

RESHAPING ACCESS: **An Overview of Research on** **Access to Higher Education,** **Social Media and Social Capital**



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U N I V E R S I T Y

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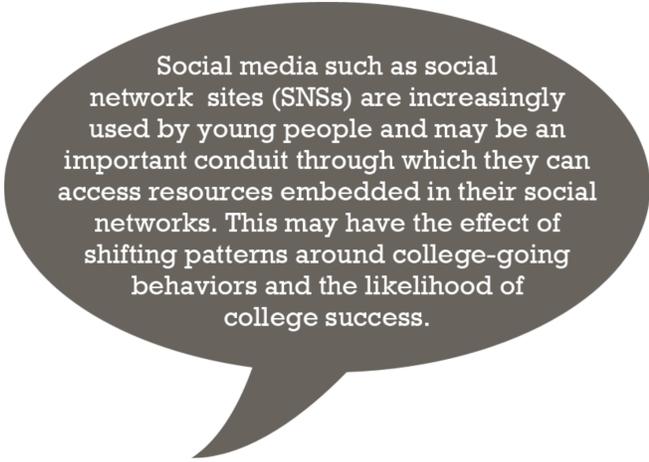
I. INTRODUCTION

A postsecondary credential is critical for getting, and keeping, a job in today's economy. Unemployment rates from 2009 to 2010 were 8.9% for those with new bachelors' degrees, but 22.9% for job seekers with a recent high school diploma and 31.5% for recent high school dropouts (Carnevale, Cheah, & Strohl, 2011). A postsecondary credential can help individuals transition out of poverty and into the middle class, yet many young people do not choose to pursue higher education. Of those that do, at least 40% never finish (Murtaugh, Burns, & Schuster, 1999; Complete College America, 2011). As we describe below, students from low-income families, minority students, and those who are the first in their family to attend college are at increased risk for failing to access post-secondary education opportunities.

There are many factors that influence college access (applying for, being accepted at, and attending college) and persistence (successfully adjusting to and finishing college) patterns. Barriers to access and persistence include lack of informational resources (e.g., knowledge of grants and student loans), lack of interest, inability to adjust to the college environment, and poor academic preparation that forecloses educational opportunities. Some of these factors are fairly intractable, but others may be more malleable.

Social capital is a theoretical framework that can be used to understand patterns of college access and, potentially, suggest how these patterns might be reshaped. Social capital, as described by Lin (1999, 2001), Putnam (2000), and Bourdieu (1986), among others, refers to the extent to which individuals are able to access and mobilize resources in their social network. These resources can be tangible resources, such as financial aid or information, or more psychological in nature, such as social support. For college access issues, both informational and social support provisions are important.

This white paper explores the extent to which social media interventions might be able to ameliorate college access and completion patterns, using a social capital framework. Social media such as social network sites (SNSs) are increasingly used by young people and may be an important conduit through which they can access resources embedded in their social networks, shifting patterns of college-going behaviors and the likelihood of college success. A key



Social media such as social network sites (SNSs) are increasingly used by young people and may be an important conduit through which they can access resources embedded in their social networks. This may have the effect of shifting patterns around college-going behaviors and the likelihood of college success.

characteristic of social media is the way in which they enable individuals to maintain large networks; social media may thus enable teens to connect with social contacts to whom they would not otherwise have access. Furthermore, many social media tools allow users to broadcast requests for emotional or informational support, perhaps enabling young people to draw resources from these connections more efficiently. Finally, the identity exploration and reinforcement processes potentially available through social media may help youth embrace “college-going” aspects of their identity.

In this white paper, we summarize and synthesize the current academic literature on college-going, social media, and social capital, with a focus on identifying potential mechanisms through which social media might better enable low-income, minority, and first generation students to pursue and complete higher education. First, we provide an overview of the current landscape of post-secondary education. Then, we present findings from education studies, introduce the concept of social capital, and explicate its relationship to educational factors such as access and adjustment. Finally, we provide an overview of social media and suggest how it can facilitate positive post-secondary educational outcomes, giving examples of ongoing interventions and offering recommendations for researchers and practitioners.

Our synthesis of the literature points to several important trends, which we feel represent the most important areas of opportunity in the area of social media and access to higher education:

1. First generation students have informational gaps due to a lack of resources available in their network. Social media may reshape social networks and increase access to human resources that would otherwise be inaccessible.
2. Social media may enable users to maintain larger and/or more diverse networks, which are more likely to provide additional access to information and social support.
3. Social media might enable teens to self-identify as a “college-goer” in a supportive space where they receive positive feedback from peers and mentors.
4. Social media can highlight and amplify perceptions of community norms, and thus influence how users perceive college (e.g., as a realistic, desirable goal)
5. Social media enable teens to maintain relationships with their peer networks, thus alleviating concerns about losing touch with high school friends by going to college.

I. THE CURRENT LANDSCAPE

Advanced education is associated with financial, social, physical, and psychological benefits for the individual and the society. Young adults between the ages of 25 and 34 with a college degree, working year-round, earn about 40 percent more than similarly aged adults who have not completed a degree and about two-thirds more than similarly aged adults with just a high school diploma (U.S. Census Bureau Current Population survey, 2010). Highly educated individuals can also benefit society financially since they contribute to charitable giving, tax revenues, consumption and economic productivity (Bloom, Hartley, & Rosovsky, 2006). Conversely, dropping out of college without attaining a degree not only creates debt for the individual, but also depletes billions of dollars of taxpayer money used to support students who were pursuing degrees they will never earn (Schneider & Yin, 2011). The American Institutes for Research reported that approximately \$3.8 billion was lost in potential income, \$566 million was lost in potential federal income taxes, and \$164 million was lost in potential state income taxes nationwide by full-time students who started college seeking a bachelor's degree in the fall of 2002 but failed to graduate six years later (Schneider & Yin, 2011).

Civic engagement and effective communication are also positively associated with higher education (Putnam, 2000; Baum & Ma, 2007). Higher education levels are correlated with civic participation and related factors like volunteerism, blood donation, and openness (Astin, 1993; Baum & Ma, 2007).

Higher education is associated with improved health outcomes and lifestyle. Attending college is related to improved health and life expectancy, improved quality of life, and improved working conditions for individuals (Bloom et al., 2006). College graduates not only have lower smoking rates than those who did not graduate from college, but their perceptions of personal health are relatively positive, and they tend to lead healthier lifestyles overall (Baum & Ma, 2007). For example, highly educated individuals of every age are more likely to engage in "leisure-time exercise" than their less educated counterparts (Baum, Ma, & Payea, 2010, p. 28).

Finally, the literature suggests that college may serve an important role in regard to psychological development processes. Although adolescence is a critical period in an individual's life where identity takes shape (Erickson, 1968), the college years (for traditional students) are also important. Arnett (2000) describes the period of years 18-25 as one of "emerging adulthood." This important developmental stage occurs as individuals are transitioning from adolescence to adulthood and experimenting with and establishing their identity in regard to worldview, career path, and relationship patterns. Moving away to college often plays a key role in this process, in that it typically gives young people more autonomy and less parental oversight in a context that has fewer responsibilities than adulthood. College-going affects every aspect of a student's development, including cognitive/affective, psychological, and behavioral aspects (Astin, 1993). In particular, activities involving peer interactions (e.g., participating in sports or student organizations) lead to positive effects on self-

concept and help develop important traits such as critical thinking and cultural awareness (Astin, 1993).

The college environment provides a context for adolescents to “become mature, knowledgeable, and focused in thinking about a career” (Pascarella & Terenzini, 2005, p. 534). Skeptics might assert that maturation will occur with or without the college environment, as students grow older, but evidence suggests that college seniors have a “more accurate perspective about labor market realities and a higher level of overall workplace readiness than do their counterparts with less exposure to postsecondary education” (Pascarella & Terenzini, 2005, p. 534). Bringing together individuals with a shared goal such as learning may have other benefits above and beyond those provided by the curriculum in that college environments can support the development of ‘communities of practice’: groups who come together to learn in a shared domain (Wenger, 1998). Colleges may help incorporate students into a community of professional practice and thus help meet the “life-long learning needs of students” (Wenger, 1998, p.5).

Although the benefits of post-secondary education are well documented, there are many individuals who do not attend college or, if they do attend, do not complete a degree. From 1989 to 1999, there was a 9% increase in enrollment at degree-granting post-secondary institutions, whereas between 1999 and 2009, a 38% increase was reported (NCES, 2011). While this may appear to be an improvement, despite enhanced enrollment, college degree *completion* rates have virtually remained unchanged during this period (Complete College America, 2011). Graduation rates are lower for certificate and associate degree programs compared to four-year degrees and are worse for part-time students; recent data show that 40% of today’s students attend college part-time, and less than a quarter of these part-time students make it to graduation, even when longer time horizons are considered (Complete College America, 2011). According to the same report, 60% of full-time students in 4-year programs graduate within eight years, while only 24% of part-time students do so.

