

## ABSTRACT

### Development of a Scale to Measure Academic Capital in High-Risk College Students

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The purpose of this study was to create a psychometric instrument that quantitatively measures academic capital in college students. St. John, Hu, and Fisher (2011) define academic capital as a set of social processes that aid students in acquiring the knowledge and support necessary to access and navigate higher education. Content validity, construct validity, and reliability of the Academic Capital Scale developed in this study were established. Furthermore, in addition to validating the six components of academic capital identified by St. John et al. (2011), two additional components of academic capital were identified through principal components analysis. Providing higher education scholars and practitioners with a quantitative measure of academic capital will allow institutions to critically examine and restructure their current support programs for high-risk college students.

Development of a Scale to Measure Academic Capital in High-Risk College Students

by

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A Thesis

Approved by the Department of Educational Administration

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## CHAPTER ONE

### Introduction

Though there is still, and may always be, progress to be made with regard to student access to higher education, considerable improvements have allowed a greater number of students from underrepresented backgrounds to consider higher education a legitimate option for their futures (Astin & Leticia, 2004; Baker & Vélez, 1996). However, simply getting those students through the doors of a higher education institution is not enough. Higher education scholars and practitioners have an obligation to improve not just access for those students but also success, for increased access to higher education does not necessarily equate to equal educational outcomes for students (Bensimon, 2005; Bensimon, Polkinghorne, Bauman, & Vallejo, 2004; Harris & Bensimon, 2007). In fact, Harris and Bensimon (2007) state that “disparities in student outcomes are a reality at most of the nation’s colleges and universities” (p. 77). Despite this reality, equity is rarely included in measures of institutional accountability or program effectiveness (Harris & Bensimon, 2007). Harris and Bensimon (2007) argue that if such practice continues, inequalities in educational outcomes will remain structurally hidden and persist as a common feature of many higher education institutions. Such educational outcomes that remain inequitable for underrepresented, or high-risk, students include retention, academic success, and ultimately persistence to graduation. Thus, in order to improve educational outcomes for underrepresented students in higher education, more attention must be paid to the institutional programs and services provided to those students.

Many of the support programs for high-risk students in higher education focus on providing either course-specific content knowledge or study skills. For example, remedial courses, also known as developmental education, are geared towards improving underprepared students' reading, writing, and mathematics skills (Attewell, Lavin, Domina, & Levey, 2006; Bettinger & Long, 2005). However, the Charles A. Dana Center (2012) recently conducted a study that provides overwhelming evidence of the ineffectiveness of such programs. Based on its findings, the Dana Center (2012) urgently calls for systemic changes in higher education. In particular it calls for the development and implementation of programs that enable high-risk students to receive both the academic and non-academic support necessary to obtain a "valued postsecondary credential" (p. 1). Furthermore, as McGrath and Spear (1991) argue, college demands more from students, especially those from nontraditional backgrounds, than course-specific content or study skills can provide; college demands "social and cultural transformations" (p. 29).

Such social and cultural demands are the focus of St. John, Hu, and Fisher's (2011) recent work on a concept they label *academic capital*. Academic capital is defined as "social processes that build family knowledge of educational and career options and support navigation through educational systems and professional organizations" (St. John et al., 2011, p. 1). Ultimately, St. John et al. (2011) argue that academic capital can enable underrepresented students to both break the barriers that often prevent them from accessing higher education and develop new patterns of educational success not previously experienced in their families, or even in their communities. Although this work on academic capital is promising, the research has

primarily emphasized the context of K-12 education and how it subsequently impacts higher education access. Furthermore, no quantitative measure of academic capital currently exists, making it difficult to truly examine whether current programs and services are designed in a way that meets the needs of underrepresented, or high-risk, college students with regard to academic capital formation.

### *Conceptual Framework*

Academic capital, as conceptualized by St. John et al. (2011), is derived from elements of human capital theory (Becker, 1975), social capital theory (Coleman, 1988), and social reproduction (Bourdieu, 1972). The concept of academic capital serves as the theoretical framework for this study. Becker's (1975) human capital theory suggests that decisions regarding how much to invest in human capital, or in this case how much money to spend on college attendance, is dependent on a variety of factors, particularly for low-income students.

Social capital theory, as described by Coleman (1988), is a theory of "individual and social mobility" (Musoba & Baez, 2009, p. 165). This is consistent with much of the research in American higher education in which social capital is viewed as a means for individuals to reach higher levels of educational attainment. As a result of Coleman's (1988) application of social capital as a means of obtaining educational mobility, recommendations regarding social capital emphasize "remediating the students rather than questioning the educational institutions that prepared them" (Musoba & Baez, 2009, p. 166). In contrast, this study aims to provide higher education scholars and practitioners with an instrument that measures academic capital in order to critically

examine whether higher education support programs and services are structured in a way that facilitates academic capital formation in students.

Counter to the emphasis on individual mobility in Coleman's (1988) use of social capital, Bourdieu (1972) describes the function of social capital as social reproduction. Social reproduction refers to the unintentional reproduction of social hierarchies, absent any deliberate actions on the part of groups or individuals to reproduce such social inequities. Ultimately, Bourdieu (1972) argues that through the interplay of economic capital, social capital, and cultural capital, educational systems inadvertently reproduce class structure, and that structure is then unintentionally reinforced through individuals' values and dispositions. However, the misappropriation of Coleman's (1988) social capital theory and Bourdieu's (1972) concept of social reproduction by educational scholars has been the source of much criticism (Musoba & Baez, 2009; Kingston, 2001).

While these criticisms are valid, St. John et al. (2011) employ both Coleman's (1988) and Bourdieu's (1972) understandings of the function of social capital. Furthermore, by incorporating both Coleman's (1988) emphasis on individual mobility and Bourdieu's (1972) emphasis on social reproduction, St. John et al. (2011) acknowledge the importance of systems, including the educational system, as sources of social reproduction, while also maintaining a focus on the aspects of social capital theory explored by most other education researchers.

St. John et al. (2011) suggest that academic capital is especially applicable to the educational experiences of students from underrepresented backgrounds in higher education. The reason is that the processes inherent to academic capital formation are typically not found in families and communities with little history of educational success.

Thus, “educational failure, like educational success, can reinforce replication patterns” for underrepresented students (St. John et al., 2011, p. 15). Furthermore, because it incorporates elements of human capital theory, social capital theory, and social reproduction, *all* of which are unlikely to be found in the families and communities of underrepresented college students, academic capital provides a more comprehensive framework than offered by any single theory.

### *Purpose of this Study*

The purpose of this study was to create a psychometric instrument that quantitatively measures academic capital in college students. Academic capital refers to a set of social processes that aid students in acquiring the knowledge and support necessary to navigate educational systems (St. John et al., 2011). Providing higher education scholars and practitioners with a quantitative measure of academic capital will allow institutions to examine their current practices and engage in a “social critique” of those practices (Musoba & Baez, 2009, p. 172). That is, such a measure will provide scholars and practitioners with the information necessary to restructure institutions and/or programs that fail to support students in the acquisition of academic capital and thus act as sources of cultural reproduction.

This study utilized a postpositivist epistemology, as it aimed to develop a psychometric instrument that measures the latent variable academic capital. Specifically, the following three research questions were explored in this study:

- 1) Does an instrument designed to measure academic capital have content validity?

- 2) Does an instrument designed to measure academic capital have construct validity?
- 3) Does an instrument designed to measure academic capital meet acceptable standards of reliability?

Due to the applicability of academic capital to students from underrepresented backgrounds in higher education, the Academic Capital Scale developed and tested in this study is intended to promote future efforts geared toward improving support programs for high-risk students in particular. Pizzolato (2003), who employs Johnson's (1994) ecological model of educational risk, argues that while *high-risk* suggests merely a greater likelihood of withdrawal from higher education, the term *at-risk* suggests "a quality the student unequivocally has or does not have" (p. 798). Thus, the term high-risk is better suited for considering the diversity of backgrounds, risks, and achievements of students from underrepresented backgrounds in higher education, who ultimately may benefit most from the development of an Academic Capital Scale.

## CHAPTER TWO

### Literature Review

#### *Access versus Outcomes*

Though there is still progress to be made, access to American higher education has improved for students from underrepresented backgrounds (Baker & Vélez, 1996). However, many scholars continue to focus on issues related to access, such as the stratification of students across institutional types (Astin & Leticia, 2004). It is not enough for scholars and practitioners in higher education to simply focus on access, as access does not equate to improved educational outcomes, such as retention and persistence (Bensimon, 2005; Bensimon, Polkinghorne, Bauman, & Vallejo, 2004; Harris & Bensimon, 2007; Kezar, Glenn, Lester, & Nakamoto, 2008). For example, Harris and Bensimon (2007) note that although there are significant disparities in student outcomes based on characteristics such as race and ethnicity, institutions make few attempts to measure those outcomes. They further argue that because there is a failure to measure inequities in student outcomes, those disparities will remain a reality for many institutions and students.

