no matter how fervent, but also some genuine element of prediction and commitment" (p. 278). In contrast to aspirations, which are rooted in a more nebulous idea of "hope," expectations reflect students' interpretation of their stated postsecondary goals as realistic ones (Goyette, 2008). As students convert their aspirations into expectations, they become more actively connected with various opportunities to help transition their postsecondary plans into reality (Glick & White, 2004; Goyette, 2008). For example, students who demonstrate postsecondary expectations are more likely to receive information and instrumental support as well as actively connect with resources, including supportive individuals and college preparatory activities, in order to support their goals (Beattie, 2002; McDonough, 1997, 2005; Valadez, 2008).

The "Dual Search" Upon the successful development of postsecondary aspirations and expectations, students engage in an active search process. According to the Hossler and

Gallagher Model of College Choice, the search concludes following with an informed audit of college options (e.g., two- and four-year; private and public; large and small). By the end of the search, students have an enhanced understanding of the higher education landscape and which options align with the parameters of their academic, financial, social, and career needs. In light of the expansion of higher education options that have corresponded with the emergence of “college for all” and the increased demand for higher education, students’ awareness of the variation among higher education options is critical to ensure their long-term success (Mettler, 2014). Although Hossler and Gallagher acknowledge that the search is not a “static process for all students,” they fail to identify the ways in which students’ multiple social contexts dictate their experiences and how this variation results in meaningful differences in access.

In the proposed model, I seek to connect how students’ academic decision-making and performance during high school frame postsecondary exposure, understanding, and, ultimately, opportunities. To do this I conceptualize a “dual search” represented by two stacked boxes, during which students pursue experiences and support corresponding with both a “high school search” and a “college search.” The concurrent experiences influence one another reflexively, as evidenced by the bidirectional arrow that connects the two search elements (e.g., opportunities secured through the high school search may inform a student’s exposure to specific postsecondary options or, the inverse, students’ interest in a particular institution may dictate their academic pursuits in high school). During this time, students are guided by the powerful influence and support of important individuals and institutions across their various social ecological contexts. Through the expanded model I highlight how traditional research, which focuses on the long-term goal of college *choice* may obscure the short-term actions necessary to secure admission throughout the college *access* process.

The high school search. High schools are rife with a complex series of academic, financial, and extracurricular requirements that serve as the foundation for postsecondary acceptance and success. Students must conduct a localized and immediate search of various opportunities that will help make them viable and successful applicants to college. While in high school, students curate a complicated set of academic, financial, and social experiences that seek to best prepare them to gain admission to and succeed in college. Students are most likely to be successful when they are able to draw connections between their short-term goals and long-term educational plans (Deil-Amen & López Turley, 2007; McDonough, 1997).

In combination, empirical research highlights significant barriers to postsecondary preparation and access encountered by youth from traditionally underrepresented college-going populations. For example, Crosnoe and Muller (2014) highlight the influence of college educated parents on students' course selection, concluding that these students were more likely to enroll in advanced coursework in their early years of high school and disparities in course selection maintained through senior year. Similarly, many studies have illuminated the severe differences in availability of rigorous, college preparatory curricula in schools that serve predominantly low income and minority students (Oakes et al., 2002; Oseguera, 2012). In addition to framing the academic opportunities that students may have as predicted by their backgrounds, the diverse nature of students' contexts also exerts great influence on their exposure to formal and informal funds of information and support germane to college access. Such disparities remain true despite the assumption that all students have equal access to information regarding the college access process perpetuated by "college for all" (McDonough, 1997; Perna & Titus, 2004). The veil of "college for all" and ensuing promotion of a merit framework adopted by many college admissions offices mask the institutional disparities that limit pre-college opportunities for youth

from traditionally underrepresented college-going backgrounds. For students who have less direct exposure to formal opportunities and support structures across their multiple contexts, the “high school search” proves to be a critical time to cultivate a competitive profile for admission while simultaneously amassing information about postsecondary options (Boxer et al., 2011; St. John et al., 2005).

In the present model, I isolate the high school search as a separate but critical element of the college access process. I use a bidirectional arrow to connect it to students’ aspirations and expectations to demonstrate that students who aspire and expect to go to college actively engage with high school preparatory opportunities to help make those a reality. However, the model also highlights how students’ engagement in standard high school activities (e.g., a rigorous school-wide college preparatory curriculum, exposure to an influential teacher or guidance counselor) may help to frame and solidify students’ aspirations and expectations. The model connects the high school search to the corresponding postsecondary search. This suggests that students’ experiences while in high school—both in school and beyond—may inform their exposure to and understanding of the postsecondary landscape.