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College access and completion patterns differ across socio-demographic categories such as ethnicity and socio-economic status (SES) (Pascarella & Terenzini, 2005). Studies across the past thirty or so years have consistently shown that students coming from families that have low SES are less likely to attend college (Hearn, 1984; McDonough, 1997; Paulsen & St John, 2002). In 2004, 51% of high school seniors of low SES expected to earn a

bachelor’s degree or attend graduate school, in comparison with 66% of mid-SES and 87% of high SES seniors (NCES, 2006). By age 24, students from the highest income

families are almost eight times more likely to earn a bachelor's degree than those in the low-income bracket (Lee & Rawls, 2010).

Graduation rates are especially low for students who are African-American or Hispanic (Complete College America, 2011). As of year 2008, only 30.3% of African-Americans and 19.8% of Hispanics aged 25-34 have an associate's degree or higher (Lee & Rawls, 2010). When minority students do go to college, they are at higher risk of incompleteness—dropout rates are highest for African-American, Hispanic, and poor students (Complete College America, 2011). Because SES and ethnicity are often related in consistent patterns, it is difficult for researchers to isolate the effects of ethnicity above and beyond SES. For instance, relative to Whites, a higher percentage of minority children are living in a state of poverty: 34% of African-Americans, 27% of Hispanics and 10% of Whites are living in poverty (NCES, 2010).

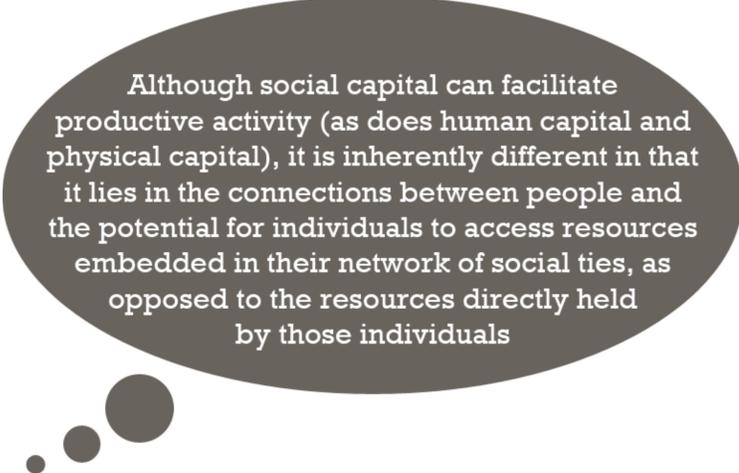
In summary, because higher education is associated with individual and community-level benefits, the premise of this white paper is that equalizing access to higher education is an important goal. One theoretical framework that can help explain why some students succeed at knowing about, applying for, enrolling in, and graduating from college is *social capital*. In the next section, we explain the concept of social capital and how it relates to various aspects of post-secondary success.

III. SOCIAL CAPITAL

Social capital is a theoretical framework that considers access to different types of resources within one's network and thus may provide a useful perspective on academic success and how to encourage it. Although the concept originated in the sociology discipline, it is a diffuse concept used in multiple academic domains. In this section, we define social capital and review some of the literature in the education domain, specifically focusing on studies that address college access and success.

Definition of social capital

Social capital describes the potential resources that reside in social relationships and thus may be accessed by an individual. The concept of social capital was introduced by Bourdieu (1986) and Coleman (1988) as a form of capital that is distinct from other forms of capital such as human capital and tangible (or physical) capital. Physical capital is material that creates a tangible product while human capital is the access to people with certain skills and knowledge (Coleman, 1988). Although social capital can facilitate



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productive activity (as does human capital and physical capital), it is inherently different in that it lies in the connections between people and the potential for individuals to access resources embedded in their network of social ties, as opposed to the resources directly held by those individuals (as with financial capital).

Lin (1999, 2001), in his structured definition, outlines three critical components of social capital: the resources embedded in a social structure, the accessibility of these resources, and the ability to utilize or mobilize these resources. For example, if one knows people who have access to a desired contact, but one is unable to communicate with these individuals to request an introduction, only the first of the three criteria is fulfilled (and thus social capital is not present). Alternatively, if one knows someone who has valuable information and is able to request, obtain, and utilize this information successfully, all three components of the definition are met.

Scholars have argued that there are different types of social capital. Putnam (2000) identified two different forms of social capital: bridging and bonding. Bridging social capital is associated with the breadth of one's human resources and is based on relationships that can provide resources such as diverse information and access to different perspectives and worldviews. Due to homophily and communication patterns, we are more likely to be similar to and have redundant informational resources with our close ties. Weaker ties, such as friends of friends, are more likely to represent novel information. Sociologist Mark Granovetter (1973) found that people were more likely to report hearing about a job opportunity from a weak tie - a phenomenon dubbed the "strength of weak ties." Individuals with a wider range of people in their social network are typically higher in bridging social capital. Bridging social capital is thus dependent on the heterogenic nature of an individual's network composition and is valuable because novel information can be beneficial (as when an individual learns about an employment opportunity). Thus the structure of one's social network—specifically the number of ties that represent heterogeneous information or perspectives—is linked to one's potential bridging social capital (Burt, 1992).

Bonding social capital, on the other hand, refers to resources that are typically obtained from close relationships. Putnam (2000) describes bonding social capital as a limited resource—something of tangible or social value—that is valuable to both the giver and the receiver. Williams (2006) outlines the underlying dimensions of bonding social capital as being emotional support, access to scarce resources, ability to mobilize solidarity, and out-group antagonism. In the context of post-secondary success, bonding social capital is related to social support, an important predictor of student adjustment and persistence.

Social capital as a lens for explaining academic outcomes

Social capital is a construct often used to examine the effect of different factors on educational phenomena and outcomes because it provides researchers with a framework for considering not only the resources explicitly held by an individual but also those available to the individual via his or her social relationships. Social capital

is useful because it provides a systematic way to analyze and explain the effect of various factors on academic outcomes.

Coleman (1988) uses a social capital lens to explain academic achievement, specifically considering the difference in high school dropout rates which were lower in Catholic schools and schools serving religious communities than other non-religious private schools. Rather than concluding that religion was important in educational outcomes, he suggested that it was the social capital created by the religious community that mattered and that norms and sanctions within the community facilitated a degree of social pressure that positively influenced students' academic achievements.

Studies in education have mainly focused on social capital that comes from three different sources: one's family, one's peers, and one's greater community. The following section considers each of these sources of social capital in more detail.

Social capital through family, community, and peers

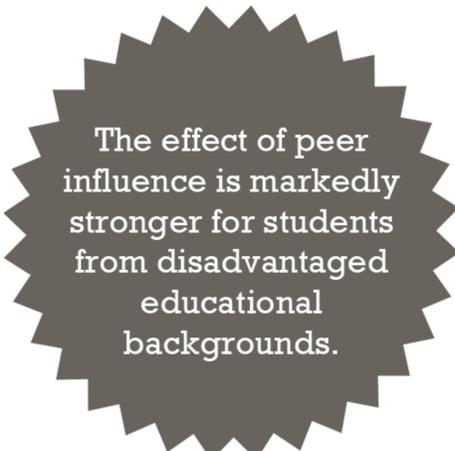
Social capital, as has been defined above, is embedded in the connections between individuals rather than the resources held by the individuals. Thus a child's parents' education represents human capital, her parents' income represents physical capital, and the relationships between her and her parents are related to her social capital.

Each family member represents human and physical capital, thus the presence or absence of other family members can affect social capital. The absence of a family member—as in instances of single parent families, families where the parents are not available to the child, or even nuclear families that do not have grandparents living in the same household—creates a structural deficiency that may lower social capital. Coleman (1988) found that social capital factors provided stronger explanatory power regarding dropout rates even after taking into consideration socio-economic status. In other words, families that had average SES but low social capital experienced higher drop-out rates than families that had lower SES but stronger social capital. Having siblings could also lower social capital as each additional child takes away from the limited resources of the parent(s) (Downey, 1995). In general, duration of parent-child interactions and the physical presence of both biological parents in the household increased test scores for both middle and high school students (e.g., Downey, 1995; Israel, Beaulieu & Hartless, 2001) and the likelihood to finish high school (e.g., Teachman, Paasch & Carver, 1996). Although the presence or absence of a family member increases or decreases the human resources one has, the quality of family relationships and interactions are important for social capital levels, as this determines the extent to which resources can be accessed. For example, families that have better relationships among members will have higher social capital than families that do not (e.g., Astone & McLanahan, 1999).

Social capital implications extend beyond the family and include one's greater community—especially the interaction between the family and the community. Parental involvement can be characterized as social capital, as it moves beyond the

dyadic relation between student and parent to include teachers or other parents (Dika & Singh, 2002; Israel et al., 2001; McNeal, 1999; Perna & Titus, 2005). Sui-Chu and Willms (1996) found that on average, the academic performance of eighth graders was higher in schools where parents were actively involved in school activities than in schools where parents seldom participated. Similarly, Sun (1999) found that community social capital (parental involvement in organizations) was positively associated with the academic performance of 8th-grade students.