Harris and Bensimon (2007) also provide their own intervention for this issue—they suggest the use of a tool termed the *equity scorecard*. The equity scorecard examines measures of the following outcomes: access, retention, excellence, and completion for students of underrepresented racial and ethnic groups. For example, the equity scorecard of a community college may measure the number of students who earn an associates degree within a certain period of time or the number of students who

transfer to a four-year institution within a certain period of time as a student outcome. Ultimately, Harris and Bensimon (2007) argue that the purpose for the equity scorecard is twofold: (1) to create awareness of institutions' inequities in student outcomes, and (2) to create a sense of accountability among institutional administrators for eradicating those inequitable student outcomes. Although the equity scorecard offers a valuable tool for higher education administrators, it is designed for use on an institution-wide scale, as its measures reflect institution-wide data such as transfer rates and graduation rates of particular racial and ethnic groups. These measures are intended primarily to identify areas of inequality at institutions that then require further investigation. A quantitative measure of academic capital, however, can provide more specific information regarding the nature of the factors that impact those inequitable outcomes as well as the specific types of programs and services that might improve them.

### *Current Focus of Support Programs*

Many of the current support programs for high-risk students focus on providing students with either course-specific content knowledge or study skills. In particular, remedial courses are provided to improve students' reading, writing, and mathematical skills to meet the standards of their institutions in those particular subjects (Attewell, Lavin, Domina, & Levey, 2006; Merisotis & Phipps, 2000). Past scholars such as Merisotis and Phipps (2000) have found that attempts to prove the effectiveness of such programs are typically inconclusive. However, a more recent study conducted by the Charles A. Dana Center (2012) has argued, not that evidence of the effectiveness of such programs is inconclusive, but rather that such programs as they are currently designed and implemented are ineffective.



To support their finding that current remedial education programs are ineffective, the Dana Center (2012) notes that only 22% of community college students and 37% of students attending four-year institutions who were placed in remedial math or English courses completed a course in their intended major area of study within two years. Thus, while half of all students in postsecondary education (and 70% of all students attending community colleges) currently take one or more remedial courses, the completion rates for those students remain well below institutional, state, and national standards. Unfortunately, while the evidence suggests that remedial programs are ineffective, the financial costs that institutions accrue for offering such programs are astronomical. In 2008, institutions spent a total of more than two billion dollars on remedial programs (Strong American Schools, 2008). Particularly with the current financial strains placed on colleges and universities, institutions simply cannot afford to spend such a large amount of their financial resources on programs that fail to promote student persistence and success.

Furthermore, Merisotis and Phipps (2000) argue for the need to make remediation efforts for underrepresented students more comprehensive. In addition to providing specific subject matter courses, institutions should aim to also provide a variety of other components such as assessment and placement of all incoming students, effective curriculum design and delivery, individualized support services, and evaluation of program effectiveness (Merisotis & Phipps, 2000). The Dana Center (2012) supports this suggestion by emphasizing the failure of current remedial programs to provide the “non-academic supports” that many high-risk college students need. They describe those non-academic supports as including clarification of goals, development of college success

skills, engagement with campus culture, and balancing school and life concerns.

Academic capital and its related theories provide a foundation for developing more comprehensive support programs that assist students in a variety of realms, as opposed to focusing solely on one particular content area.

### *Demands of College: Social and Cultural Transformations*

In contrast to most support programs for high-risk college students, which typically focus on course-specific content knowledge or study skills, McGrath and Spear (1991) argue that most students from underrepresented backgrounds, particularly those who are likely to attend community colleges, are faced with the daunting task of understanding and adapting to new intellectual and cultural communities. They use the concept of *structural disarticulation* to describe the difficulties faced by these students. That is, underrepresented students often “come from backgrounds which have not prepared them to identify with, or even to recognize the central values of academic life, and which have not provided adequate models of intellectual activity” (McGrath & Spear, 1991, p. 24). Ultimately, structural disarticulation refers to difficulty that students from underrepresented backgrounds often experience in identifying with, and often even understanding, the core values, behaviors, and practices that are integral to both their institutions and higher education as a whole.

The idea of structural disarticulation reflects in some ways the role of habitus in students’ lives. Habitus, which relates directly to social and cultural capital, refers to values and dispositions that influence thoughts, perceptions, and actions of individuals and classes and ultimately reinforce social structures (Bourdieu, 1977). Students from low socioeconomic status, or underrepresented backgrounds, in higher education often do

not possess habitus that would aid them in transferring academic knowledge and experience into opportunity and success (Walpole, 2003). While some college experiences, such as interaction with faculty and administrators on campus, can support students in developing such habitus, students must first remain enrolled in college to access such experiences. Thus, college demands from underrepresented college students a series of social and cultural transformations to overcome structural disarticulation (which may be shaped by those students' habitus) and ultimately to succeed in academia. As a result, current support models that focus on course-specific content knowledge and study skills are needed but insufficient for aiding underrepresented college students in this transition.

### *Academic Capital*

St. John, Hu, and Fisher (2011) propose the term academic capital to describe the social processes—similar to the social and cultural transformations described by McGrath and Spear (1991)—that allow students from underrepresented backgrounds to successfully access and navigate systems of higher education. Ultimately, the social processes that comprise academic capital aid students in developing resources to overcome barriers to higher education access. In the beginning, St. John et al. (2011) generated six social processes that they believed comprised academic capital formation in students, and they then tested those claims through a series of both qualitative and quantitative analyses. The six social processes that they generated were: (1) concerns about college costs, (2) trust, (3) information, (4) networks, (5) cultural capital, and (6) habitual patterns. These six social processes were derived from various aspects of Becker's (1975) human capital theory, Coleman's (1988) social capital theory, and

Bourdieu's (1972) concept of social reproduction. St. John et al. (2011) believed that these ideas provide a foundation for understanding the challenges faced by underrepresented students in higher education and for creating effective interventions to help students overcome those barriers.

### *Human Capital Theory*

Becker's (1975) human capital theory presents a way of understanding the cost-related decisions that many students, particularly low-income, face regarding higher education. Human capital consists of the knowledge and competencies of individuals that can be transformed into economic value. Becker's (1975) human capital theory suggests that individuals make decisions regarding how much to invest in human capital based on the perceived profitability of such a decision. In this case, investment in human capital is equated with students' investment in higher education. This means that individuals will make decisions related to higher education enrollment and persistence based on an implicit calculation of the cost of investing in higher education and the perceived profitability of that investment. Human capital theory suggests that there are a multitude of factors that influence perceived profitability of investment in higher education, such as immediate expenses (e.g., tuition, fees, books), foregone earnings, increased future earning, and future gains in quality of life (St. John, 2003). Thus, within the framework of human capital theory, perceptions of college cost and profitability can influence underrepresented students' decisions to pursue higher education (St. John et al., 2011).

### *Social Capital Theory*

Social capital, broadly, refers to the resources such as influence and support that are obtained from membership in particular networks and relationships (Dika & Singh, 2002). As described by Coleman (1988), however, social capital theory emphasizes individual social mobility, which in this case refers specifically to individual educational attainment. Most educational scholars use this conceptualization of social capital theory as a theory of individual social mobility. However, Musoba and Baez (2009) note that there are several weaknesses of Coleman's (1988) approach. The greatest weakness being that Coleman's (1988) approach ultimately ignores the impact of oppressive social structures that may prevent individuals from reaching new levels of mobility and attainment (Musoba & Baez, 2009). Instead, Coleman's (1988) approach often leads educational scholars and practitioners to remediate individual students, rather than question the social structures that exist within individual educational institutions as well as the American educational system as a whole (Musoba & Baez, 2009).

### *Social Reproduction*

Bourdieu's (1972) concept of social reproduction provides an alternative to Coleman's (1988) approach. While Bourdieu (1972) refers to social capital, he describes it as part of a larger theory of social reproduction. Social reproduction is the idea that the interplay of a variety of concepts, such as social capital, cultural capital, habitus, and field, result in the inadvertent reproduction of social class (Bourdieu, 1972). Thus, Bourdieu (1972) views educational institutions not as places where individuals can achieve social mobility, but instead as places where dominant class structures simply

reinforce the oppression of particular groups of individuals, such as underrepresented students in higher education.

Although Musoba and Baez (2009) criticize prior scholars' use of social capital theory without a focus on social reproduction, they also note one weakness of social reproduction. They observe that Bourdieu's (1972) focus on social reproduction denies individual agency, and thus is overly deterministic (Musoba & Baez, 2009). However, by incorporating both Coleman's (1988) conceptualization of social capital as a source of individual mobility and Bourdieu's (1972) emphasis on the role class structures play in perpetuating social reproduction, St. John et al. (2011) minimize the weaknesses of each approach. That is, they do not ignore educational systems that act as oppressive forces in some students' lives nor do they undermine individual students' abilities to achieve educational attainment despite their social status.

#### *Academic Capital Findings*

In order to study the proposed social processes, St. John et al. (2011) examined those processes within three exemplary programs that assist low-income students in overcoming barriers to higher education access. The programs examined were the Washington State Achievers (WSA) program, the Twenty-First Century Scholars Program, and the Gates Millennium Scholars Program. All three programs serve middle school and/or high school students in low-income areas. St. John et al. (2011) relied primarily on qualitative focus group data to examine the role that each of the social processes played in the three aforementioned programs. However, data intended to reveal relationships between program participation and quantitative outcomes of student success was also incorporated.

As a result of their analyses, St. John et al. (2011) reveal a variety of findings with regard to the six social processes that are involved in academic capital formation. First, they found that concerns about costs, the first proposed social process, shaped the social construction of education for low-income students and their families. However, they also found that easing those concerns about cost enhanced students' formation of academic capital. The main way in which concerns about cost were eased in their study was through providing aid guarantees that made college affordable (St. John et al., 2011).

In terms of trust, the second proposed social process, St. John et al. (2011) found that college transitions were less difficult for students whose parents developed strong feelings of trust with support personnel. Additionally, St. John et al. (2011) found that students who did attend college formed new networks of trust during their time in college. These networks involved individuals with whom they identified, with culture and ethnicity often playing a role.