The college search. Simultaneous to the search for and identification of opportunities during high school to prepare them for college, students must also successfully engage in a comprehensive college search. During this time, students attempt to make sense of the complicated postsecondary landscape and identify a subset of options that best meet their academic, social, and financial needs. With increasing numbers of students going to college and evidence of an intense tiering of students in postsecondary institutions by background (Mettler, 2014), understanding how students identify the schools to which they ultimately enroll becomes a critical piece of the college access puzzle.

In the proposed model, the “college search” encompasses students’ experiences in streamlining the daunting number of postsecondary options to a manageable list of realistic options. Once again, existing research has dismantled the assumption that all students have equal access to information and support during the process of culling a final list of postsecondary institutions. For example, some studies have found that students from traditionally underrepresented college going populations are more likely than their more privileged peers to be misinformed about how much college costs, the academic requirements of college and how those may differ by school type, and to follow the feeder patterns of postsecondary enrollment of their schools and communities (Alvarado & Turley, 2012; Avery & Kane, 2004; Walton Radford, 2013). Thus, understanding the interconnected nature of the dual search is a critical element of the overall college access process, as one’s high school record may make one eligible for criterion-based scholarships, thus making a particular institution more realistic financial option (Ficklen & Stone, 2002; Oakes et al., 2002). With the expansion of the model to include a dual search, it becomes easier to understand how to best prepare students to engage in the final steps of the college access process in a more informed way.

Institutional Selection. The final two phases of the proposed model, college application and college choice, represent students’ engagement with institutional selection. The process of choosing a college from a massive pool of possibilities is the capstone of the K-12 experience. Hossler and Gallagher (1987) note that college choice is the result of “an interaction between students and their attributes and increasingly specific information about institutional quality, net price, and academic programs” (p. 218). More simply stated, a range of factors inform students’ postsecondary choice, including their financial preparation to accommodate the increasing costs of college, their academic record, and their social and emotional preparation to make the

transition (Conley, 2008). By this definition, the choice phase also reflects students' understanding of college as a realistic option for their personal and professional development.

Thus, I argue that, similar to “search,” the choice phase consists of two distinct steps that are crucial to understand in concert with one another. The first choice results in a curated set of postsecondary institutions to which students submit a completed application. This reflects students' completion of a postsecondary search, and reflects their understanding how such institutions may satisfy their academic, social, and financial needs. Second, once students submit all their applications and admissions decisions have been received, students must identify where they will enroll from the remaining options. Creating a unique understanding of students' experiences with each of these choices is an essential element of developing a broader awareness of the college access process. A range of variables (e.g., parents' expectations, financial standing, students' previous academic performance) inform students selection decisions and, without developing a comprehensive understanding of these diverse variables and how they interact with one another, research may unwittingly perpetuate levers of inequality (Harding, 2011; Perna & Kurban, 2014).

College application. As students embark on the process of identifying to which postsecondary institutions they will apply, they take several variables into consideration. The choice set reflects the students' experiences in the preceding parts of the process, such as their academic preparation, their financial need, and the determination of their long-term and career plans (St. John, Paulsen, & Carter, 2005). As previously discussed, the institutions to which students apply and ultimately enroll are greatly informed by their exposure to various social networks (Hoxby & Avery, 2013; Perna, 2000; Walton Radford, 2013). Through these networks, students have varying experiences in the number of institutional contacts with whom they have

engaged prior to their application, including college visits, information sessions, and access to institutional representatives (Avery & Kane, 2004; St. John et al., 2005). Additionally, St. John and his colleagues (2005) discuss the “diverse sets of patterns of choice” (p. 558) that contribute to students’ ultimate choices about their postsecondary education. Thus, it is important to make sense of the intricate, staged series of choices that lead students to their selection of which institutions to apply and ultimately enroll.

