

Social networking and first-generation college student success:
A conceptual framework for “critical” engagement and persistence efforts

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Abstract

This paper offers a conceptual framework for the use of social networking technology to promote critical engagement and success among first-generation college students. Drawing on critical theory to scrutinize principles of student engagement in college, this paper proposes a conceptual framework to map a “college staying culture” among first-generation college students. Specifically, the authors posit that online social networking is instrumental in the transmission of social capital for equitable postsecondary outcomes. The authors suggest that this conceptual framework offers valuable insight into how university administrators and scholars of higher education might consider the role of social media to promote engagement that takes into account college students’ cultural and social experiences and the use of social media as a means to transmit social capital.

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Widespread interest in promoting educational equity in higher education has spurred on an array of interventions designed to target the academic and social processes deemed essential for promoting student persistence. These efforts have been largely driven by the widely documented individual and societal benefits of attaining a postsecondary degree (Baum & Ma, 2007). Even with these interventions, all students are not equally accessing and completing college. In fact, studies show that there are gaps in ongoing persistence and degree attainment between first-generation college students and their peers with college educated parents (Engle & Tinto, 2008; Chen, 2005).

Current strategies to improve these persistence rates of this group of students concentrate on the logistical challenges faced by first-generation college students (FGCS). Much of this work has brought about institutional practices and programs such as learning communities and peer-mentoring programs. These efforts and related research have advanced our understanding of the barriers facing students as they make their way through higher education. However, rarely do these studies attend to the cultural and social experiences that shape students’ interaction with and connection to their institutions. This is true in spite of claims that research on college persistence inaccurately frames minorities’ postsecondary experiences (Rendón, Jalomo, & Nora, 2000). Furthermore, few of these interventions have attempted to leverage the benefits of social media and technology as experienced by current college students. In this paper, we describe a conceptual framework that takes into account these two gaps in current practices by calling attention to processes that transmit important capital through social media. That is, this

framework offers a model for engaging FGCS populations through institutional social networking technologies that can both mimic and enhance relationships that are critical for academic perseverance and retention. In particular, we argue that social media is an ideal medium to create a college staying culture that capitalizes on peer learning and academic support relationships and contributes to the development and strengthening of FGCS personal and academic resolve. Doing so, we argue, has the potential to enhance current institutional strategies by using equity minded practices.

Belonging and membership in communities, especially those communities through which individuals have agency and equitable access to multiple forms and degrees of capital, functions to understand lived experiences, especially in a class-based and racialized society. Since FGCS are often racial and ethnic minorities, and typically have differential (traditionally measured) educational outcomes (Pike & Kuh, 2005; Tym, McMillion, Barone, & Webster, 2004; Terenzini, Springer, Yaeger, Pascarella & Nora, 1996), critical theory can frame these students' experiences by scrutinizing "engagement" and "belonging" within the social and cultural dynamics of structural oppression and privilege, especially as it relates to the acquisition of relevant social capital. Thus, unlike previous scholarly work, this paper presents a framework that fosters college "engagement" using a critical lens with a view towards equity. This type of framework takes into account the agency and unique perspectives and experiences of FGCS.

We offer a conceptual framework for engaging FGCS by intentionally capturing "critical engagement" experiences using social media to transmit capital necessary for degree attainment. The basis of this conceptual framework begins with an assumption that FGCS "engagement" through online media can serve critical, equity purposes. That is, through a closed system of online networking, individualized, conditional and contextual norms of FGCS "engagement" can

be established and reinforced, and that as a “critical” intervention, equitable transformation is possible. The “critical” dimension here is derived from critical theory’s fundamental theoretical features. The joining of theory (“engagement”) with application (online social media) makes possible criticism of higher education’s inequitable structures, analysis of these structures, and the inductive development and alteration of useful resolutions (author, forthcoming).