Information, the third proposed social process, also was found to be an important aspect of students' academic capital formation. St. John et al. (2011) found that it was not official printed information that was most important to students' college decision-making, but instead information provided by supportive adults outside the family. This finding in particular is supported by numerous other scholars (Cabrera & La Nasa, 2002; Hamrick & Hossler, 1996; McDonough, 1997). Thus, St. John et al. (2011) note that the value of information that comes from sources other than trusted relationships may be questionable. One additional finding related to information was that students, who prior to college had little access to trustworthy sources of information related to college major,

were able to utilize new information during college to make an informed college major decision.

With regard to supportive networks, the fourth proposed social process, St. John et al. (2011) found that the social networks of low-income students, including families and schools, can either reinforce or undermine those students' college aspirations. Additionally, they found that including students' parents in networks that support college aspirations positively influenced students' college preparation. Furthermore, with regard to higher education, St. John et al. (2011) found that support networks *during* college also play a role in students' educational access and outcomes. Moreover, they found that financial aid guarantees and academic preparation alone are not enough—instead, support services provided to students during their time in higher education are crucial for their success (St. John et al., 2011).

The fifth proposed social process, cultural capital, refers to particular knowledge, skills, abilities, and norms that are characteristic of those who are of high status in society. St. John et al. (2011) focus primarily on knowledge of higher education when examining cultural capital. Their findings revealed that the lack of college information available to the families of first-generation college students may restrict students' access to or success during college. Importantly, this finding held true even when financial constraints were diminished, as those students were often encouraged to consider alternative options rather than a college education (St. John et al., 2011). However, St. John et al. (2011) found that both students and students' families can increase their college knowledge. College knowledge increases either through parents' engagement



with precollege programs, such as the three examined in their study, or through students' sharing of their college experiences with their parents.

With regard to habitual patterns, the sixth proposed social process, St. John et al. (2011) confirmed that both maintenance of class and cross-generation uplift were evident among families of the low-income students in the programs studied. That is, some families displayed a pattern of maintaining their class status by encouraging students to pursue work rather than postsecondary education (class maintenance), while other families displayed a pattern of upward mobility in social status by encouraging their children to pursue postsecondary education (cross-generation uplift). Importantly, however, St. John et al. (2011) found common characteristics among the students who did pursue college, such as self-navigation, self-understanding, and resiliency. Furthermore, those students found ways to reconcile their pursuit of college with their families' narratives.

### *Academic Capital Reconstructed*

Following the aforementioned analyses of the proposed social processes, academic capital was reconstructed to better reflect the specific findings and emphases that emerged in students' qualitative responses. Though still comprised of six social processes, the current model includes: (1) concern about costs, (2) supportive networks, (3) navigation of systems, (4) trustworthy information, (5) college knowledge, and (6) family uplift (St. John et al., 2011). Each of these processes was reflected in the items that comprise the original Academic Capital Scale developed in this study (see Figure 1).

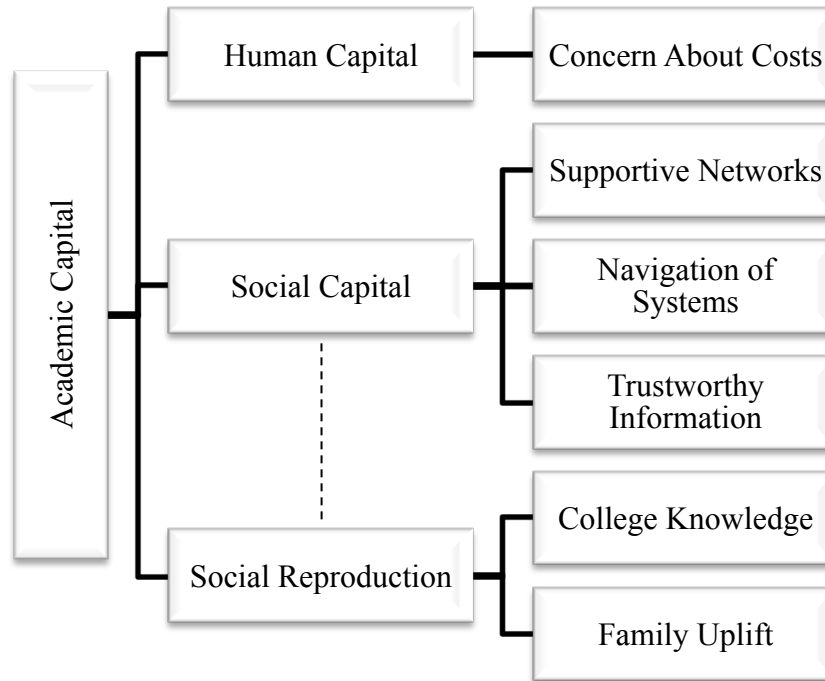


Figure 1. Academic Capital Components (adapted from St. John et al. (2011))

According to this reconstruction of academic capital, underrepresented students must overcome concerns about costs as a process related to human capital theory. Underrepresented students must also build supportive networks, navigate social and educational systems, and acquire trustworthy information in order to build social capital (i.e., to obtain access to the resources that result from membership in particular networks and relationships). Furthermore, underrepresented students must build college knowledge as a means of overcoming reproduction of underrepresentation and achieving family uplift in higher education.

Based on their findings and their reconstruction of academic capital, St. John et al. (2011) offer several suggestions to promote college preparation, access, and success for students from underrepresented backgrounds in higher education. They suggest that reforms should be both *comprehensive* and *cohesive*. That is, reforms should address all

components of academic capital formation, including the financial, cognitive, and noncognitive elements, and each of those components should work together to aid students in gaining access to and succeeding in college.

### *Critique of Prior Research*

Several scholars, including Musoba and Baez (2009), Kingston (2001), and Winkle-Wagner (2010), criticize the use, or often the misuse, of the terms social capital and academic capital in educational research. The primary sources of this criticism stem from the interchangeable use of Coleman's (1988) concept of social capital and Bourdieu's (1972) concept of social reproduction, the overextension of Bourdieu's (1977) concept of cultural capital, and the failure to differentiate between social and cultural capital.

### *Misappropriation of Social Capital and Social Reproduction*

Musoba and Baez (2009) describe the crucial, yet often overlooked, distinction between the function of Coleman's (1988) conceptualization of social capital and the function of Bourdieu's (1972) conceptualization of social capital. Coleman (1988) utilizes social capital theory as a theory of individual social mobility within educational and professional networks. That is, according to Coleman (1988), the function of social capital is individual mobility within the system of higher education. Bourdieu (1972) on the other hand, perceives social capital as an agent of social reproduction. Thus, according to Bourdieu (1972), the function of social capital is the unintentional reproduction of social hierarchies. Therefore, although Coleman (1988) emphasizes the role that social capital plays in promoting individual mobility within the higher education

system, Bourdieu (1972) emphasizes the role that social capital plays in maintaining the social structures that inhibit the upward mobility of particular classes of individuals within that system.

Recent educational research has focused primarily on examining Coleman's (1988) understanding of the function of social capital. However, Musoba and Baez (2009) note that many researchers cite Bourdieu in discussions of social and cultural capital, yet they fail to recognize Bourdieu's emphasis on class structures and social reproduction. Thus, researchers are essentially utilizing Coleman's (1988) understanding of the function of social capital as an instrument of individual mobility while citing Bourdieu, incorrectly assuming the two are interchangeable. Musoba and Baez (2009) argue that these scholars must recognize the role that social structures, including the social structures within the U.S. higher education system, play in social reproduction.

One of the strengths of St. John et al.'s (2011) development of academic capital is that it employs both Coleman's (1988) emphasis on individual mobility and Bourdieu's (1972) emphasis on social reproduction. Thus, St. John et al. (2011) acknowledge the impact of social reproduction while still maintaining the focus on individual mobility that is characteristic of recent educational research.

### *Overextension of Cultural Capital*

Kingston (2001) offers criticism regarding the overextension of Bourdieu's (1977) term cultural capital. Specifically, Kingston (2001) argues that one of the reasons that cultural capital has failed to provide a clear understanding of the link between academic success and social privilege is that cultural capital has been used to define a variety of dispositions and practices. That is, researchers have labeled too many

variables that are actually conceptually distinct from cultural capital, thus creating an inaccurate picture of its impact on educational outcomes. However, not all of these definitions conform to what Bourdieu (1977) originally intended.

In order to clarify the multitude of uses of the term cultural capital, Winkle-Wagner (2010) proposes four definitional categories in educational research. Those categories include “highbrow” cultural capital, “contextually-valued” cultural capital, “otherized” cultural capital, and “Bourdieuian framework” cultural capital (Winkle-Wagner, 2010, p. 29). “Highbrow” cultural capital refers to knowledge or competence belonging only to the high-status, elite group in society (Winkle-Wagner, 2010). “Contextually-valued” cultural capital refers to knowledge or competence that is valued in a particular context (Winkle-Wagner, 2010). This definitional category suggests that all individuals, regardless of social status, possess cultural capital but that different types of cultural capital are differentially valued in different contexts (Winkle-Wagner, 2010). “Otherized” cultural capital contrasts the “highbrow” definition of cultural capital by applying cultural capital to nondominant, and often marginalized, groups (Winkle-Wagner, 2010).