Students’ exposure to information alone is insufficient in helping them to make postsecondary choices; rather, they require direct support from a range of individuals, including family members, teachers, counselors and peers, to facilitate the navigation of the college selection and application processes (Hill, 2008; Hoxby & Avery, 2012; Smith et al., 2013; Stanton Salazar, 2011). Access to such assistance is also greatly influenced by the “social, economic, and policy context that the student inhabits” (Bell et al., 2009, p. 671). A critical component in understanding college access as a process is creating a more in-depth awareness of how individual level variables, such as socioeconomic status and parental educational attainment, individually and collectively frame students’ decisions surrounding the institutions to which they select to apply.

College choice. The final stage in the proposed model of college access, college choice, manifests as a choice informed by the preceding, interconnected experiences (St. John et al., 2005). A number of scholars have examined the influence of students’ multiple environments on their postsecondary selection and suggest that individual performance is only one part of the college choice formula (Long, 2004; St. John, 2000; St. John, Paulson, & Carter, 2005). In combination, these studies highlight the multiple variables that compete with individual merit to impact students’ college selection. For example, various studies have found that, all else being

equal, the price of tuition was the most critical factor for low-income students in selecting a college and that their application set of schools reflected the application behaviors of individuals to whom they were either directly (e.g., family members) or indirectly (e.g., school alumni) connected (Carter, 1999; Long, 2004). Engberg and Wolniak (2010) suggest that the strongest student-level predictors of enrolling in a four-year school included academic achievement, the aspirations of family and friends, and college-linking activities (e.g., connecting short-term behaviors with long-term goals, including course selection). However, all of these individual level indicators are entrenched in the interconnected contexts of their social ecological environments. Through these connections, students' own networks meaningfully expand. By leveraging the resources embedded within and across these networks, students are able to make comprehensive sense of the college choice process (Adelman, 2002; McDonough, 1997, 2005; Plank & Jordan, 2001).

Finally, the overarching impact of policy dictates individual's institutional choice. Many scholars highlight the interrelated policies made in isolation from one another (Darling Hammond, 2006; Engberg & Wolniak, 2010; Kirst & Venezia, 2005). Nowhere is this more evident than in the observed disconnect between K-12 and higher education policies (Kirst & Venezia, 2005). For example, with the rise of high stakes testing and sanctions-driven education reform, the gap between the requirements for high school graduation and college readiness has emerged. Future research must examine how the "policyscape" combines to create and derail opportunities for students from diverse backgrounds as they select their institution of higher education (Mettler, 2014).

Considering the Future of College Access Research

In sum, the Ecological Model of College Access allows for a more dynamic understanding of the college access process than the existing theoretical models. In combination, the extant literature provides a critical foundation for identifying, in parts, how students connect the dots between the various stages of the college process. Klasik (2012) notes that there are extraordinarily few studies that explore the college application process as a dynamic, longitudinal phenomenon involving many individuals and spanning multiple environments. The model allows for scholars and practitioners to adopt an understanding of support as a complex phenomenon. As a result, it highlights the ways in which students' access to formal and informal support helps make sense of the myriad messages and available resources regarding higher education, and, ultimately, helps to guide students' behaviors and choice. In order to advance the field, I argue that future empirical studies must seek to integrate students' multiple environments when considering the processes of gathering information about, applying to, and selecting the best postsecondary option to best fit their academic, financial, and personal needs.

References

- Adelman, C. (2002). The relationship between urbanacity and educational outcomes. In W. Tierney and S. Hagerdorn (Eds.) *Increasing access to college: Expanding possibilities for all students*. Albany, NY. SUNY Press.
- Adelman, C. (2006). *The toolbox revisited: Paths to degree completion from high school through college*. Washington, DC: US Department of Education.
- Ahn, J. (2010). The role of social network locations in the college access mentoring of urban youth. *Education and Urban Society*, 42(7), 1-21.
- Alvarado, S. E., & Turley, R. N. L. (2012). College-bound friends and college application choices: Heterogeneous effects for Latino and White students. *Social Science Research*, 41(6), 1451-1468.
- Aronson, P. (2008). Breaking barriers or locked out: Class-based perceptions and experiences of postsecondary education. *New Directions for Child and Adolescent Development*, 119, 41-54.
- Aud, S., Fox, M. A., & KewalRamani, A. (2010). Status and trends in the education of racial and ethnic groups: NCES 2010-015. Washington, DC: *National Center for Education Statistics*.
- Auerbach, S. (2007). From moral supporters to struggling advocates: Reconceptualizing parent roles in education through the experience of working-class families of color. *Urban Education*, 42(3), 250-283.
- Auerbach, S. (2009). Walking the walk: Portraits in leadership for family engagement in urban schools. *The School Community Journal*, 19(1), 9-31