Peer interaction is also important and has “far-reaching effects on nearly all areas of student learning and development” (Astin, 1993, p. 3). Peers spend increasing amounts of time together in high school, and classrooms are social places (Ryan, 2000). Peer interaction has been shown to lead to motivation, engagement, information exchange, and reinforcement of peer norms and values (Ryan, 2000). Although adolescents face both negative and positive peer pressure from multiple sources with varied strengths, a study of high school students showed that peer pressure had the potential to impact academic achievement (Brown, Lohr, & McClenahan, 1986). These group dynamics can be an asset if most of one’s peers aspire to enroll in college - students are more likely to enroll in college when they are in high schools in which most of their friends report that they will attend college (Perna & Titus, 2005).



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The effect of peer influence is markedly stronger for students from disadvantaged educational backgrounds. In an analysis of national longitudinal data tracking students’ educational achievement, Sokatch (2006) found that friends’ plans were the best predictor of 4-year college enrollment among students who were low-income, African-American or Hispanic, and from an urban high school. Even after taking into account socioeconomic and academic ability factors, students who reported that their friends were going to college and wanted them to go to college were ten times more likely to attend a four-year college (Sokatch, 2006).

In summary, social capital can be a useful framework for understanding how one’s family, community, and peer interactions can affect academic outcomes. In regard to potential interventions, the distinction between human/physical capital and social capital is important because changes in human capital (education of parents) or physical capital (income) are challenging to enact. Interventions based on shifting access to social resources, as explicated by the social capital literature, might be less difficult.

In the following sections, we focus on the relationship between social capital and two components of higher education: college access (getting into college) and college persistence (staying in college). Although we discuss them independently below for

paucity's sake, these concepts are intimately intertwined, such that the factors associated with successful entry into college are related to those needed to successfully complete one's degree and vice versa.

IV. COLLEGE ACCESS

The individual and societal benefits associated with successfully completing some form of post-secondary education are clearly established in the literature. Accessing these benefits is contingent on college access: the process of application, admission, and enrollment in an institution beyond high school. In this section, we explicate the factors that contribute to college access.

College access is dependent on multiple factors, including individual characteristics (e.g., academic ability), family characteristics (e.g., financial resources), and social and cultural capital (Perna, 2000). Improvements in any of these dimensions can increase the readiness of a student. Readiness is the “degree to which previous educational and personal experiences have equipped [students] for the expectations and demands they will encounter in college” (Conley, 2008, p. 3). Readiness includes all of the factors that make an individual “prepared” to go to college and can extend to earlier grades such as elementary and secondary levels (St. John, 1991).

Individual factors

At the individual level, Conley (2009) outlined four main dimensions of college readiness: contextual skills and awareness, academic behaviors, key content, and key cognitive strategies. Exposure to information about admission requirements, college cost, college type, and college culture supports the development of a student's *contextual skills and awareness*, or college knowledge. Information is a key component of effective decision-making for students transitioning to college. Lack of information about future directions and the educational pathways that lead to their desired goals can be a problem (Schneider & Stevenson, 1999) because it limits the available college options.

Time management skills and personal awareness of performance are also important determinants of *academic behavior* that aid college readiness. These skills may be considered trivial but are of great importance for success in college environments. In addition to organization and time management skills, individuals also need to have proficiency in writing, mathematics, and core subjects—also referred to as *key content*. An advanced educational environment also demands utilization of *key cognitive strategies*—factors such as analytical reasoning, problem solving, and inquisitiveness.

The importance of such skills and abilities is emphasized by Byrd and MacDonald (2005). Lack of academic skills may impede the admission process and even when admission is secured, sub-optimal levels of academic skills such as reading and mathematics may impact college completion. The issue is more pronounced for first

generation students who may possess fewer academic skills and have experienced poor academic preparation in high school (Byrd & MacDonald, 2005; Perna, 2000).

Family factors

Research shows that families can play a pivotal role in successful college access. Families serve as “a source of identity and security, and they also matter in relation to educational outcomes” (Croll, 2004, p. 412). In particular, *parental involvement* has a large influence on supporting the college enrollment process (Cabrera & La Nasa, 2001; Perna, 2000; Perna & Titus, 2005).

Parents are in an ideal position to influence their children’s future ambitions by being proactive and involved in discussing school matters and college plans (Cabrera & LeNasa, 2001). They can also be engaged in their child’s education through monitoring their behavior and participating in discussions about education-related issues such as course selection, grades, and college applications (Perna & Titus, 2005). Students are more likely to enroll in a four-year college when their parents contact their high school regarding academic matters (Perna & Titus, 2005). When parents are involved, they are better informed about their children’s schooling experience, future ambitions, course selections and hobbies. This gives them more opportunities to assist their children through financial and social support (Schneider & Stevenson, 1999). Moreover, students who talk with their parents about their study plans are more likely to continue their education beyond high school (Hossler, Schmit, & Vesper, 1999).

The socio-economic status of parents has a major influence on educational achievement of their children (Baker & Stevenson, 1986; Croll, 2004). For example, Baker and Stevenson (1986) found that mothers with higher socio-economic status were more likely to have accurate knowledge of their child’s schooling and whether their child was not performing well. They were not only more likely to have knowledge of the issue, but also more likely to know whom to contact at the school to remedy the problem. Parents from a higher SES are also better at managing their children’s academic career by monitoring their academic progress and choosing a curriculum that helps them toward college admission (Baker & Stevenson, 1986). Lack of financial support is a primary inhibitor for academically qualified students to enroll in college (Hahn & Price, 2008). In an economy that is passing through a recession, budget cuts may be common, thus challenging federal and state governments to increase funding for student aid programs (Perna, 2010). As an illustration, students from low-income backgrounds have lower enrollment rates than other students (NCES, 2009).

Parents can also play a role in their children’s education by influencing their educational motivations and having higher expectations (Cabrera & La Nasa, 2001). Parental expectations about whether their children will attend college and continue their education play a key role in the development of students’ college aspirations (Hamrick & Stage, 2004; Hossler, Schmit, & Vesper, 1999). In a study involving minority students, higher aspirations for higher education attainment among students contributed to increased college access, in addition to academic preparedness and

increased level of financial aid (St. John, 1991). Among minority populations, Asian Americans students have the highest expectations for a degree attainment in contrast with Latino students, who have the lowest expectations of degree attainment (Hurtado, Inkelas, Briggs & Rhee, 1997).

Finally, parents can indirectly influence their child's formation of friendships through providing an encouraging environment in which their child meets other classmates or friends from the school and community. The "ways in which parents subtly structure a student's peer group" are related to college enrollment (Perna & Titus, 2005, p. 502).

Community factors

High schools can play a role in creating awareness by helping them plan their educational careers (Schneider & Stevenson, 1999). In addition to peers, teachers and counselors can also provide access to informational resources about college and thus play a role in impacting college enrollment (Stanton-Salazar, 1997).

Outside of school, community initiatives can also prove beneficial in impacting college access. Community activities may help convey to students the importance of higher education, especially in areas having lower social capital. Research suggests that children in a community having higher social capital tend to do better in school. Location of schools can play a major part because it determines the quality of social and cultural capital available (Perna, 2000). Students may be exposed to positive community values and have the chance to engage in community activities where their parents meet their friends' parents (Israel et al., 2001).

V. COLLEGE ADJUSTMENT

The literature on persistence¹ points to the importance of successful *adjustment to college*, which is associated with factors such as availability of social support and the degree to which the student is involved in campus life. While dropouts may occur at any stage in college, more than half of students who quit college do so in their first year (Consortium for Student Retention Data Exchange, 1999). As outlined above, students who enroll in an institution but do not complete a degree are at a disadvantage because they have expended resources but do not receive the benefits associated with a degree.

The process of adjustment to college spans the period from initial enrollment until he or she successfully completes a degree. Transitioning from high school to college can be a "complex phenomenon" due to interplay between a range of factors such as student's personality, future aspirations, social and family background, and interaction with peers, faculty and friends (Terenzini et al., 1994). The loss of

¹ We define persistence as the extent to which a student stays within the institution until completion; from the institution's perspective, this is known as "retention."

precollege friends, readjustment of family ties, transition into a new environment, and immersion into a different culture are all factors that affect the adjustment of a student into college life (Compas, Wagner, Slavin, & Vannatta, 1986; Gerdes & Mallinckrodt, 1994; Shaver, Furman, & Burhmester, 1986).

Personal adjustment may be related to several dimensions, such as academic adjustment (related to managing education-related work) and social adjustment (related to “fitting in” to a new environment that involves negotiating new friendships). Research by Gerdes and Mallinckrodt (1994) supports the contention that personal adjustment and integration into the social fabric of campus life plays a role at least as important as academic factors in student retention.