However, it is the fourth definitional category of cultural capital, “Bourdieuian framework” cultural capital that is employed by St. John et al. (2011) in their conceptualization of academic capital. “Bourdieuian framework” cultural capital is similar to “highbrow” cultural capital in that it considers cultural capital the property of the high-status, or elite, group in society, but it is distinct in that it is placed within Bourdieu’s theory of social reproduction, with consideration of related concepts such as habitus and field. As previously mentioned, habitus refers to values and dispositions that

influence thoughts, perceptions, and actions of individuals and classes and ultimately reinforce social structures (Bourdieu, 1977). Field refers to the environment in which habitus and social structures are at play (Bourdieu, 1977). This implies that a value or disposition that is considered valuable in one field (e.g., academia) may not be considered valuable in another field (e.g., nonacademic workplace).

### *Failure to Differentiate Between Social and Cultural Capital*

Winkle-Wagner (2010) notes that many scholars who utilize a “Bourdieuian framework” definition of cultural capital not only incorporate the concept of social capital into their work, but they often operationalize social and cultural capital as one concept, rather than two distinct concepts. For example, in his study of the impact of social and cultural capital on student persistence in community colleges, Wells (2008) defines social capital as relating to personal connections and networks and cultural capital as relating to culture-based factors that define class. However, despite these distinctions between the two concepts, Wells (2008) fails to distinguish between the two in both his measurement and analyses. Instead, items such as parental education, parental educational expectations, availability of academic resources in the home, and use of test-preparation tools were all grouped into one measure of *both* social and cultural capital.

This failure to differentiate between social capital and cultural capital is a problem because it fails to acknowledge differences in social relationships and knowledge or competencies (Winkle-Wagner, 2010). Winkle-Wagner (2010) argues that individuals can possess social capital without possessing cultural capital or cultural capital without social capital. Thus, by not distinguishing between the two concepts, researchers fail to

provide a clear understanding of the true impact that each has on educational outcomes such as student retention and success.

St. John et al. (2011) operationalize social capital and cultural capital as two distinct, yet related concepts. In particular, they focus on the aspects of social capital related to building supportive networks, navigating systems, and accessing trustworthy information. They then focus on cultural capital specifically with regard to college knowledge and family uplift. However, the inclusion of all of these distinct aspects of social and cultural capital within academic capital demonstrates the relatedness of both concepts.

#### *Application of Academic Capital to Underrepresented College Students*

Only St. John et al. (2011) have explored the concept of academic capital, as it was only recently developed. Furthermore, while St. John et al. (2011) utilize academic capital to study the experiences of K-12 students from underrepresented backgrounds in higher education, academic capital has yet to be applied exclusively to college students. However, many of the concepts that comprise academic capital, including social capital and cultural capital, have been utilized in educational research, particularly with regard to college access and success for underrepresented college students.

For example, Museus and Neville (2012) examine the ways that institutional agents can facilitate social capital acquisition and ultimately academic success of minority students. Through qualitative interviews with minority students, they determined that certain characteristics in an agent lead to this social capital acquisition. Those characteristics include sharing common ground with students, providing holistic support for students, humanizing the educational experience, and providing proactive

support for students. Similarly, Walpole et al. (2005) utilize Bourdieuan framework cultural capital to understand standardized college admission exams and college access for African American and Latino high school students. Like Museus and Neville (2012), they also utilized qualitative interviews to illuminate students' individual perspectives. Ultimately, Walpole et al. (2005) viewed knowledge of the exam, as well as preparation strategies for it, as forms of cultural capital and habitus that contribute to social reproduction.

However, much of the research that utilizes a Bourdieuan framework to address issues related to social and cultural capital fails to maintain that framework when offering solutions to problems faced by underrepresented students. The problem with this oversight is that the same structures that act as agents of social reproduction are used to offer solutions to the challenges faced by those students (Musoba & Baez, 2009). For example, Tierney and Jun (2001) describe a college preparatory program that aims to help underrepresented students gain access to higher education. However, the program that Tierney and Jun (2001) describe as a possible solution to inequalities in educational access works within a structure that is a current source of social reproduction for the students it serves. Thus, while they do note the need for larger structural changes in American higher education, Tierney and Jun (2001) fail to offer a solution that actually addresses that need within a Bourdieuan framework.

In order to address this disconnect, Musoba and Baez (2009) suggest that scholars and practitioners begin to engage in a "social critique" of their current practices (p. 172). This social critique involves critically examining and questioning the structures currently at work within the institution. For example, McDonough (1997) explores college choice



with regard to habitus. In particular, she found that high school guidance counselors influenced the types of institutions that low-income students considered attending. Ultimately, in an effort to prevent low-income students from being unsuccessful in higher education, guidance counselors were actually lowering the ambitions of low-income students to include primarily local, as opposed to national, prestigious institutions. Consistent with a Bourdieuan approach and a social critique of practices, McDonough (1997) suggests structural changes within schools as a solution to this problem.

### *Need for Quantitative Measure of Academic Capital*

A psychometric instrument that measures academic capital will allow scholars and practitioners to engage in a social critique of their current practices within a Bourdieuan framework, as suggested by Musoba and Baez (2009) and practiced by McDonough (1997). That is, an instrument will provide scholars and practitioners with the information necessary to critically examine and restructure programs within their institutions that fail to support, and perhaps even preclude, high-risk students' academic capital formation and thus act as sources of social reproduction. As a result, institutions will be able to identify and restructure programs that act as sources of social reproduction rather than being forced to unknowingly rely on those same structures to improve the outcomes of high-risk students. Thus, such an instrument provides a tool to better uphold a Bourdieuan approach to issues in higher education. This study brings to the forefront the question: How can we effectively restructure programs and services to promote academic capital formation in students if we do not have a way of actually measuring academic capital?

Importantly, the Academic Capital Scale is not intended to be used to measure individuals students' varying levels of academic capital and then to classify those students based on whether the amount of academic capital that they possess is considered acceptable or unacceptable by their institutions. Thus, the Academic Capital Scale is not intended to provide support for scholars and practitioners interested in utilizing a deficit model. That is, it is not intended to promote the idea that individual students' lack of academic capital is the problem. Instead, it is intended to provide support for scholars and practitioners interested in engaging in a social critique of current institutional practices and to explore ways in which those practices can be redesigned to better support the needs of institutions' high-risk student populations. This idea of engaging in a social critique of institutional practices, as described by Musoba and Baez (2009), allows institutions to respond effectively to the Charles A. Dana Center's (2012) call for the development of new, innovative approaches to providing support programs for high-risk college students. Specifically, they argue that due to the ineffectiveness of current remedial programs, institutions must move forward "with an urgency to drive large-scale change" in the types of support programs that they offer to high-risk students (p. 12). Engaging in a social critique of current practices that takes into account institutional and societal structures in students' lives allows administrators to fulfill the Dana Center's (2012) call to action more fully than approaching the study of academic capital through a deficit model.

The intended use of the Academic Capital Scale developed and tested in this study is heavily influenced by the need for more educational researchers to develop Bourdieuan approaches to issues of student access and outcomes in higher education.

However, the U.S. higher education system, as well as society as a whole in the United States, is a more pluralistic context with less clear class distinctions than the European system in which Bourdieu (1972; 1977) developed his theories (Winkle-Wagner, 2010). This makes it appropriate, and perhaps even necessary, to acknowledge the more individualistic approach to concepts such as social capital proposed by Coleman (1988). Thus, an instrument that measures academic capital, and thus incorporates *both* Bourdieu's (1972) and Coleman's (1988) approaches, is better suited for examining the programs and services within the American higher education system than an instrument that utilizes only one of those approaches.

Few scholars have attempted to construct instruments that measure concepts such as social capital and cultural capital. Those who have tried to measure such concepts have faced significant criticism for their methods. Dika and Singh (2002) note that most attempts to measure social capital have been based on arbitrary indicators such as number of parents, household size, and church attendance. Furthermore, many of these studies, including Coleman's (1988) original study, utilized data that was not intended to specifically measure social capital. For that reason, current measures of social capital are insufficient, even for use in conjunction with measures of other components of academic capital.

Although not a recent study, DiMaggio (1982) provided a promising attempt to measure cultural capital in his study of high schools students' success. He created a scale that consists of three categories of items: attitude measures, activities measures, and information measures. Attitude measures include items related to occupational aspirations, self-image, and artistic, musical, and literary interests. Activities measures

include items related to creating and performing visual arts and attending or consuming visual arts. Information measures include items related to familiarity, appreciation, and knowledge related to literature, music, and art. However, academic capital provides a more comprehensive measure of underrepresented students' unique needs than cultural capital, or even social capital, alone. Furthermore, based on the social processes that emerged from their qualitative analyses, St. John et al. (2011) operationalize cultural capital less broadly than DiMaggio (1982), making DiMaggio's (1982) existing scale less compatible with a more current understanding of underrepresented students in higher education.

In summary, scholars such as Bourdieu (1972; 1977), Coleman (1988), and even DiMaggio (1982), vary in how they have conceptualized and applied the concepts of social capital and cultural capital in educational research. Although academic capital encompasses many of the discrete, yet often ambiguously defined concepts, St. John et al. (2011) clearly operationalize each of those concepts. Thus, academic capital provides a more comprehensive, yet also a more defined, measure of high-risk students' needs. However, there is currently no instrument that measures academic capital. The applicability of such an instrument to the high-risk student population, which includes primarily students from underrepresented backgrounds in higher education, and the ability of such an instrument to promote a social critique of institutional structures, make its development an important and necessary contribution to the field of higher education.