- Avery, C., & Kane, T. (2004). Student perceptions of college opportunities: The Boston COACH program. In C. Hoxby (Ed.), *College choices: The economics of where to go, when to go, and how to pay for it* (pp. 355–391). Chicago: University of Chicago Press.
- Bailey M.J., & Dynarski S.M. (2011). Inequality in postsecondary education. In G.J. Duncan & R. Murnane (Eds.), *Whither opportunity? Rising inequality, schools, and children's life chances* (pp. 117–32). New York: Russell Sage
- Beattie, I. (2002). Are all adolescent econometricians created equal? Racial, class, and gender differences in college enrollment. *Sociology of Education*, 75(1), 19–43.
- Bell, A. D., Rowan-Kenyon, H. T., & Perna, L. W. (2009). College knowledge of 9th and 11th grade students: Variation by school and state context. *The Journal of Higher Education*, 80(6), 663-685.
- Bergerson, A. A. (2009). College choice and access to college: Moving policy, research, and practice to the 21st Century. *ASHE Higher Education Report*, 35(4), 1-141.
- Bess, K., & Doykos, B. (2014). Tied Together: Building relational well-being and reducing social Isolation through place-based parent education. *Journal of Community Psychology*, 42(3), 268-284.
- Borgatti, S. P., & Halgin, D. S. (2011). On network theory. *Organization Science*, 22(5), 1168-1181.
- Bowen, W. G., Kurzweil, M. A., & Tobin, E. M. (2005). *Equity and excellence in American higher education*. Charlottesville: University of Virginia Press.
- Boxer, P., Goldstein, S. E., DeLorenzo, T., Savoy, S., & Mercado, I. (2011). Educational aspiration–expectation discrepancies: Relation to socioeconomic and academic risk-related factors. *Journal of Adolescence*, 34(4), 609-617.

- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Boston: Harvard University Press.
- Brooks-Gunn, J., Duncan, G. J., Klebanov, P. K., & Sealander, N. (1993). Do neighborhoods influence child and adolescent development? *American Journal of Sociology*, 353-395.
- Carnevale, A. P., Jayasundara, T., & Hanson, A. R. (2012). *Career and technical education: Five ways that pay along the way to the BA*. Washington, DC: Center on Education and the Workforce.
- Chapman, D. W. (1981). A model of student college choice. *The Journal of Higher Education*, 52(5), 490-505.
- Choy, S. (2001). *Students whose parents did not go to college: Postsecondary access, persistence, and attainment*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Conley, D. T. (2008). Rethinking college readiness. *New Directions for Higher Education*, 144, 3-13.
- Crosnoe, R., & Muller, C. (2014). Family socioeconomic status, peers, and the path to college. *Social Problems*, 61(4), 602-624.
- Darling-Hammond, L. (2006). Securing the right to learn: Policy and practice for powerful teaching and learning. *Educational Researcher*, 35(7), 13-24.
- Deil-Amen, R., & López Turley, R. (2007). A review of the transition to college literature in sociology. *The Teachers College Record*, 109(10), 2324-2366.
- Duncan, A. (2010, Feb 1). Class warrior. *The New Yorker*, 24-29

- Dynarski, S. (2000). *Hope for whom? Financial aid for the middle class and its impact on college attendance* (No. w7756). National Bureau of Economic Research. Retrieved from website <http://www.nber.org/papers/w7756>
- Engberg, M. E., & Wolniak, G. C. (2010). Examining the effects of high school contexts on postsecondary enrollment. *Research in Higher Education, 51*, 132–153.
- Espinoza, R. (2011). *Pivotal moments: How educators can put all students on the path to college*. Cambridge, MA: Harvard Education Press.
- Farmer-Hinton, R. (2008). Social capital and college planning: Students of color using school networks for support and guidance. *Education and Urban Society, 41*(1), 127-157
- Farmer-Hinton, R. L., & Adams, T. L. (2006). Social capital and college preparation: Exploring the role of counselors in a college prep school for Black students. *Negro Educational Review, 57*(1/2), 101-116.
- Ficklen, E., & Stone, J. E. (2002). *Empty promises: The myth of college access in America*. Washington, DC: Advisory Committee on Student Financial Assistance.
- Glass, R. D., & Nygreen, K. (2011). Class, race, and the discourse of “College for All.” A response to “Schooling for Democracy.” *Democracy and Education, 19*(1), 7.
- Glick, J. E., & White, M. J. (2004). Post-secondary school participation of immigrant and native youth: The role of familial resources and educational expectations. *Social Science Research, 33*(2), 272-299.
- Goyette, K. A. (2008). College for some to college for all: Social background, occupational expectations, and educational expectations over time. *Social Science Research, 37*(2), 461-484.

- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78(6), 1360-1380.
- Grodsky, E., & Jackson, E. (2009). Social stratification in higher education. *Teachers College Record*, 111(10), 2347–2384.
- Hamrick, F. A., & Stage, F. K. (2004). College predisposition at high-minority enrollment, low-income schools. *The Review of Higher Education*, 27(2), 151-168.
- Hanson, K. H., & L. H. Litten. (1982). "Mapping the road to academe: Women, men, and the college selection process." In P. Perun (Ed.) *The Undergraduate Woman: Issues in Educational Equity*. Lexington, Mass.: Lexington Books.
- Harding, D. J. (2011). Rethinking the cultural context of schooling decisions in disadvantaged neighborhoods from deviant subculture to cultural heterogeneity. *Sociology of Education*, 84(4), 322-339.
- Hatcher, R. (1998). Class differentiation in education: Rational choices?. *British Journal of Sociology of Education*, 19(1), 5-24.
- Hearn, J. C. (1991). Academic and nonacademic influences on the college destinations of 1980 high school graduates. *Sociology of Education*, 64(3), 158-171.
- Heller, D. E., & Marin, P. (2002). Who should we help? The negative social consequences of merit scholarships. Cambridge, MA: Harvard Civil Rights Project.
- Hill, D. H. (2008). School strategies and the “college-linking” process: Reconsidering the effects of high schools on college enrollment. *Sociology of Education*, 81(1), 53-76.
- Holland, N. E. (2010). Postsecondary education preparation of traditionally underrepresented college students: A social capital perspective. *Journal of Diversity in Higher Education*, 3(2), 111-125.

- Hossler, D., & Gallagher, K. S. (1987). Studying student college choice: A three-phase model and the implications for policymakers. *College and University*, 62(3), 207–221.
- Hossler, D., Schmidt, J., & Vesper, N. (1999). *Going to college: How social, economic, and educational factors influence the decisions students make*. Baltimore, MD: Johns Hopkins University Press.
- House, J. S. (1987). Social support and social structure. *Sociological Forum*, 2(1), 135-146
- Hoxby, C. M., & Avery, C. (2012). *The missing "one-offs": The hidden supply of high-achieving, low income students* (No. w18586). National Bureau of Economic Research.
- Hurtado, S., Inkelas, K., Briggs, C., & Rhee, B. (1997). Differences in college access and choice among racial/ethnic groups: Identifying continuing barriers. *Research in Higher Education*, 38(1), 43-75
- Jacob, B.A., & Linkow, T.W. (2011). Educational expectations and attainment. In G.J. Duncan & R. Murnane (Eds.), *Whither opportunity? Rising inequality, schools, and children's life chances* (pp. 133-162). New York: Russell Sage
- Kaushal, N, Magnuson, K., & Waldfogel, J. (2011). How is family income related to investments in children's learning? In G. Duncan & R. Murnane (eds). *Whither opportunity? Rising inequality, schools, and children's life chances* (pp. 187-206). New York: Russell Sage
- Kimura-Walsh, E., Yamamura, E. K., Griffin, K. A., & Allen, W. R. (2008). Achieving the college dream? Examining disparities in access to college information among high achieving and non-high achieving Latina students. *Journal of Hispanic Higher Education*
- Klasik, D. (2012). The college application gauntlet: A systematic analysis of the steps to four-year enrollment. *Research in Higher Education*, 53, 506-549.