Challenges in a student’s first year may lead to stress, loneliness and anxiety (Larose & Boivin, 1998). These problems are related to the disruption of established social networks (Shaver, Furman & Buhrmester, 1986), which takes place in a student’s first year. For example, after leaving family and friends, first-year college students experience increased isolation even though there are many other people in the new environment (Russell, Peplau, & Cutrona, 1980). Disruptions of established networks can also lead to problems like homesickness (Hurtado, Carter, & Spuler, 1996).

Loneliness and isolation may further aggravate the challenges of college transition. Stress, loneliness, isolation, and anxiety faced by college students can be effectively addressed using strategies that provide social support and increase student involvement in college activities. As Hurtado et al. (1996) write, “it appears that students’ in-college experiences affect their adjustment far more than student background characteristics” (p. 153). In the following section, we discuss how social support can influence college adjustment and the role of student involvement in college persistence patterns.

Social Support and Adjustment

Malecki and Demaray (2003) define social support as “an individual’s perception of general support or specific supportive behaviors (available or acted upon) from people in their social network, which enhances their functioning or may buffer them from adverse outcomes” (p. 232). Successful student social and academic integration in college is important because those who have a sense of belonging within the institution and experience overall well-being have a better chance of graduating with a degree (Tinto, 1993; Baum & Payea, 2004). Social support can prove vital in overall well-being of students and in coping with college transition issues.

As first-year college students receive social support, loneliness dissipates (Gerdes & Mallinckrodt, 1994) and perceived availability of social support buffers against stress (Cohen, Sherrod, & Clark, 1986; Alloway & Bebbington, 1987). Such support may be obtained from new people a person meets, such as peers at college, or from past networks of friends and family. High school friends, especially those who are also

new college students, are vital for success and serve as a “bridge” from one’s previous academic setting to the new environment (Terenzini et al., 1994).

Stronger tie relationships in the family are known to offer more robust emotional support as compared to weak ties (Wellman & Wortley, 1990). While peer support helps students transitioning into college with social adjustment, parental support helps with emotional adjustment (Hurtado, Carter, & Spuler, 1996).

In a study by Mattanah and colleagues (2010), a social support intervention for first year college students comprised of a significant proportion of minority and socio-economically diverse students resulted in enhanced college adjustment. Students shared experiences with each other about the transition to college. Most importantly, peer interactions through “peer facilitators,” who shared their experiences of transitioning into college, greatly facilitated the adjustment process, suggesting that new friendships were able to help overcome the disruptions due to transition into a new environment. Besides providing social support, friendships provide a sense of belonging and help develop social skills (Fullerton & Ursano, 1994), factors that also contribute to academic adjustment. A study involving Latino students (Mexican American, Puerto Rican, Cuban, Central and South American, and Spanish Caribbean) showed that upper class students and resident advisors play an important role in student adjustment during the second year of college (Hurtado et al., 1996).

Student involvement and adjustment

Astin (1984) defines student involvement as “the quantity and quality of the physical and psychological energy that students invest in the college experience” (p. 528). Involvement is a comprehensive term that can encompass dimensions such as student-faculty interaction, athletic involvement, academic involvement, and involvement in student government (Astin, 1984).

Student involvement in campus activities influences persistence in college through overall satisfaction and academic achievement (Astin, 1984). Conversely, a lack of involvement may lead students to feel marginalized and depressed (Evans, Forney, & Guido, 2009). Among other factors, involvement increases students’ sense of belonging and makes them feel less marginalized (Schlossberg, 1989). As students who transition into college feel isolated and vulnerable, one solution is to connect them to groups through ceremonies that serve as rituals that help define a person and ease the transition (Schlossberg, 1989). Such rituals can be in the form of a get-together or a welcome party for the incoming students, where they are reminded that they are becoming a part of a larger community. The problem of marginalization can be ameliorated through engagement in peer interactions (Schlossberg, 1989) and participation in extra-curricular college activities (Astin, 1984). Since student involvement creates connections between students, faculty and staff on campus, it fosters a sense of community, connectedness, and achievement (Pascarella & Terenzini, 2005; Schlossberg, 1989).

Institutional Support

At an institutional level, faculty can employ educational practices that result in students who are active participants in their learning and perceive greater gains from their undergraduate experience (Umbach & Wawrzynski, 2005). Yet college advising from faculty or college advisors is a complex process. A single visit does not meet the requirements of students. In fact, it is a continuous process that keeps the students involved and motivated. A sense of direction in choosing the right courses that match future education and career choices through better guidance and mentoring may add to the positive overall experience at college. The availability of college staff and faculty, especially college advisors, is important in ensuring student involvement and therefore college persistence (Pascarella & Terenzini, 2005).

To some extent, high schools can prepare students even before they go to college. High schools can influence student ambitions and encourage students to consider what they plan to do after completing studies (Schneider & Stevenson, 1999). School administrators, counselors, teachers and even parents can help students make better curricular choices (Schneider & Stevenson, 1999).

VI. MINORITY AND FIRST GENERATION STUDENTS

The above findings are a summary of the literature regarding post-secondary success in general. Although much of the research applies in a similar manner across different groups, it is important to recognize that certain communities have different cultural norms, access to varied resources, and face specific challenges in regard to the pursuit of higher education. In this section, we consider college access and persistence patterns for students who are racial minorities, the first in their family to go to college, and/or come from low-income households.

Income level is strongly tied to race and first-generation status, which makes it difficult to parse out the effect of race alone. A study by Zalaquett (1999) showed that a significant proportion of first generation students are minority students. Ethnic minority students and first generation students are also at a greater risk of dropping out of college before graduation (McDonough, 1997; Splichal, 2009).

A social capital perspective helps explain why certain populations, such as students from low-income families, certain ethnic minorities, and first-generation students are at a disadvantage when it comes to having and accessing human and financial resources. Students with lesser family support - informational and financial - such as first-generation college students, who frequently hail from families of lower socioeconomic status, face multiple challenges in the form of academic, social, and cultural transitions (Terenzini et al., 1994).

Minority Students

Consistent with Tinto's (1993) concepts of academic and social integration, friendships with individuals from different socioeconomic backgrounds and participation in campus life are positively related with persistence in college, especially for minority students (Saenz, Marcoulides, Junn, & Young, 1999). In a study based on longitudinal data involving eighth-graders, Mexican American students were less engaged in school activities than non-Latino White students (Ream & Rumberger, 2008). The same study also showed that Mexican American students were disadvantaged in terms of peer social capital because they had low assessments of how much their friends valued getting good grades, studying, and completing high school.

In addition to peers, families have the potential to play a major role in student success. Families, especially parents and siblings, play a key role in college entry and college persistence for Mexican Americans (Attinasi, 2007). In addition to help from peers, emotional support from family was an important factor in Latino students' college adjustment (Hurtado, Carter, & Spuler, 1996). Moreover, anecdotal evidence suggests that older siblings serve as role models and provide knowledge of their college experience to their younger siblings (Santiago, 2011). In addition, where family bonds are found to be strong among minority communities, family plays a key role in college-going decisions (Santiago, 2011). Parental support in ethnic minority college students has been important for maintaining psychological wellbeing (Rodriguez, Mira, Myers, Morris, & Cardoza, 2003).

In a study involving Native American students, participants' past communities—especially family, friends, religious organizations and tribe—positively impacted their academic engagement in college (Waterman, 2007). By being grounded in their own culture, they were better able to negotiate a different college environment.

Certain racial minority populations and first-generation college students may be less “ready” than others thereby impacting college access. In fact, a large proportion of African-American and Hispanic students are not college-ready and fall behind in graduation rates when compared to Caucasians and Asians (Greene & Forster, 2003). Several factors can account for this gap in graduation rates. For instance, a study involving African American students highlighted economic and psychological barriers to African American participation in higher education (Freeman, 1997). African-American students expressed concerns regarding a lack of financial resources to attend college besides the uncertainty of not getting a job matching the time and resources invested in higher education (Freeman, 1997). The same study also shed light on other issues facing African-American students such as a lack of hope and awareness, an absence of encouragement and mentoring from parents, and fear of intimidation in an environment that is not dominated by people of color like them.

A small subset of ethnic minorities is undocumented immigrants. Immigrant youth who were born in other countries but now reside in the United States without documentation have access to public education in kindergarten through high school,

but their undocumented status precludes them from various other public services, including federal financial aid (Abrego, 2006). This is important because these students become classified as international students and are charged with tuition that is three to seven times higher than that of legal residents (Abrego, 2006) making it more difficult for them to pursue higher education. This makes Latino communities a more vulnerable population compared to other ethnic minorities. While other ethnic groups usually reach socioeconomic parity with native-born whites within one or two generations (Lai & Arguelles, 2003), Mexican, Salvadoran, and Guatemalan groups remain “trapped” in the lower rungs of the economy. In addition to financial challenges, the lack of an academic role model negatively affects Latino students—many of whom have never seen their parents read a book (Abrego, 2006). Even if the parents think education is important, they are often unequipped with the skills to provide academic support (Abrego, 2006).