## CHAPTER THREE

### Methods

#### *Development of Instrument*

The original *Academic Capital Scale* proposed in this study was developed based on the conceptualization of academic capital provided by St. John et al. (2011). Scale items were developed for each of the six social processes related to academic capital formation, resulting in six subscales reflecting (1) concerns about costs, (2) supportive networks, (3) navigation of systems, (4) trustworthy information, (5) college knowledge, and (6) family uplift (see Table 1). Each subscale included an appropriate level of redundancy in order to provide multiple ways to capture a more accurate measurement of the latent variable academic capital while also reducing the idiosyncrasies of each item (DeVellis, 2012).

Each individual item in the scale asked participants to rate their level of agreement on a 6-point Likert-type scale that includes the following response options: strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, and strongly agree. Because this scale was intended to measure academic capital in college students, the phrasing of individual items reflected the experiences of currently enrolled college students as opposed to the population that St. John et al. (2011) studied, which included primarily low-income high school students aiming to gain access to college.

Table 1. Overview of the Academic Capital Scale

Latent Variable	Original # of Items	Sample Item 1	Sample Item 2
Concern About Costs	5	I am confident that I can financially afford to finish my college degree.	I feel discouraged from continuing in college due to financial constraints.*
Supportive Networks	5	I have people in my life who support my decision to attend college.	I have the emotional support that I need to get through college.
Navigation of Systems	5	I am aware of the resources at my school that can help me be a more successful student.	I know how to use the support services offered by my college.
Trustworthy Information	5	I am more trusting of information about my education that I receive from my college than of information about my education that I receive from my family.	I view the people who work at my college as trustworthy sources of information.
College Knowledge	5	I have role models in my family who attended college.	I have role models in my community who attended college.
Family Uplift	5	I want to get a better education than previous generations of my family.	I hope to achieve more in life than previous generations of my family.

\* Denotes reverse scored item

### *Reliability of Instrument*

Reliability of the Academic Capital Scale was analyzed using Cronbach's alpha, which is a measure of internal consistency. Internal consistency is the extent to which items are intercorrelated. Items that are highly intercorrelated produce a high alpha, suggesting that the items measure the same latent variable. DeVellis (2012) notes that when evaluating reliability of an instrument, a Cronbach's alpha between .65 and .70 is

typically considered minimally acceptable, a Cronbach's alpha between .70 and .80 is typically considered respectable, and a Cronbach's alpha between .80 and .90 is typically considered very good. Furthermore, DeVellis (2012) notes that a Cronbach's alpha greater than .90 warrants consideration of shortening the instrument. These criteria were applied when examining the reliability of the Academic Capital Scale.

### *Validity of Instrument*

While reliability provides a measure of the consistency of an instrument's measurements, it does not guarantee that the instrument truly measures the latent variable, which in this case is academic capital. Thus, issues related to content validity and construct validity were considered and addressed throughout development of the Academic Capital Scale. While criterion-related validity was also considered, the need to develop such an instrument reflects the lack of a current instrument to which this one can be compared. Because criterion-related validity relies on the existence of a related scale to determine correlations among items, no efforts could be undertaken to demonstrate criterion-related validity.

### *Content Validity*

DeVellis (2012) notes that content validity is intimately linked with the specific conceptualization and definition of the latent variable being examined (i.e., academic capital). Thus, in order to ensure that the Academic Capital Scale accurately reflected all aspects of academic capital, each individual item was drawn from a thorough review and analysis of the literature on academic capital and its related concepts. For example, the subscale related to human capital that is intended to measure *concerns about costs*

included an item that states, “I feel discouraged from continuing in college due to financial constraints.” This item reflects the fact that concerns about college costs can restrict students’ educational expectations, while easing concerns about costs can enhance students’ educational expectations (St. John et al., 2011). Strong agreement with this item reflects greater concerns about costs, and thus lower academic capital, making this a reverse scored item.

With regard to building social capital, the subscale intended to measure creation of *supportive networks* included an item that states, “I have people in my life who support my decision to attend college.” This item reflects the importance of individuals in students’ lives who support their educational pursuits, while also respecting the various sources of those relationships, such as students’ schools, churches, or communities (St. John et al., 2011). Additionally, the subscale intended to measure ability to succeed in *navigation of systems* included an item that states, “I know how to use the support services offered by my college.” This item reflects the importance of the ability to navigate the educational system effectively in order to access support services that can assist students in overcoming potential barriers to educational success (St. John et al., 2011). Furthermore, the subscale intended to measure access to *trustworthy information* included an item that states, “I am more trusting of information about my education that I receive from my college than of information about my education that I receive from my family.” This item reflects the nature of trustworthy information, which for many students from underrepresented backgrounds comes from local sources as opposed to official channels of communication within institutions (St. John et al., 2011).



In terms of building cultural capital and overcoming social reproduction, the subscale intended to measure access to *college knowledge* included an item that states, “I have role models in my community who attended college.” This item reflects the role that individuals within one’s family and/or community play in serving as sources of college knowledge for students. Additionally, the subscale intended to measure commitment to *family uplift* included an item that states, “I hope to achieve more in life than previous generations of my family.” This item reflects the importance of a culture of uplift in the families of students, particularly those with little history of success in higher education, as well as the importance of the value that students’ families assign to cross-generational uplift (St. John et al., 2011).

Furthermore, prior to distribution of the scale, both scholars and practitioners who are considered experts in related areas of higher education reviewed all items. For the purposes of this study, expert scholars included individuals who have studied academic capital, components of academic capital (e.g., social capital, cultural capital), and/or students from underrepresented backgrounds in higher education. Similarly, expert practitioners included individuals who work on a daily basis with issues related to academic capital and/or high-risk college students (e.g., academic support professionals). For example, several of the expert practitioners who reviewed the scale serve in an administrative role as directors of their institutions’ academic support programs or success centers. Other expert practitioners included individuals who work individually with students on a more regular basis as academic mentors or success coaches. Experts were recruited from both two-year and four-year institutions in an effort to create a scale that reflects the broad spectrum of students’ experiences in higher education. The

feedback from each of the experts was utilized to revise the proposed scale prior to its distribution.

### *Construct Validity*

DeVellis (2012) describes construct validity as the extent to which a measure behaves in a way that suggests it is actually measuring the latent variable (i.e., academic capital). Construct validity was analyzed through an exploratory factor analysis, which describes the underlying structure of the variables measured. The statistical method used was specifically a principal components analysis conducted in SPSS.

Principal components analysis measures the extent to which there is shared variance, or measurement overlap, among a set of items. If shared variance does in fact exist among a set of items, then it indicates that those items are measuring the same latent construct. In the data output, items that appear to be measuring the same latent construct will have the same, or similar, factor loadings, as each individual factor extracted from the data represents a latent construct.

### *Distribution of Instrument*

This instrument was distributed electronically to students at two different institutional types: a public two-year community college system and a private four-year university. The scale was distributed via a mass email from an administrator within each institution. Students then completed the scale electronically. The data from the two institutional types was analyzed both individually and jointly, yielding similar results. Thus, for the remainder of this study, the results that include both institutional types will be discussed.

### *Sample*

The sample in this study consisted of college students attending one of the two aforementioned institutions. The public two-year community college system consists of seven individual campuses and serves approximately 50,000 students. Approximately 80% of the total student population is enrolled in for-credit courses, and approximately 65% of the total student population is enrolled in full-time coursework. Additionally, in 2009, 40% of the student population successfully transferred to a four-year institution. The private four-year institution, on the other hand, has only one campus and serves approximately 2,000 students. It is a residential campus with a student body comprised primarily of undergraduate students.

The Academic Capital Scale was distributed to the entire student population at both institutions and yielded a total of 732 responses, or the equivalent of a 1.4% response rate overall. However, the response rate at the public community college was approximately 1% (N=491), while the response rate at the private four-year university was approximately 12% (N=241). The low response rate is one limitation of this study, as it may indicate the presence of some selection bias. That is, there may be some significant difference between the students who chose to complete the survey and those who did not. Of the 732 students who responded, 632 completed the entire Academic Capital Scale. While performing principal components analysis, cases with missing data (i.e., cases that did not respond to all items on the Academic Capital Scale) were deleted listwise. That is, those cases were removed from the analysis entirely, as the sample size was large enough without those cases to still be considered “very good” (DeVellis, 2012).

Furthermore, the Kasier-Meyer-Olkin measure of sampling adequacy ( $KMO = .835$ ) and Bartlett's Test ( $p < .001$ ) revealed appropriate fit of factor analysis for this sample.

Demographic questions were included at the end of the instrument. Thus, some students completed the Academic Capital Scale in its entirety but did not respond to all demographic questions. However, of the 632 usable responses analyzed in the principal components analysis, 626 of those students provided demographic information. The sample included 173 males (27.6%) and 453 females (72.4%). Additionally, the following racial and/or ethnic groups were represented: White, non-Hispanic ( $N=448$ , 71.6%), Hispanic ( $N=64$ , 10.2%), Other ( $N=38$ , 6.1%), African American ( $N=37$ , 5.9%), Asian ( $N=24$ , 3.8%), and Native American ( $N=15$ , 2.4%).

## CHAPTER FOUR

### Results

#### *Principal Components Analysis*

Principal components analysis with varimax rotation was conducted to determine what, if any, structure exists on the six latent variables: (1) concern about costs, (2) supportive networks, (3) navigation of systems, (4) trustworthy information, (5) college knowledge, and (6) family uplift. Results of the analysis were interpreted based on eigenvalues, scree plot analysis, and total variance explained. Based on those analyses, all six original latent variables did emerge as factors. However, two additional latent variables also emerged from the data: (7) overcoming barriers and (8) familial expectations.