- Klugman, J. (2012). How resource inequalities among high schools reproduce class advantages in college destinations. *Research in Higher Education*, 53(8), 803-830.
- Knight, M. G., Norton, N. E., Bentley, C. C., & Dixon, I. R. (2004). The power of black and Latina/o counterstories: Urban families and college-going processes. *Anthropology & Education Quarterly*, 35(1), 99-120.
- Kohn, M. G., Manski, C. F., & Mundel, D. S. (1976). An empirical investigation of factors which influence college-going behavior. *Annals of Economic and Social Measurement*, 5(4), 391-419.
- Kotler, P., & Fox, K. (1985). *Strategic marketing for educational institutions*. Englewood Cliffs, NJ: Prentice-Hall.
- Koyama, J. (2007). Approaching and attending college: Anthropological and ethnographic accounts. *The Teachers College Record*, 109(10), 2301-2323.
- Kirst, M. W., & Venezia, A. (2004). *From high school to college: Improving opportunities for success in postsecondary education*. San Francisco: Jossey-Bass.
- Lareau, A. (2003). *Unequal childhoods: Class, race, and family life*. Berkeley, CA: University of California Press.
- Leventhal, T., & Brooks-Gunn, J. (2000). The neighborhoods they live in: the effects of neighborhood residence on child and adolescent outcomes. *Psychological Bulletin*, 126(2), 309-337.
- Song, L., Son, J., & Lin, N. (2011). Social support. In J. Scott, & P. J. Carrington (Eds.). *The SAGE handbook of social network analysis* (pp. 116-128). Thousand Oaks, CA: SAGE publications.
- Lin, N. (1999). Building a network theory of social capital. *Connections*, 22(1), 28-51.

- Lin, N. (2002). *Social capital: A theory of social structure and action*. London: Cambridge University Press.
- Manski, C. (1993). Adolescent econometricians: How do youth infer the returns to schooling? In C. Clotfelter & M. Rothschild (Eds.), *Studies of supply and demand in higher education* (pp. 43–57). Chicago: University of Chicago Press.
- Marcia, J. E. (1980). Identity in adolescence. *Handbook of Adolescent Psychology*, 9, 159-187.
- McCarron, G.Z., & Inkelas, K.K. (2008). The gap between educational aspirations and attainment for first-generation college students and the role of parental involvement. *Journal of College Student Development*, 47(5), 534-549.
- McDonough, P. M. (1997). *Choosing colleges: How social class and schools structure opportunity*. Albany, NY: SUNY Press.
- McDonough, P. M. (2005). Counseling matters: Knowledge, assistance, and organizational commitment in college preparation. In W. G. Tierny, Z. B. Corwin, & J. E. Colyar (Eds.), *Preparing for college: Nine elements of effective outreach*. Albany: State University of New York Press.
- McDonough, P. M., & Calderone, S. (2006). The meaning of money: Perceptual differences between college counselors and low-income families about college costs and financial aid. *American Behavioral Scientist*, 49(12), 1703-1718.
- Mettler, S. (2014). *Degrees of inequality: How the politics of higher education sabotaged the American dream*. New York: Basic Books.
- Museum, S., Harper, S., & Nichols, A. (2010). Racial differences in the formation of postsecondary educational expectations: A structural model. *The Teachers College Record*, 112(3).

Myers, S. M., & Myers, C. B. (2012). Are discussions about college between parents and their high school children a college-planning activity? Making the case and testing the predictors. *American Journal of Education, 118*(3), 281-308.

National Association for College Admission Counseling (NACAC) (2006). *State of College Admission 2006*. Alexandria, VA: National Association for College Admission Counseling,

Noguera, P. A., & Wells, L. (2011). The politics of school reform: A broader and bolder approach for Newark. *Berkeley Review of Education, 2*(1).

Nowicki, S., & Duke, M. P. (1974). A locus of control scale for noncollege as well as college adults. *Journal of Personality Assessment, 38*(2), 136-137.

Oakes, J., Rogers, J., Lipton, M., & Morrell, E. (2002). The social construction of college access. In W. Tierney & S. Hagerdorn (Eds.), *Increasing access to college: Extending possibilities for all students* (pp. 105-122). Albany: SUNY Press.

Oakes, J., & Saunders, M. (2008). *Beyond tracking: Multiple pathways to college, career, and civic participation*. Cambridge, MA: Harvard Education Press.

Obama, B. (2015). *State of the Union*. Speech presented to the United States Congress, Washington, DC.

Oseguera, L. (2012). Postsecondary educational pathways of low-and middle/high-income youth: Using the Education Longitudinal Study (ELS) to examine tenth graders' transition from high school. Los Angeles, CA: UC/ACCORD.