First Generation Students

First generation students are those who are the first to go to college in their household. They stand at the “edge” of multiple cultures – their friends and family and their educational institution – and thus face conflicting obligations, false expectations, and poor preparation which may compromise their success in college (Zalaquett, 1999). Studies reveal that first generation students are mostly low-income, non-White and female (Choy, 2001; Lohfink & Paulsen, 2005).

A study by Byrd and MacDonald (2005) involving first generation students showed that besides academic skills and abilities, background factors - such as family and financial concerns and students’ self-concept - impacted readiness. Therefore, non-academic skills such as time management, goal focus, and self advocacy are important for students as they need to be able to advocate for themselves as learners and have the confidence and the ability to successfully navigate through the college system (Byrd & MacDonald, 2005).

In a study focusing on ethnic minority first-generation students, Dennis, Phinney, and Chuateco (2005) report that personal expectations or motivations for one’s career significantly predicted college adjustment, but family expectations did not. In addition, family support was not indicative of college adjustment, but low levels of peer support (instrumental and emotional support) significantly lowered the likelihood of college adjustment, suggesting that those who have sufficient peer support are able to adjust better.

Income and race can be pivotal factors in predicting whether or not the student will graduate from college. Lohfink and Paulsen (2005) found that among first generation students, those from higher income families are more likely to successfully complete college such that every \$10,000 increase in family income was associated with a 2% increase in the probability of persistence. They also found that Hispanic first generation students were 35% less likely than their White counterparts to persist.

VII. MOTIVATION

Finally, motivation is a key concept that influences post-secondary achievements and other educational outcomes. Motivation can largely be categorized into two types: extrinsic and intrinsic. Extrinsic motivation is when individuals engage in a behavior as a means for a certain goal. Intrinsic motivation, on the other hand, leads to engagement in behaviors for the pleasure and satisfaction derived from the behavior. Studies have found that people who are intrinsically motivated are in general, more interested, excited, and have higher self-esteem and well-being. In examining academic outcomes, intrinsic motivation was strongly related with academic persistence (Vallerand & Bissonnette, 1992). A meta-analysis of 128 experiments by Deci, Koestner, and Ryan (2001) showed that reward-based systems, or incentives that trigger extrinsic motivation, generally substantially undermine intrinsic motivation.

Aside from intrinsic and extrinsic motivation, another type of motivation is “amotivation,” which refers to a lack of motivation because the individual sees no point in being motivated (Ryan & Deci, 2000). This lack of motivation could come from individuals’ lack of ability toward the goal, a perception that the goal is too much effort, or a feeling of helplessness (Ratelle, Guay, Vallerand, Larose, & Senecal, 2007). Amotivation has been found to be a negative predictor of academic persistence as well as other maladaptive outcomes. For those with no motivation, taking baby steps to help them find a motivation—a realistic, achievable goal—is required.

Understanding the different types of motivation is especially important when looking at academic achievement of first generation and ethnic minority students. Propero and Vohra-Gupta (2007) found that first generation students who were extrinsically motivated or amotivated had lower GPAs in college, while those with high intrinsic motivation had higher GPAs. Non-first generation students, however, did not show differences in academic outcomes based on their motivation. Similarly, Allen (1999) found that while racial subgroup did not affect academic performance, ethnic minorities that were less motivated were more likely to drop out than those who were more motivated. Motivation, however, did not affect the persistence behavior of non-minority students.

The above review delineates factors—both individual and environmental—that are associated with college enrollment and graduation. While some of these factors—such as SES—are somewhat intractable, others may be more malleable. For instance, individuals may not be aware of informational resources that are already present in their network or may not be able to access them. Online tools such as social media may be helpful for mitigating some of these factors and thus reshaping patterns of post-secondary access and success.

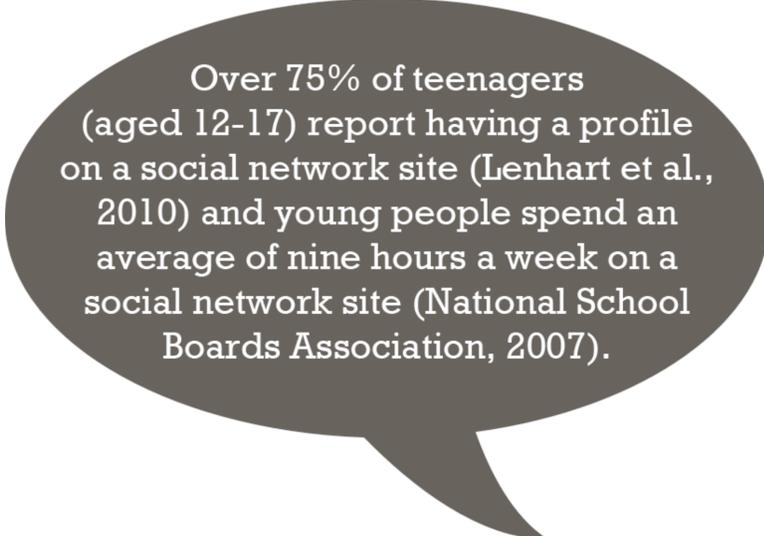
VIII. SOCIAL MEDIA

In the above discussion, we reviewed the research literature on some of the factors associated with college access and adjustment, and proposed social capital as a useful lens for understanding this process. In this section, we consider whether social media may be able to reshape college access patterns. We acknowledge that many of the factors contributing to lack of college access by disadvantaged populations are fairly intractable and would require significant shifts in social policy to redress. However, we believe social media has the potential to highlight the presence of informational resources currently held by one's network, to help with "identity work" around college-going, and to reshape one's social network, thus increasing access to resources and potentially improving college access by first generation, low income and minority youth. Below, we define social media and describe patterns of social media adoption, describe the literature that focuses on the social capital implications of social media use, and then discuss social media within educational contexts. Finally, we highlight various strategies that might address these challenges with a focus on social media interventions.

Social media

Social media are Internet-enabled tools that allow multiple users to contribute, organize, and consume content with features that support information discoverability, rating and recommendation, among other tasks. While discussion sites like Reddit, crowd-sourced information repositories such as Wikipedia, and review systems such as Yelp! fall under the rubric of social media, we believe that among these social media applications, social network sites such as Facebook may be best able to address college access and persistence issues. We define social network sites (SNSs) as follows: "A social network site is a networked communication platform in which participants 1) have uniquely identifiable profiles that consist of user-supplied content, content provided by other users, and/or system-provided data; 2) can publicly articulate connections that can be viewed and traversed by others; and 3) can consume, produce, and/or interact with streams of user-generated content provided by their connections on the site" (Ellison & boyd, in press).

Social network sites such as Facebook and MySpace contain features that support relationship maintenance and thus articulated connections ("friends") on these sites tend to reflect offline relationships (Ellison, Steinfield, & Lampe, 2011). Because of this, we believe these sites may be more powerful sources of information, identity feedback, and social support than other forms of social media used primarily for information-sharing among strangers. Similarly, sites that enable anonymous commenting, such as Formspring, will be less powerful in regard to the identity work dynamics we outline below.



Over 75% of teenagers (aged 12-17) report having a profile on a social network site (Lenhart et al., 2010) and young people spend an average of nine hours a week on a social network site (National School Boards Association, 2007).

Who uses social network sites?

Many young people are fervent users of social network sites. According to a Pew report from 2010, over half of online teens (55%) used social networking sites in November 2006 and 65% did so in February 2008 (Lenhart, Purcell, Smith, & Zickuhr, 2010). Over 75% of teenagers (aged 12-17) report having a profile on a social network site (Lenhart et al., 2010) and young people spend an average of nine hours a week on a social network site

(National School Boards Association, 2007). The Kaiser Family Foundation found that visiting SNSs was the most popular computer activity for eight- to 18-year-olds, with 40% of their sample visiting at least one of these sites on a daily basis (Rideout, Foehr, & Roberts, 2010). This study reports that older children are more likely to use SNSs (18% of 8 to 10 year olds reported using an SNS, versus 53% of 15 to 18 year olds) and that boys and girls were equally likely to visit a SNS each day, although girls spent more time on the sites (Rideout et al., 2010).

Internet access is a prerequisite for SNS use, but access does not appear to be a limiting factor for the most part. Most teens have access to a computer in the household, although this differs by parental educational level. Rideout et al. (2010) found that even among youth whose parents had no more than a high school education, 87% reported having a computer in the home. Internet access was also fairly high although it differed across ethnic and parental education levels, with more educated parents and whites more likely to report access. Higher quality Internet access differs across ethnic groups, however, such that African-Americans and Hispanics are less likely than Whites to have high-speed or wireless access. Greenhow, Walker, and Kim (2009) found that among their sample of low-income high school students, Internet access was typically from home or school, and less likely to be from a mobile device. Although digital divide concerns have moved beyond access to the Internet in many cases, social media sites still may be less available to some teens who access the Internet in places where filters block access to social media sites, such as schools.