Eigenvalues represent the amount of information captured by each individual factor. The total amount of information captured by the data (and thus the sum of all factors' eigenvalues) is equal to the total number of items in the instrument. Therefore, the total amount of information captured, as well as the sum of all eigenvalues, in the proposed Academic Capital Scale is 30. Kaiser's (1960) rule suggests factors with eigenvalues less than one should not be retained because such factors capture less information than the average item. The principal components analysis conducted in this study revealed eight factors with eigenvalues greater than one, suggesting that eight factors should be retained (see Table 2).

Scree plots are based on the relative values of successive factors' eigenvalues. More vertical slopes in the scree plot suggest that factors in that portion of the plot are the

most influential factors with large eigenvalues. On the other hand, more horizontal slopes in the scree plot suggest that factors in that portion of the plot are less influential relative to the other factors. Thus, Cattell (1966) suggests that factors that lie above the “elbow,” or the shift from a vertical slope to a more horizontal slope, in a scree plot should be retained, since the “elbow” suggests a substantial drop in the amount of information captured by the factors in that portion of the plot. The principal components analysis conducted in this study revealed eight factors above the “elbow” of the scree plot, suggesting that eight factors should be retained.

Total variance explained refers to the total amount of variance accounted for collectively by a group of factors. Generally, it is suggested that researchers retain factors that account for at least 70% of the total variance. The principal components analysis conducted in this study revealed that 10 factors must be retained to account for 70% of the total variance. However, DeVellis (2012) notes that data analysis must be conducted in light of one of the main purposes of factor analysis—*parsimony*, which refers to the identification of the “few, most influential sources of variation underlying a set of items,” as opposed to identifying *every* possible source of that variation (p. 127). With this goal in mind, only eight factors, or 66.93% of the total variance explained, were retained (as suggested by both eigenvalues and scree plot analysis) (see Table 2).

After determining the number of factors to be retained, factor loadings were examined in order to determine which individual items correspond with each factor. Factor loadings are interpreted as the Pearson correlation coefficient of each individual item with a factor. Thus, -1.00 suggests a perfect negative association, and +1.00 suggests a perfect position association. Only factor loadings greater than .40 were

examined. Of the 30 original items included in the Academic Capital Scale, only one item did not load on any of the eight retained factors. That item, which was included in the original *family uplift* subscale read, “I share the information that I learn about college with others in my family.” All other retained items had factor loadings of .57 or greater. After examining the remaining items, each of the eight retained factors was given a name that reflected those items (see Table 2).

### *Reliability Analysis*

The items that corresponded with each of the eight factors were examined in order to determine reliability of each retained factor. Reliability was determined based on the reliability coefficient, Cronbach’s alpha. Cronbach’s alpha ranges from 0.0 to 1.0, with 1.0 suggesting that 100% of the variance in the scale score is attributed to the true score of the latent variable.

The second factor revealed in the principal components analysis yielded an unacceptable Cronbach’s alpha of .51. However, after removing an item from the original family uplift subscale that read “I have more knowledge about college than other members of my family,” the alpha increased to .83. After removal of that item, the Cronbach’s alpha for each factor in this study either met or exceeded minimum standards of reliability (see Table 2). The full Academic Capital Scale, which incorporates all eight of the extracted latent variables, also meets acceptable standards of reliability with a Cronbach’s alpha of .83.

Table 2. Factors and Results from Principal Components Analysis

Factor	# of Items	Eigenvalue	% of Variance	Cumulative %	Mean	SD	Cronbach's alpha
Navigation of Systems	5	6.71	11.16	11.16	22.73	5.38	0.82
Family Uplift	4	3.47	10.37	21.53	20.17	4.19	0.83
Supportive Networks	4	2.58	10.14	31.67	22.35	2.95	0.84
Concern About Costs	5	2.05	8.26	39.93	17.31	5.62	0.69
Trustworthy Information	3	1.69	7.65	47.59	13.83	3.13	0.77
Overcoming Barriers	3	1.35	7.40	54.99	14.85	2.80	0.81
Familial Expectations	2	1.17	6.16	61.15	10.01	2.69	0.85
College Knowledge	2	1.06	5.78	66.93	9.44	2.93	0.70



## CHAPTER FIVE

### Discussion

This study sought to develop a psychometric instrument that measures academic capital in college students. Additionally, this study sought to determine whether that instrument has content validity, construct validity, and reliability. Content validity was established through the development of the instrument based on St. John et al.'s (2011) conceptualization of academic capital and through feedback from expert scholars and practitioners in related areas of higher education. Construct validity and reliability were then established through principal components analysis and an internal reliability analysis.

Principal components analysis confirmed that all six of the original academic capital subscales (i.e., concern about costs, supportive networks, navigation of systems, trustworthy information, college knowledge, and family uplift) were in fact latent variables captured by the Academic Capital Scale. However, the analysis also revealed two additional subscales, or latent variables, captured by the Academic Capital Scale: *overcoming barriers* and *familial expectations*. Therefore, the Academic Capital Scale that emerged in this study consists of eight components of academic capital, as opposed to only six (see Figure 2). A minimum threshold of reliability in this study was .65 (DeVellis, 2012). Each scale representing one of the latent variables was reliable, with Cronbach's alphas ranging from .69 to .85. Furthermore, the complete Academic Capital Scale, which includes all eight of the latent variables and their associated items, was found to exceed acceptable standards of reliability with a Cronbach's alpha of .83.

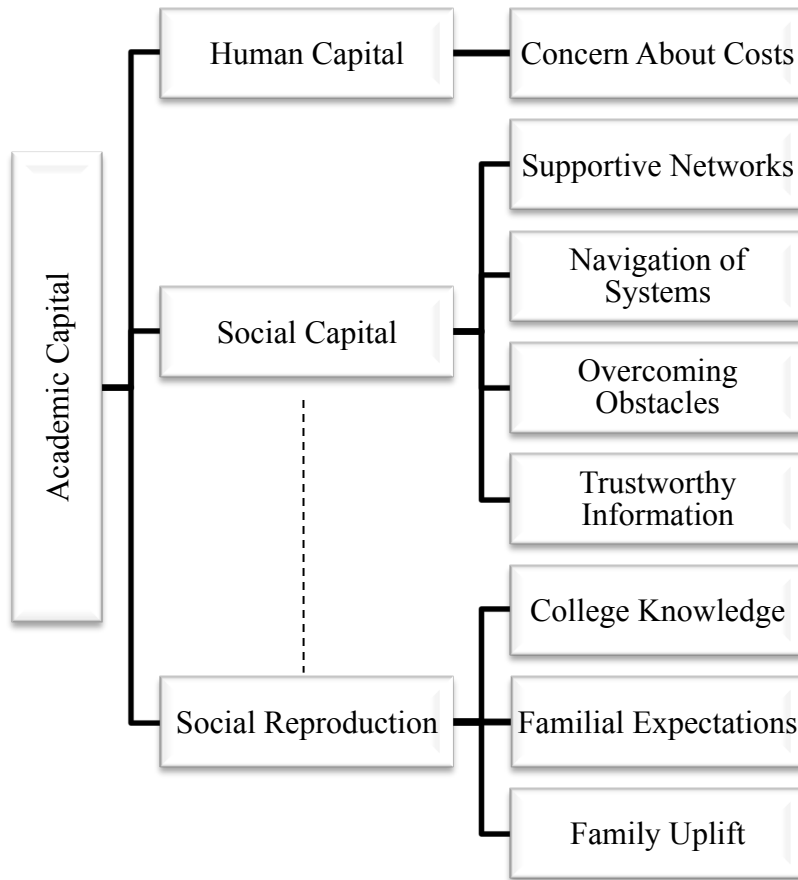


Figure 2. Revised Academic Capital Components

### *Validation of Original Academic Capital Scale Factors*

*Navigation of systems* emerged as the most influential latent variable, accounting for 11.16% of the variance in the data. The individual items, and thus the subscale as a whole, reflect students' abilities to access and utilize support programs within their institutions. Items from the original Academic Capital Scale that remained part of this subscale after the analysis included "I know how to use the different support services offered by my college" and "I am aware of the resources at my school that can help me be a more successful student."

There were several items that were originally included in other subscales that emerged as part of the navigation of systems subscale after the analysis. One of those items read, “People on my campus have reached out to me to offer support” and was originally included in the supportive networks subscale. Another such item, which was originally included in the trustworthy information subscale read, “I am comfortable seeking information from those who work at my college.” However, because these items refer to a student’s access to and comfort with obtaining support and information from individuals *within* the institution specifically, it is more consistent with navigation of systems.

*Family uplift* emerged as the second latent variable in terms of variance explained and included only items that were included in the original family uplift subscale prior to analysis. Thus, as intended, the family uplift subscale reflects students’ desires to achieve more, both in education and in life more broadly, than previous generations of their families. One item that was included in the original Academic Capital Scale, however, did not emerge as part of the family uplift subscale or of any other scale. That item read, “I share the information that I learn about college with others in my family.” This item was originally created based on St. John et al.’s (2011) discussion of opportunities to increase college knowledge and support family uplift among both students and parents. However, the principal components analysis suggests that family uplift in high-risk students relates primarily to students possessing a drive for their own individual achievement and uplift, as opposed to a drive to influence the achievement of others in their families.