Review of the Literature

First Generation Students

Low-income FGCS make up approximately 24% of the undergraduate population (Engle & Tinto, 2008). Many of these students are from racial and ethnic minority groups and with lower levels of academic preparation for college (Engle & Tinto, 2008; Tym et al., 2004). Over half of FGCS (55%) need to enroll in remedial coursework in college compared with only a quarter of students whose parents had attended college (Chen, 2005). These students are less likely to attend selective institutions, live on campus, and more likely to work more hours than their non-FG peers (Pascarella, Pierson, Wolniak, & Terenzini, 2004). FGCS are also less likely to graduate with a bachelor’s degree after enrolling in college than their peers whose parents had attended college, and more likely to leave in the first year (Chen, 2005; Engle & Tinto, 2008). Despite the widely documented struggles of low-income students to successfully complete college, research has yet to dedicate itself to produce viable solutions to promote student success (Walpole, 2003).

Traditional theoretical models of persistence have examined how, and in what ways a student becomes integrated, both socially and academically into the institution (Tinto, 1993). Astin (1993) found that students with greater levels of engagement and involvement are more likely to persist. These traditional and normative engagement measures include faculty

interaction, group study, and participating in co-curricular activities (Lohfink & Paulsen, 2005; Nuñez & Cuccaro-Alamin, 1998; Pascarella et al., 2004). Pike and Kuh (2005) attribute lower persistence rates of FGCS to a decreased likelihood that these students are engaged in the traditional academic and social experiences. St. John, Hu, and Fisher (2011) posit while active social and academic engagement is vital to the formation of social capital, it is often a challenge for FGCS who may need to work long hours or focus more on academics to make up for their lack of academic preparation. These students may also lack the knowledge of the college environment in order to understand the importance of becoming engaged. Pascarella et al., (2004) found that FGCS who are engaged on campus tend to have greater gains from extracurricular participation and peer interaction than other students on the campus, and may be a useful way for FGCS to acquire the additional capital needed to help these students succeed in college. Davis (2010) also added that FGCS may see themselves as outsiders who are struggling with identity development.

A central aspect of the college experience for FGCS is the transition to college. Engle, Bermeo, and O'Brien (2006) found that due to pre-college experiences, many FGCS felt that they lacked the study skills needed to be successful in college. Engle and Tinto (2008) recommended that advising, tutoring, and mentoring by faculty and peers, along with participation in programs that help to "scale down" the college experience could help to facilitate a smooth transition to college. Though the language of "scaling down" the college experience for FGCS is arguably paternalistic and thus troublesome, the idea that colleges need to find ways to increase interaction and engagement given the particular contexts of FGCS (e.g. during classroom time, since some FGCS spend little time on the campus due to work and other commitments) is useful within an equity framework.

The types of activities and relationships identified as critical to student persistence can be viewed as components of a student's cultural experience in college. There is, to date, no scholarly research on a "college-staying culture." However, many of the central tenets of a "college-going culture" (McDonough, 2005) can be understood as central to a "college-staying culture." These themes include setting clear expectations, providing information and resources, and involvement by faculty (McClafferty, McDonough, & Nuñez, 2002). St. John et al., (2011) highlight the importance of how FGCS need to build trustworthy relationships with faculty, staff, and peers, to create a community of support in their study of Washington State Achievers (WSA) and Gates Millennium Scholars (GMS) recipients. Students shared that these relationships "served as a key unlocking some of the mysteries of advanced college knowledge" that students needed to "navigate college as a social and academic system" (p. 169). Our conceptual framework is intended to operationalize and institutionalize these cultural principles to establish a college going culture that fosters and supports "critical engagement" among FG students.

Ensuring that students truly have access to a postsecondary degree calls for responsibility on the part of the student and the institution. Students are responsible for the time and effort that they put into educationally purposeful activities while institutions are responsible for utilizing resources and services to motivate students to participate in educationally purposeful activities that support outcomes such as persistence (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007). In order for engagement and deep learning to occur, collaboration, action, and purpose are needed (Kinzie & Kuh, 2004; Kuh, Kinzie, Schuh, & Whitt, 2005; Kuh et al., 2007). The National Survey of Student Engagement (NSSE) is one measure of engagement that is widely used. Five benchmarks are utilized to measure engagement in activities designated as educationally purposeful; activities that are believed to lead to deep learning and measurable gains on

conventional outcomes related to college attendance (Kuh et al., 2005). While some research has suggested that instruments such as the NSSE can help practitioners to better understand their students, particularly diverse populations, and be intentional in providing and promoting opportunities that will support engagement (Harper & Quaye, 2009), other researchers question these claims (Dowd, Sawatzky & Korn, 2011; Nora, Crisp, & Matthews, 2011). Broadly, these criticisms of student engagement outcomes and benchmarks highlight the need to consider the lived experiences of students, their positions as autonomous agents in their decision-making processes, and the partial and perhaps dominant character of the norms that define outcomes and benchmarks.