On a related note, even if teens have access to computers, the Internet and social media sites, some teens may not possess the skills required to master these tools.

Hargittai (2010) found that college students with less familiarity with Internet-related terms reported using the Internet for fewer kinds of activities, such as getting health information, getting information for school work, or downloading music. This suggests that teens with fewer skills may use social media in more limited ways, thus limiting their ability to access beneficial outcomes from their use.

Use of social network sites is growing among adults as well, with 65% of all online U.S. adults using SNSs (Madden & Zickuhr, 2011). If current trends continue, young people will have increased opportunities to connect with adults on these sites, such as parents and other family members. They might also be able to use social media to gain greater access to adults who serve as sources of emotional support (such as pastors or ministers) and informational resources (such as alumni from their neighborhood or high school).

Social Media and Social Capital

A growing area of academic research has focused on the social capital implications of SNS use. Initial work in this area established an empirical link between measures of Facebook use and perceived bridging and bonding social capital among college undergraduates (Ellison, Steinfield & Lampe, 2007; Steinfield, Lampe, & Ellison, 2008; Ellison et al., 2011). More recent work has explored other populations, such as adults, and more granular measures of site use in relationship to social capital levels. For instance, in a study using a sample of adults on Facebook, Burke, Marlow, and Lento (2010) showed that directed messages to others on the site is associated with greater bonding social capital scores and Burke, Kraut, and Marlow (2011) further explicated the importance of directed communication for bridging social capital (in comparison with broadcasting or passively consuming content). Other work in this realm explores the relationship between Facebook behaviors and civic participation (Valenzuela, Park, & Kee, 2009) and within organizational contexts (Steinfield, DiMicco, Ellison, & Lampe, 2009).

Although there is a large body of work examining college students and, increasingly, adults, research exploring the social capital implications of SNS use among teens and children is lacking and would inform our understanding of social media and youth practices. In one of the few pieces to study teens and their media practices using a social capital lens, Greenhow and Burton (2011) surveyed 607 high school students from low-income families who were using MySpace and found positive associations between use of MySpace and both bonding and bridging social capital. Other work does not examine social capital directly but explores related topics. One of the largest of these studies, funded by the MacArthur Foundation, was a three-year primarily ethnographic investigation that examines how youth use social media as a form of social and cultural participation (Ito et al., 2011). This project has produced a number of case studies, which provide rich descriptions of how youth are engaging in social media and report on how youth learn through their peers via everyday activities on social media. Other research looks at the digital lifestyles of young people and how technology such as social media affects the way they learn and bond (Watkins, 2010).

How might social media address the challenges listed above?

There are five primary pathways through which we envision that social media may influence the problems identified in the literature in regard to college persistence and success. In order to explicate how social media may remediate these challenges, we draw upon the social capital literature. The five primary mechanisms we believe are important are:

1. *Social media may reshape social networks, providing access to people that represent important resources.*
2. *Social media may lower the barriers for requesting, viewing, and providing informational resources.*
3. *Social media may enable teens to retain connections with providers of social support and to receive and request emotional support.*
4. *Social media may help students adjust to the college environment by facilitating peer interactions.*
5. *Social media may be a powerful force for identity work, as youth engage in self-presentational work through profile creation and receive feedback on these activities from their peer group.*

1. Reshaping network

Early work on social network sites described the larger network of weak ties supported by these tools (Donath & boyd, 2004). SNSs may enable youth to enlarge the network of people they can request resources from by encouraging individuals to access latent ties in their network, resurrecting ties from the past, and connecting with “friends of friends.” Greenhow and Robelia (2009a) found that low-income teens relied on contacts made more accessible through social network sites, such as friends who had recently left for college, in their college application and planning processes.

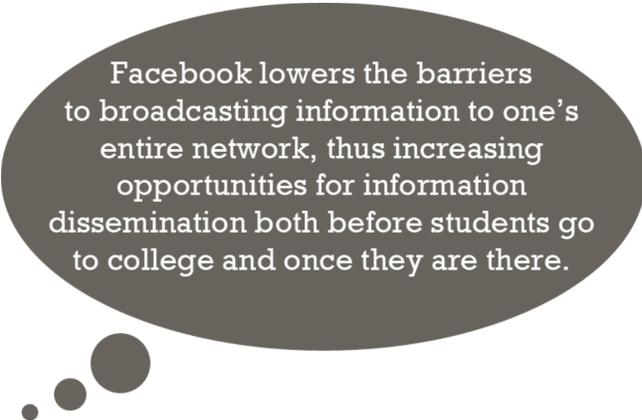
Social network sites such as Facebook, though not typically used to meet strangers (Ellison et al., 2007, 2011), do provide a set of social and technical affordances that can support socially relevant interactions among those with some kind of offline connection (Ellison et al., 2011). Research suggests that Facebook is used by college students to gain information about peripheral others, as measured by agreement with survey items such as “I have used Facebook to check out someone I met socially” or “I use Facebook to learn more about other people in my classes” (Ellison et al., 2011). These social information-seeking activities could enable college students to learn more about relevant others and provide incentives to activate these relationships.

Students may use profile information to identify others with whom they share common ground and use this information to initiate contact. Well-designed technical interventions could accelerate these processes. For instance, the social graph (the web of connections among all users of a particular site) could be leveraged to architect connections among teens and those from their high school or in their extended circle who successfully completed college, much in the way that Facebook currently suggests “people you may know” to users.

2. Reshaping Communication and Information Flows

Second, information requests and provisions can easily be broadcast to a wide network via social network sites, which may help address college access issues for our population of interest in regard to the contextual skills and awareness described by Conley (2009). By shifts in access to informational resources, we are referring to cases in which one’s network has resources, but these potential resources are not realized by the individual. This is an issue that social media and internet-enabled technologies are well-designed to address, through search capabilities and profile fields. LinkedIn, for instance, enables users to see who in their network is connected to specific people they may wish to meet.

Facebook enables users to quickly and easily broadcast information to one’s entire network, thus increasing opportunities for information dissemination both before students go to college and once they are there. Research suggests that students are appropriating social network sites to achieve their academic goals through broadcasting requests and engaging in classroom organizing. This has been identified for both college students and high school students.



Facebook lowers the barriers to broadcasting information to one’s entire network, thus increasing opportunities for information dissemination both before students go to college and once they are there.

For example, a national study by the non-profit EDUCAUSE found that more than half of U.S. college students use SNSs for purposes such as communicating with classmates about school (Salaway, Caruso, & Nelson, 2008), and more than one-quarter of students reported using a SNS as part of a class (Smith, Salaway, & Caruso, 2009). Many college students use the site for activities such as organizing study groups (Lampe, Wohn, Vitak, Ellison, & Wash, 2011) and believe their SNS use is associated with positive academic outcomes (Dahlstrom, de Boor, Grunwald, & Vockley, 2011). Greenhow and Robelia (2009a) describe how low-income high school students used a social network site to request help with school-related tasks, including asking questions about instructions or deadlines, broadcasting or requesting educational resources, gathering project materials, and planning study groups. Some research suggests that requests for instrumental support may be less successful when requested through SNSs (Stefanone, Kwon, & Lackaff, 2011), and future research should probe this further.

3. Reshaping Access to Social Support

Social network sites enable individuals to share social support needs and receive support from their network. Disclosure - sharing information about the self with others - is an important precursor to provisions of social support (Ellison, Vitak, Steinfield, Gray, & Lampe, 2011). Social network sites can support these disclosures. For instance, Greenhow and Burton (2011) write: “students reported that emotional sharing was easier to perform within their social network site with both close friends and weaker contacts than it was elsewhere... Emotional-sharing was facilitated by the status and mood update feature on the main profile page which allow users to choose single word descriptors and emoticons to express themselves (e.g., Status: Sick, Mood: Sad). Students believed their support networks were actually stronger after prolonged SNS membership, citing various channels for communication and frequent personal profile updating as helping them feel closer to, and maintain an awareness of, their close and extended friends; they felt regular online social networking encouraged openness, sharing, and getting to know more ‘sides’ of a person” (Greenhow & Burton, 2001, p. 239).