*Supportive networks* emerged as the third latent variable. As mentioned previously, one item from the original supportive networks subscale (“People on my campus have reached out to me to offer support”) became part of the navigation of systems subscale following analysis. This item was excluded because the supportive networks subscale reflects students’ access to supportive individuals and networks *outside* their institutions. Thus, students’ interactions with supportive individuals within their families and/or communities influence this latent variable. For example, two of the remaining items refer to individuals in students’ lives more broadly and read, “I have people in my life who support my decision to attend college” and “I have people in my life who encourage me to succeed in college.”

*Concern about costs* emerged as the fourth latent variable. This subscale remained identical to the original concern about costs subscale that was created based on the academic capital literature. No items were added or removed from the subscale after the analysis. The items, and thus the subscale as a whole, reflect students’ concerns with regard to having the financial resources to persist through college. For example, one item reads, “I can continue to attend college without financial aid.”

*Trustworthy information* emerged as the fifth latent variable, and its items reflect students’ trust of information related to their education that comes from within their institutions. Thus, items included in the original trustworthy information subscale that reflect access to trustworthy information about college more broadly were not included in the subscale after the analysis. For example, the item that read, “There are people I trust who support me in finishing college” emerged as part of the supportive networks

subscale, as it refers to trustworthy individuals in a student's life broadly, as opposed to trustworthy individuals within their institution more specifically.

*College knowledge* emerged as the eighth latent variable in terms of variance explained. As intended it reflects students' access to general knowledge about college from individuals in their lives. While several of the college knowledge items emerged as capturing other latent variables, the two items that remain part of the final college knowledge subscale read, "I have role models in my family who attended college" and "I have role models in my community who attended college." These items presume that students who have family and/or community members who attended college will have greater exposure to knowledge related to college.

#### *Identification of Additional Academic Capital Scale Factors*

##### *Overcoming Barriers*

Though its items were originally included as part of the navigation of systems subscale, *overcoming barriers* emerged as its own latent variable and accounts for 7.40% of variance in the data. The items in this subscale were originally included in the *navigation of systems* subscale and were intended to reflect students' abilities to navigate the educational system, as St. John et al. (2011) describe navigation of systems as involving students' abilities to overcome barriers related to issues such as classism and racism. However, though students' abilities to overcome barriers may be related to their ability to navigate the educational system, the data analysis in this study suggests that it is influential enough to warrant consideration as a distinct latent variable within the larger concept of academic capital.

The overcoming barriers subscale reflects students' abilities to overcome obstacles that may impede their college persistence and/or success. For example, the items in this subscale include, "Despite any obstacles that I face, I am confident that I can continue attending college" and "I am confident that I can overcome any barriers to my success in college." Therefore, while students' abilities to overcome barriers is related to navigation of systems, the two emerged as distinct variables, with navigation of systems primarily reflecting students' access and use of institutional resources more broadly.

### *Familial Expectations*

Similarly, *familial expectations* also emerged as its own latent variable, accounting for 6.16% of the variance in the data. The items in this subscale were originally included in the *college knowledge* subscale, as St. John et al. (2011) describe college knowledge as a form of cultural capital "that includes the capacity to envision one's self and family members as college students" (p. 16). The specific items that emerged as part of the familial expectations subscale were originally intended to reflect both the extent to which students' families promoted a vision of their children as college students, as well as the extent to which students' families understand and value a college education, which was assumed to reflect the extent to which those families would expose their students to college knowledge.

However, the familial expectations subscale reflects whether or not students' families expect their children to pursue a formal postsecondary education. This expectation (or lack of expectation) for pursuit of postsecondary education emerged from the data as a new distinct latent variable. The items included in the familial expectations subscale read, "My family expected me to pursue other paths in life than attending

college” and “My family encouraged me to consider other paths in life than attending college.” Therefore, while the expectations that students’ families have for their college education may be indicative of students’ exposure to college knowledge, those expectations are influential enough to be considered as a distinct latent variable.

### *Limitations*

There are several limitations in this study, particularly with regard to the final Academic Capital Scale. First, two of the factors that emerged from the Academic Capital Scale (college knowledge and familial expectations) are comprised of only two items. While the emergence of these two factors was consistently found in the data of students attending a two-year institution, students attending a four-year institution, and the combined data of both institutional types, scales with only two items are typically considered to be unstable (DeVellis, 2012). Therefore, future research should aim to add additional items and further validate to the college knowledge and familial expectations subscales.

Additionally, both items in the college knowledge subscale refer to students’ exposure to role models who attended college. The fact that both items refer specifically to role models raises a concern that this factor may not truly capture the *college knowledge* that students’ gain from having those role models, but instead that it captures some other aspect of the relationship that students have with those role models. The emergence of those two items as a distinct factor suggests that the latent variable that those items capture is an influential part of students’ academic capital. However, further examination is required to confirm that those items do fully reflect the *college knowledge* latent variable as described by St. John et al. (2011).

One additional limitation with regard to this study more broadly is the limitation inherent to any attempt to quantify what truly is a *latent*, or hidden, variable. While a postpositivist epistemology acknowledges this limitation, it does not resolve the potential danger in utilizing such an approach. More specifically, despite the demonstrated validity and reliability of the Academic Capital Scale, no scholar or practitioner can know for certain the *true* score of the amount of academic capital that any student possesses. While this study was conducted under the premise that the benefits of such an instrument outweigh the potential risks, the unquantifiable nature of latent constructs like academic capital make them particularly dangerous criteria for assigning any sort of labels to students (e.g., designating an individual student as possessing low, or deficient, academic capital).

### *Implications for Theory*

First and foremost, the validity and reliability of the Academic Capital Scale indicate that it can accurately and consistently measure academic capital in college students. Moreover, principal components analysis of the data from students attending a community college and students attending a four-year institution yielded the same eight factors. This suggests that, while the actual levels of academic capital may vary between students at two-year and four-year institutions, those levels can accurately and consistently be measured utilizing the same psychometric instrument, namely the Academic Capital Scale developed in this study.

In addition, the results of the principal component analysis and the revised academic capital subscale that resulted from that analysis reveal specific intricacies with regard to several of the components of academic capital that otherwise may have gone



unnoticed. This information provides a more refined understanding of academic capital in high-risk college students. In particular, the factors loadings of various scale items suggest that *navigation of systems* and *trustworthy information* relate specifically to students' abilities to navigate their educational institutions and students' trust of information about their education that they receive from those institutions. While those two components of academic capital relate specifically to *institutional* systems and information, the *supportive networks* latent variable refers to support that students receive from others in their lives, more broadly.

Another noteworthy finding relates to *family uplift* and the way in which it functions in students' lives. While St. John et al. (2011) describe family uplift as including development of shared college knowledge within families through both parental and student engagement, the only item in the Academic Capital Scale that did not load on any of the eight factors reflected this aspect of family uplift. The item read, "I share the information that I learn about college with others in my family." Thus, the findings in this study suggest that, at least for students currently enrolled in college, family uplift seems to be constrained to uplift produced by students' own individual efforts. Thus, it does not reflect a desire for students to promote uplift produced by the aspirations or actions of others in the family.

Furthermore, the emergence of two previously nonexistent factors provides insight into additional aspects of academic capital that are particularly salient for high-risk college students. The items that emerged as the *overcoming barriers* subscale were originally intended to be included in the *navigation of systems* subscale. Likewise, the items that emerged as the *familial expectations* subscale were originally intended to be

included in the *college knowledge* subscale. These two additional subscales, or factors, expand academic capital beyond the six main components included in St. John et al.'s (2011) conceptualization of academic capital. They suggest that there may be crucial subcomponents of the six academic capital processes discussed by St. John et al. (2011) that significantly impact students' academic capital formation.

The emergence of these two new latent variables is consistent with related research that highlights both the unique obstacles that some students, particularly those considered high-risk, face when pursuing a college education and the importance of familial involvement and expectations in such pursuits. For example, Pizzolato (2003) argues that many high-risk students, upon publicly disclosing their college aspirations, face ridicule and social isolation from those within their families or communities. Therefore, those students are more likely than their lower risk peers to develop strong internal foundations, and thus a greater sense of self-authorship, in order to continue pursuing their college aspirations. Similarly, Pizzolato, Brown, Hicklen, and Chaudhari (2009) note that many high-risk students are forced to develop active coping skills in order to effectively deal with challenges such as academic unpreparedness and lack of social support, which many of their lower risk peers are less likely to face. These scholars provide significant support for the salience of overcoming obstacles in the lives of college students and thus for its emergence as a distinct latent variable in the Academic Capital Scale.

Additionally, the specific conceptualization of overcoming barriers that emerged from the items included in that factor reflects the concept of hope, as defined by Snyder et al. (1991). They describe hope as a cognitive motivational system, as opposed to

simply an emotion. Thus, hope consists of both *agency*, or an efficacy expectancy reflecting a student's confidence in his or her abilities to attain goals, and *pathways*, or an outcome expectancy reflecting a student's ability to generate and implement multiple strategies to achieve those goals. Importantly, students who express high levels of hope, as defined by Snyder et al. (1991), tend to have higher cumulative GPA's, increased likelihood of graduating from college, and decreased likelihood of withdrawal from college due to poor grades (Snyder et al., 2002). Therefore, this conceptualization of hope, which may be captured in part by the items included in the *overcoming obstacles* subscale, serves as a predictor of academic achievement in college students.