Perna, L.W., & Kurban, E.R. (2014). Improving college access and choice. In L.W. Perna & A.P. Jones *The state of college access and completion: Improving college success for students from underrepresented groups*. New York: Routledge.

- Perna, L. W., & Titus, M. A. (2005). The relationship between parental involvement as social capital and college enrollment: An examination of racial/ethnic group differences. *The Journal of Higher Education, 76*(5), 485–518.
- Perna, L. W., Rowan-Kenyon, H., Bell, A., Thomas, S. L., & Li, C. (2008). A typology of federal and state programs designed to promote college enrollment. *The Journal of Higher Education, 243-267*.
- Plank, S. B., & Jordan, W. J. (2001). Effects of information, guidance, and actions on postsecondary destinations: A study of talent loss. *American Educational Research Journal, 38*, 947-979.
- Roderick, M., Coca, V., & Nagaoka, J. (2011). Potholes on the road to college high school effects in shaping urban students' participation in college application, four-year college enrollment, and college match. *Sociology of Education, 84*(3), 178-211.
- Rosenbaum, J. E., Miller, S. R., & Krei, M. S. (1996). Gatekeeping in an era of more open gates: High school counselors' views of their influence on students' college plans. *American Journal of Education, 257-279*.
- Rosenbaum, J. E. (2001). *Beyond college for all: Career paths for the forgotten half*. New York: Russell Sage Foundation.
- Rothstein, R. (2013). Why children from lower socioeconomic classes, on average, have lower academic achievement than middle class children. *Closing the opportunity gap: What America must do to give every child an even chance* (pp. 61-74). New York: Oxford University Press.
- Savitz-Romer, M., & Bouffard, S. M. (2012). *Ready, willing, and able: A developmental approach to college access and success*. Cambridge, MA: Harvard Education Press.

- Small, M. L. (2009). *Unexpected gains: Origins of network inequality in everyday life*. New York, NY: Oxford University Press.
- Smith, J., Pender, M., & Howell, J. (2013). The full extent of student-college academic undermatch. *Economics of Education Review, 32*, 247-261.
- Sokatch, A. (2006). Peer influences on the college-going decisions of low socioeconomic status urban youth. *Education and Urban Society, 39*(1), 128-146.
- St. John, E. P. (2000). The impact of student aid on recruitment and retention: What the research indicates. *New directions for student services, 89*, 61-75.
- St. John, E. P., Paulsen, M. B., & Carter, D. F. (2005). Diversity, college costs, and postsecondary opportunity: An examination of the financial nexus between college choice and persistence for African Americans and Whites. *The Journal of Higher Education, 76*(5), 545-569.
- Stanton-Salazar, R. (1997). A social capital framework for understanding the socialization of racial minority children and youths. *Harvard Educational Review, 67*(1), 1-40.
- Stanton-Salazar, R. (2011). A social capital framework for the study of institutional agents and their role in the empowerment of low-status students and youth. *Youth & Society, 43*(3), 1066-1109.
- Stanton-Salazar, R., & Dornbusch, S. (1995). Social capital and the reproduction of inequality: Information networks among Mexican-American high school students. *Sociology of Education, 68*, 116-135.
- Stanton-Salazar, R. D., & Spina, S. U. (2000). The network orientations of highly resilient urban minority youth: A network-analytic account of minority socialization and its educational implications. *The Urban Review, 32*(3), 227-261.

- Tierney, W. G., & Venegas, K. M. (2006). Fictive kin and social capital: The role of peer groups in applying and paying for college. *American Behavioral Scientist*, 49(12), 1687- 1702.
- Tuitt, F. A., Van Horn, B. N., & Sulick, D. F. (2011). Transmitting the right signals: The continued significance of promoting college entry to students of color. *Enrollment Management Journal*, 5(1), 10-31.
- Valadez, J. R. (2008). Shaping the educational decisions of Mexican immigrant high school students. *American Educational Research Journal*, 45(4), 834-860
- Walton Radford, A. (2013). *Top student, top school?: How social class shapes where valedictorians go to college*. University of Chicago Press.
- Wellman, B., & Gulia, M. (1997). Where does social support come from? The social network basis of interpersonal resources for coping with stress. In A. Maney (Ed.), *Social conditions, stress, resources and health*. National Institute of Mental Health, Rockville, MD.