Important sources of social support for new college students include one’s close friends and family members, and social network sites may give students greater access to these resources. Greenhow and Robelia (2009a) describe how the low-income teens they interviewed expected to keep in touch with high school friends via social media after they left for college. As one participant explained, “It’s going to suck going out there by myself [to college far from home] so I’m gonna need to message people about how I’m feeling” (p. 1148). Ellison et al. (2007) speculate that the affordances of sites like Facebook might help students keep in touch with old friends, thus avoiding feelings of “friendsickness” - the distress caused by the loss of connection to old friends when a young person moves away to college, as described by Paul and Brier (2001). They found that use of Facebook among college undergraduates was related to perceptions of “maintained social capital,” which assessed the extent to which participants felt connected to their high school acquaintances. Finally, Vitak, Ellison, and Steinfield (2011) find that the presence of a family member in one’s Facebook Friends network was positively associated with “reliable alliance,” a social provisions measure that assesses the extent to which the user feels that they have access to people that would help them in times of need, such as an emergency. This suggests that the increased communication opportunities associated with being connected on a SNS may help individuals feel that others are available to help when needed.

4. College Student Adjustment and Engagement



Social network sites enable individuals to share social support needs and receive support from their network.

Social adjustment, or social integration, plays a key role in students' commitment to staying in school. Social integration increases commitment to the institution, which in turn affects the likelihood of persistence (Elkins, Braxton, & James, 2000). Tinto (1993) created a longitudinal model of retention that includes 14 "markers" in a student's life that affect persistence in college, such as peer group interactions, social integration, and family background. Berger and Milem (1999) use Astin's theory of involvement (1984) to help explain Tinto's model. They show that not only are these markers important, but a student's involvement with each is key to persistence. Many of the markers in Tinto's model are potentially related to students' uses of Facebook, as Facebook offers opportunities for extracurricular activities, peer group interactions, social integration, and faculty-staff interactions (Heiberger & Harper, 2008). For instance, Facebook has the capacity to help create small communities within large institutions through the "Groups" functionality.

Social network sites provide abundant opportunities for facilitating peer interactions because they lower the barriers for interaction and provide students with a way of learning more about one another (Ellison et al., 2007). In terms of college adjustment, friendships negotiated through SNS in college can prove beneficial in increasing a student's bridging social capital. Having a large number of friends on Facebook has shown to be positively related to social adjustment and attachment with the educational institution (Kalpidou, Costin, & Morris, 2011), and students can learn about campus social events on SNSs such as Facebook (Kalpidou et al., 2011). DeAndrea, Ellison, LaRose, Steinfield, and Fiore (2012) study a residence hall-focused online platform that enabled incoming first-year students to communicate with one another before moving to campus. Findings suggested that use of the site contributed to students' perceptions of bridging self-efficacy, which assessed the extent to which they expected to be able to interact with faculty outside of the classroom, connect with diverse others, and get helpful information from their residence advisors. Interestingly, the number of Facebook Friends in the same residence hall was also a significant predictor of bridging self-efficacy.

Other social and technical affordances may be beneficial in promote a feeling of connectedness. Besides impacting educational involvement, social network sites such as Facebook offer platforms for student interactions with other students and faculty activities (Heiberger & Harper, 2008). Heiberger and Harper (2008) suggest "intentional efforts to involve students through Facebook may lead to stronger retention by a college" (p. 25). Finally, Junco (2012) found that some types of Facebook use were positively related to involvement in campus activities. Facebook activities such as commenting on posts, viewing photos and RSVP'ing to events had a positive impact on student engagement and involvement in campus activities (Junco, 2012).

Similarly, Junco, Heiberger, and Loken (2011) conducted a semester-long experiment among first-year college students in which one group used Twitter for class-related activities and one group used a less interactive online discussion tool. At the end of the semester, the Twitter-using group reported higher engagement as well as higher

grades. The authors suggest that both students and faculty were highly engaged in the learning process because Twitter use put them in a more active and participatory role.

5. Identity Work

Social network sites offer individuals the opportunity to engage in selective self-presentation and identity work. In addition to the above, two additional mechanisms related to social media and college-going which have not been discussed include self-presentational aspects of social media (and the opportunities for teens to engage in identity work around college-going) and social media as a magnifying glass for the transmission of peer norms. We will discuss both of these processes under the rubric of identity work.

One of the defining features of SNSs is the profile (boyd & Ellison, 2007). Early versions of the profile included fields for users to upload photos and self-descriptive text. Over time, profiles are increasingly co-created, consisting of content provided by the user herself as well as server-provided data (such as activities on the site) and content provided by contacts on the system (such as Wall Posts on Facebook or photographs uploaded by others). Greenhow and Robelia (2009a) explore the role of MySpace among low-income high school students, using qualitative data collected from 11 teens. They describe the way in which “the various processes of reading, writing, and appropriating digital materials to craft one’s online self presentation may allow young people who have felt marginalized, the opportunity not only to reflect and transform the way they think of themselves, but also to communicate who they want to be to a mass audience, an opportunity previously afforded only to the privileged, and so extend the reach of their own influence (p. 1135).” In regard to college-going, Greenhow and Burton (2011) note that “displaying one’s educational background and plans prominently on the profile page can foster peer recognition (e.g., commenting on the profiles of those who posted similar college destination or major interest) and recognition of oneself as a college-going student” (p. 240). However, Greenhow and Robelia (2009b) note that among the 11 low-income teens they interviewed, all of whom had been accepted into college, only four included college information on their profiles and only one used the site proactively to engage in college and career related information-sharing.

Although there is little academic work that examines the specific process by which teens develop emotional connections to colleges or embrace a college-focused identity, other work in the psychological and communication literature articulates a pathway through which social network site use might enable users to internalize specific identity traits. For instance, Gonzalez and Hancock (2008) find that individuals who present themselves in a public, online context as having a particular identity trait are more likely to internalize this trait presentation than those that identify themselves as having the trait in a private context. In the case of low-income teens, identifying oneself as being associated with a particular educational institution on one’s SNS profile may make this identity more salient and increase their persistence regarding achieving this goal (i.e., attending the institution). Although this has not been empirically tested, we speculate that positive feedback from peers,

such as comments, may heighten this effect. Recent work by Toma (2010) suggests that viewing one's SNS profile may evoke a self-affirmation process, and future work could explore the ways in which profile construction and feedback might affect how users see themselves and the traits they perceive to be desirable.

Peer norms around college going may be able to be shaped in social media. Studies show that young peoples' perceptions about normative behaviors may be especially influenced by Facebook content. For instance, Litt and Stock (2011) find that students who see Facebook profile pages in which peers are drinking alcohol report being more likely to use alcohol themselves. If norms around pro-social activities such as going to college are equally influenced, then feedback on one's profile and viewing other pro-college content on the site may be an important predictor of attitudes. Given what we know about the power of peer norms to shape college-related behavior -- one study found that students double their probability of enrollment if most or all of their friends plan on attending college (Sokatch, 2006) - this may be a particularly productive mechanism through which college access patterns might be realigned. One example of the power of social media to share peer norms is the example of *Hotdish*, a Facebook app focused on climate change issues. In a study of young people's use of the site, Robelia, Greenhow, and Burton (2011) found that peer role modeling through interaction on the site was related to participation in online and offline civic activities such as attending a town meeting or posting an article to the site.

In the following section, we examine specific examples of related programs and activities, with a focus on highlighting possible social media interventions that might capitalize on the processes we describe.

IX. EXAMPLES OF ACCESS AND PERSISTENCE INTERVENTIONS

Educational institutions, philanthropic foundations, and state and federal governments are looking for tools to increase high school graduation, propel students into college, and graduate more students. Fueled by a significant investment from these organizations, college access programs have been introduced across the country, building pipelines from pre-school through college graduation. These programs market themselves as critical fixes to a broken system. Efforts to increase degree attainment often focus on specific pieces of that pipeline, addressing specific components of the larger process such as readiness, access, retention, and graduation.

Many of these programs and tools leverage relationships by linking students with mentors or working within the current family structure. The Detroit Parent Network, an organization that fosters leadership and action among parents in the Detroit area, operates a program called **Project Graduation** that trains parents and other caring adults to serve as academic advisors and guidance counselors for their children, providing support and information. Drawing upon the strong relationships already existing within the family unit, the program encourages adults to be knowledgeable about education, which reduces the risk of spreading incorrect information.

Helping “near-peer” relationships is another focus of programs in this field. Near-peers are individuals that are close in age to the participants in the program. College students and recent college graduates are often utilized to work with high school students to encourage graduation, apply for scholarships and financial aid, and support students’ submission of college applications. An initiative called **College Positive Volunteerism** has been developed by Campus Compact, an organization of college presidents committed to community service and service-learning. College Positive Volunteerism attempts to capitalize on the fact that over 50% of college students who volunteer do so with youth. Instead of creating a new effort to encourage college access and success, College Positive Volunteerism trains current volunteers serving as tutors, mentors, and coaches on how to embed a college positive message into their current community service. First introduced in Massachusetts, the concept is quickly spreading to other states.