Scholars have also addressed the importance of parental and familial involvement in the lives of high-risk college students. For example, Horn and Chen (1998) found that two parental engagement indicators, *educational expectations* and *school-related discussions*, were significant predictors of college enrollment for high-risk students. Similarly, Perna and Titus (2005) found that parental involvement, when conceptualized as a form of social capital that provides students with access to college resources, does in fact promote enrollment of high-risk students in both two-year and four-year institutions. They argue that parents of high-risk students, through their involvement and interactions with their children, their children's school, and other parents, convey norms and standards about education that promote college enrollment. Thus, it is not shocking that one of the additional latent variables that emerged in this study related to familial expectations for students' postsecondary education.

### *Implications for Current Practice*

Many colleges and universities currently rely on remedial education courses to promote the retention and success of high-risk college students. Despite the widespread use of remedial education, research has demonstrated that it is not only ineffective, but also incredibly costly for institutions (Charles A. Dana Center, 2012). The Charles A. Dana Center (2012) calls for a new approach to instruction and support for high-risk college students, insisting that institutions should urgently pursue large-scale changes and implement new and innovative practices. Academic capital provides a new lens through which institutions and practitioners can pursue an innovative and much needed alternative to remedial education.

As previously mentioned, the intended use of the Academic Capital Scale is not to employ a deficit model that simply identifies and classifies individual students based on their relative levels of academic capital. Instead, it is intended for use by institutions and individual departments within institutions (e.g., academic support programs) to restructure their current offerings of support programs to better meet the needs of the student population as a whole. This approach will allow those institutions and departments to engage in the “social critique” of current practices endorsed by Musoba and Baez (2009). While the goal is to ultimately improve the retention and success of college students (potentially through increased levels of academic capital), the intended emphasis is on utilizing the scale to identify ways in which the current structure of institutional programs fails to adequately support those students, rather than viewing individual students and/or individual students’ supposedly inadequate levels of academic capital as the problem that needs fixing.

For example, an institution may find that many of its students report difficulty with regard to *navigation of systems* and thus may consider restructuring or developing support programs that educate students on the availability of internal institutional resources. With a large student population that reports little desire for *family uplift*, an institution may consider developing support programs that engage students with the stories of former students or community members who do have a passion for pursuing family uplift and who have experienced success in achieving more than previous generations of their families. Such programs would aim to create a similar desire or drive in current students. Additionally, an institution may find that many of its students are unable to identify *supportive networks* in their lives and thus may restructure or develop support programs that emphasize individualized mentoring. An institution may also find that many of its students report a high level of *concern about costs* and as a result may restructure or develop support programs that educate students about various opportunities for financial aid and assistance, as well as assist students in applying for and managing such aid. Conversely, an institution that finds its students reporting little access to *trustworthy information* may restructure its support programs to emphasize external outreach to the campus community in order to promote the development of trusting relationships among students and administrators. If many students on a campus indicate little access to *college knowledge*, an institution may then develop informational sessions that provide students with access to both useful college knowledge and role models who can continue serving as sources of such knowledge throughout those students' college careers. Institutions with a large student population that indicates difficulty *overcoming barriers* may restructure or develop support programs that both acknowledge students'

internal strengths and abilities and provide external resources for confronting obstacles. Finally, institutions that find their students reporting low levels of *familial expectations* may consider restructuring support programs to include parental or familial involvement.

Academic capital is particularly promising because it provides a more comprehensive approach through which institutions can support high-risk students, as recommended by Merisotis and Phipps (2000), than content-specific remediation. Furthermore, because support services that address elements of academic capital are not content-specific, they can be provided concurrently with students' coursework (unlike remedial coursework which typically occurs in a particular sequence), which the Dana Center (2012) cites as a crucial element of effective support programs, particularly for high-risk students.

### *Implications for Future Research*

The Academic Capital Scale developed in this study provides numerous opportunities for researchers to engage in further exploration of academic capital and its related concepts. Most notably, future research could examine the actual levels of academic capital in different populations of students. While this study found that academic capital is measured similarly in students attending two-year and four-year institutions, it does not at all indicate that those students have comparable levels of academic capital. Thus, researchers can examine similarities and differences in various populations of students in order to more fully understand academic capital and the way in which it operates in students' lives. Some specific questions that scholars should consider exploring include: Are there any significant differences based upon students' institutional type in academic capital? Are there any significant differences based upon

students' personal characteristics (e.g., race, ethnicity, gender) in academic capital? Can academic capital be predicted by other variables, particularly those that place students in a population without a history of success in higher education (e.g., low socioeconomic status, first-generation college student status)?

Additionally, future research might study academic capital with regard to transfer students, with specific questions exploring: Are there any significant differences among transfer and non-transfer students in academic capital broadly? Are there differences among transfer and non-transfer students in specific components of academic capital? When considering transfer students, scholars might also consider exploring whether there is a distinction between *local academic capital* and more *universal academic capital*. While some students may possess local academic capital, or an understanding of how to access and navigate higher education at their specific institution or institutional type, that may not necessarily mean that they possess universal academic capital, or a more general, transferrable understanding of how to access and navigate higher education across institutions and institutional types. However, scholars engaging in such research must be cautious not to employ a deficit model when measuring students' comparative levels of academic capital. Rather, researchers should consider approaching such research with the intent of engaging in a social critique of current institutional and systemic practices in higher education, as was the aim of this study.

Additionally, future research should seek to improve upon the current Academic Capital Scale. In particular, the *college knowledge* and *familial expectations* subscales should be expanded to include more than two items. While the subscales meet acceptable standards of reliability with Cronbach's alphas of .70 and .85, respectively, scales with

only two items are typically considered unstable (DeVellis, 2012). Therefore, future research should aim to develop additional items for both subscales that can then be administered to students along with the current Academic Capital Scale. Confirmatory factor analyses can then be conducted to reveal the validity and underlying structure of any newly created items and their related latent variables. Additionally, the *concern about costs* subscale has the lowest reliability within this study with a Cronbach's alpha of only .69. While DeVellis (2012) considers this to meet a minimally acceptable standard of reliability, researchers should consider creating and testing items that make this a more reliable subscale.

Finally, as administrators begin to explore and implement alternative support programs for high-risk college students, researchers should examine the effectiveness of any approaches grounded in academic capital relative to the effectiveness of other approaches. For example, some community colleges implement models based on emotional intelligence, which involves the development of competencies in interpersonal skills, leadership skills, self-management skills, and intrapersonal skills (Nelson & Low, 2011). While such approaches are similar to academic capital in their comprehensive nature, researchers should aim to determine if any one approach more effectively promotes persistence and success of particular student populations. Ongoing research and assessment of such programs will aid in preventing the current dilemma that higher education faces with regard to remedial education—that is, ongoing research and assessment will aid in preventing widespread adoption of a costly, yet ineffective approach to supporting high-risk college students.



### *Conclusion*

During a time when institutions and their external critics are questioning both the efficacy and value of remedial education programs, it is crucial that higher education administrators offer a promising alternative that is grounded in an empirically supported construct such as academic capital. Ultimately, the creation of a valid, reliable Academic Capital Scale that can be utilized within both two-year and four-year institutions highlights the potential for administrators to reexamine and restructure current support programs and to provide new, innovative support programs that allow high-risk college students to not just access higher education, but to also succeed once they are there. As the Dana Center (2012) asserts, administrators move forward “with an urgency to drive large-scale change – for the sake of millions of students and families who are counting on postsecondary education as the first step to a better future” (p. 12).

## APPENDIX

## APPENDIX

### Academic Capital Scale

#### *Navigation of Systems*

People on my campus have reached out to me to offer support.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
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When I struggle in college, I know that I have someone to turn to for help.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
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I know how to use the different support services offered by my college.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
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I am aware of the resources at my school that can help me to be a more successful student.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
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I feel comfortable seeking information from those who work at my college.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
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#### *Family Uplift*

I am expected to get a better education than previous generations of my family.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
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I want to get a better education than previous generations of my family.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

I hope to achieve more in life than previous generations of my family.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

My parents want me to achieve more in school than they did.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

### *Supportive Networks*

I have people in my life who support my decision to attend college.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

I have people in my life who encourage me to succeed in college.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
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I have the emotional support that I need to get through college.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

There are people I trust who support me in finishing college.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

### *Concern About Costs*

I can continue to attend my college without financial aid.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
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I am confident that I can financially afford to finish my college degree.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

I am more focused on my college coursework than I am on my financial concerns.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

I feel discouraged from continuing in college due to financial constraints.

*\*Reverse scored item*

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
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My concerns about college costs limit what colleges I can attend.

*\*Reverse scored item*

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
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### *Trustworthy Information*

I am more trusting of information about my education that I receive from my college than of information about my education that I receive from my family.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

I am more trusting of information about my education that I receive from my college than of information about my education that I receive from my friends.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

I view people who work at my college as trustworthy sources of information.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

### *Overcoming Barriers*

I am confident that I can overcome any barriers to my success in college.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

Despite any obstacles that I face, I am confident that I can continue attending college.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
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I have overcome the obstacles that would prevent me from being a successful student.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
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### *Familial Expectations*

My family encouraged me to consider other paths in life than attending college.

*\*Reverse scored item*

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

My family expected me to pursue other paths in life than attending college.

*\*Reverse scored item*

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

### *College Knowledge*

I have role models in my family who attended college.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

I have role models in my community who attended college.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
----------------------	------------------------	----------------------	-------------------	---------------------	-------------------

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