A second example of near-peer relationship building is Admission Possible. Recent college grads are placed in targeted high school buildings full-time to support their college access efforts. In many cases, high school counselors are deluged with the day-to-day operations of counseling children, rearranging course schedules and administering standardized testing. This does not allow for the traditional model of college advising. **Admission Possible (AP)** members agree to serve a year in their building(s), receiving intensive training from Admission Possible in college entrance examination test preparation, college application assistance, financial aid counseling and peer mentorship to their group of high school students to encourage college-going and persistence. These peer “coaches” are awarded an AmeriCorps or AmeriCorps-like education award to use for student loans or continuing education. According to unpublished, internal evaluation, Admission Possible students were 30% more likely to enroll in college than their peers who applied but were not admitted to the program (Avery, 2011). The results of this analysis suggest positive program effects. A randomized, controlled trial by researchers at Harvard University is currently underway with students in the class of 2013. In addition, Admission Possible coaches utilize a variety of technology platforms to reach students on campus or wherever they may be. These contacts are guided by a structured curriculum covering topics such as: academics (e.g., building good study skills, finding a tutor, choosing a major); finances (e.g., finding a work-study position, reading a tuition statement, FAFSA); and social/cultural (e.g., connecting on campus, dealing with family demands). The “AP2.0” initiative follows students who dropped out or never enrolled, working to identify and support students who are done with high school and want to be enrolled in college. The AP model can be seen in other programs including the National College Advising Corps. With 18 programs around the United States, initial evaluation results find that on average, schools served by a National College Advising Corps member see an 8-12% increase in college-going rates versus control schools in the area.

While many post-secondary access and success programs are engaging in direct face-to-face relationships, others draw upon emerging technologies in order to reach students more effectively. Some of these programs aim to reshape networks, building

connections amongst and between current and potential students, K-12 and higher education staff, parents, and community members. Focusing on informational deficits, other efforts are reaching out to youth using tools these young people are already using, such as smart phones and social media.

Facebook, with its large user base - over 800 million active accounts as of January, 2012 - is the focus of new efforts such as Devin Valencia's project. Valencia, a student at the University of Nevada-Las Vegas won the 'Get Schooled: College Affordability Challenge' sponsored by MTV and the College Board in August of 2011 with her idea to build a Facebook application that helps students complete the Free Application for Federal Student Aid (FAFSA), a particularly tricky but critical step for students that requires parents' tax information. Valencia's application, **Connect Fund**, will be available in multiple languages and was scheduled for release in late 2011.

Building upon prospective student, current student and alumni connections, Inigral has developed a Facebook application called **Schools App**. Schools App is focused on enrollment and retention, drawing upon Tinto's model (1993) that indicates that engagement is the key to keeping students in school. By creating a social space for students to engage with each other, Schools App hopes to increase retention of prospective students through the acceptance process as well as current students year to year. The University of Texas at Tyler, using Schools App, reports that prospective first year students who downloaded the application were five times more likely to attend (Kamenetz, 2011).

Acceptly (www.acceptly.com) is a free web portal to help guide students through the college enrollment process and for the teachers, counselors, and parents that work with them. By creating a virtual timeline that functions like an alarm clock, high school students are walked through the process of researching schools, taking standardized tests, and applying for scholarships. Using a student's potential high school graduation date, Acceptly creates a series of "challenges" for students to accomplish. Finishing challenges like signing up to take the SAT, attending a college fair and creating a list of extra-curricular activities earns a student points. While not built on the Facebook platform, Acceptly does offer an option to interface with the social media site, asking which of your friends you'd like to attend college with and sharing your milestones.

It is likely that social media interventions will continue to be introduced by practitioners in the field. The federal government alone has allocated \$150 million in 2011 to provide to states for college access programming (see <http://www2.ed.gov/programs/cacg/funding.html>). When guided by the research literature and informed by on-the-ground evaluation, these interventions have the potential to greatly impact higher education access and completion rates.

X. CONCLUSION

Although there is little research that empirically and directly addresses the question of how social media interventions might affect post-secondary access and success trends and what these interventions might look like, the above literature review points to several opportunities in this space. There are also significant challenges associated with this endeavor. Below, we highlight what we see as the most pressing challenges and opportunities in this arena.

Key opportunities and challenges include:

- Most popular sites are commercial entities, with priorities that may be orthogonal to the educational success of their users. For instance, students may encounter privacy and security risks when sharing their personal data or may be exposed to advertisements that distract them, constrain their sense of what they might accomplish, or contribute to lowered self-esteem. Training in media literacy might ameliorate some of these concerns. For example, Lampe et al. (2011) found among college students that students' knowledge of privacy settings on Facebook made them more likely to use Facebook for classroom-related positive collaboration, such as forming study groups. As part of this training, students and their parents might be made aware of the risks of social media while dispelling myths.
- The presence of high school friends and others on social media may make it hard for young people to fully embrace an identity of a college goer if this is at odds with their dominant social clique. Additionally, having one's parents, teachers, and college-related institutional connections all on one social medium in addition to friends and classmates may create a collapse of contexts that may be stressful for young people to manage. When people engage in a communicative act, they often "craft" their presentation to the audience that they have in mind (Goffman, 1959). This type of self-conscious presentation in online contexts has been examined in the context of dating sites (Ellison et al., 2006), and personal homepages (Papacharissi, 2002) among others. Social media, however, "flattens multiple audiences into one—a phenomenon known as 'context collapse'" (Marwick & boyd, 2011). This can make it difficult for individuals with disparate audiences in their SNS network, as he or she must cater to multiple audiences at once.
- People use some social media applications, such as Facebook, mainly to connect with people whom they already know, rather than strangers. This could create an echo chamber effect such that individuals are only exposed to the narrow views provided by their network. The strength of weak ties is dependent on the diversity of one's network, but uses of social media may not promote this diversity, as when users connect only with others within a homogenous group. This may be a particular concern for students who attend schools that are not very diverse demographically. However, some research

suggests that fears about an echo chamber effect on social media are unfounded and that Facebook users are exposed to novel information from their weak ties (Bakshy, 2012).

- There is a lack of research on some groups, which limits what we know about how social media interventions might be designed and employed. Examples of understudied groups include returning/older students, undocumented students, and students who may be struggling with their sexual identity.
- Social media might also be used to encourage parent-to-parent communication. With increasingly diverse populations online, parents can use social media to talk to one another and connect with relevant others (e.g., teachers) to help share information. This might be particularly useful for parents of first-generation students because they may not have the informational resources their children need. A social media-based information resource for these parents might be useful.
- Social media could be used to purposefully introduce or connect individuals in order to provide better access to informational or social support, important components of social capital. For instance, mentorship programs through Facebook could connect high school students with college student mentors from their own school or neighborhood. Similarly, content from specific college “ambassadors” (i.e., students who are interested in going to college) about college-related activities could stimulate others in their network to take action.
- The fact that many young people log into social media on a daily basis can be leveraged by using these sites to provide reminders about the college application process and financial aid deadlines. Information available through social media may be more accessible to teens because they provide “unprecedented direct access to high school students in their natural environment” (Schiffman, 2010). For instance, Facebook Pages and Groups for colleges can serve as information distribution points as well as means of connecting with current students.

In conclusion, our review of the extant literature suggests that there is potential for social media to be leveraged in ways that potentially reshape networks and information flows. The literature on college access and post-secondary success points to multiple factors that influence why, when and whether young people pursue higher education. Some of these factors, such as the importance of peer feedback, may be especially well-suited for social media interventions. Although no technological tool is a panacea, social media possess social and technical affordances that might ameliorate college access patterns. We have outlined some of the challenges and opportunities in this space in order to explicate some of these possibilities.

Appendix A: Overview of college access and adjustment issues and social media's potential for ameliorating them

Issue	Research findings	How might social media help?
Transition to college might result in loneliness & other social adjustment problems, which affect academic outcomes	Communication with old ties (such as high school friends) can help with social adjustment in new environment	Social media can help maintain existing social relationships
Sense of belonging and adjustment to college is important for persistence (staying in college)	Involvement in college activities helps increase sense of belonging	Social media can help students identify others with similar interests and facilitates face to face communication; helps publicize extra-curricular activities/events
Transition to college occurs during “emerging adulthood,” when young people are exploring identity issues	New environment can be a cultural shock for students, especially for minority and first generation students	Social media helps one define one's social role through selective self-presentation and makes homophily more salient.
First-generation students may not get informational support from their families	Breadth and diversity of network allows better access to informational resources	Social media lets students and families access more people and more diverse people.
Underprivileged students are often in an environment where college is not the norm	Community norms influence people's attitude towards higher education.	Social media, through social message streams, can help reconfigure community norms, for both parents and students
Parents aren't involved in their child's education	Parental involvement (communication with school, other parents, etc.) benefits child's academic adjustment	Features such as Facebook Pages can help parents keep up with what's going on at school, lower costs to connecting with other parents
Parents have less communication with teens as they grow older	Parental communication with children increases the child's access to the parent's resources	Facebook can help open up more communication channels.

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