Social Media in Higher Education

Students spend significant time using electronic media. Consequently, strategies that leverage social networking sites hold unique promise for engaging these otherwise difficult-to-reach students when they are outside the classroom. Current research indicates that social networking media are essential for communities to communicate purposes, to provide guidance and support for new members, to provide members with useful information and opportunities for personal growth and development, and to serve as a conduit for interaction between and among members so that they actively construct the community's culture (Martínez Alemán & Wartman, 2009; Nagele, 2005). With increased rates of online social networking use among demographic sectors common to FGCS (including Latino populations) (Lenhart, Purcell, Smith, & Zickuhr, 2010), and with both young adults 18-29 and adults 30 and over using Facebook as their primary social networking site (istrategylabs, 2011), it is reasonable to assume that the use of social networking sites would make their application to "college-staying" activities sensible and opportune.

Scholarly research in the field of higher education has explored the use of social media. For example, current research has explored the role of social media in building relationships that are crucial to social engagements and community building (Morris, Reese, Beck, & Mattis, 2009; Yazedijian, Toews, Sevin, & Purswell, 2008) and in creating contexts that encourage contribution and collaboration among students (Muñoz & Strotmeyer, 2010). According to Muñoz and Strotmeyer (2010), social media is an ideal medium to facilitate engagement by integrating relevant campus information with social networking sites used by students for personal reasons (Muñoz & Strotmeyer, 2010). Most recently, Junco (2011) examined the relationship between Facebook use and traditional benchmarks of student engagement, concluding that Facebook activities were strongly predictive of engagement. Chen, Lambert, & Guidry (2010) also used NSSE items and measure to assess the impact of online technology on engagement, finding a positive relationship between use and engagement. It is important to note that these two studies were based on an un-problematized reading of the National Study of Student Engagement (NSSE) and its measures. The same can be said of Heiberger & Harper's (2008) study of college student engagement and Facebook use, and the Higher Education Research Institute's (2007) study of first year students and online technology use.

Studies have also examined the role of social media and college student development. Pempek, Yermolayeva, & Calvert, (2009) focused on the uses of Facebook by college students and the effects on identity development and peer relationships. These researchers observed that college students' use of Facebook involved developmentally appropriate and necessary communication with peers, suggesting that peer interactions on Facebook were productive for identity formation and emerging adulthood. Valenzuela, Park and Kee (2009) found a *positive* relationship between Facebook use and students' life satisfaction, social trust, civic engagement,

and political participation, and verified that social capital characterizes many of the communications on Facebook. Student affairs professionals have also sought to harness the power of social networking for a myriad of co-curricular activities. For example, Jenness (2011) argues that Facebook can be used to “engage” students; again, engagement here is uncontested. Stoller (2011) chronicles the use of social media by student affairs in higher education and Junco & Timm (2008) catalogue emerging technologies—in particular, social networking—and their relationship to student engagement for student affairs professionals. In our view, these studies fail to critically problematize the norms of engagement, missing the cultural issues that particularly affect FGCS. Further, these studies fail to intentionally integrate the academic and social supports on campus, a necessary condition when considering the engagement needs of FGCS.

Theoretical Grounding

Just as in any club or organization, membership comes with certain rights, power, and privileges; however, those who do not belong are not afforded full membership. In a racist and oppressive society, similar dynamics of engagement, belonging, membership, and ownership exist in social institutions. Certain groups have the power to exclude others from belonging and being legitimate members through cultural regulatory behaviors and accordingly determine the extent to which others have access to certain rights and privileges. Social regulation dictates and defines the ways in which students belong through labels, stereotypes, and expectations. Social institutions, like a college or university, regulate students’ membership by restricting students’ opportunities to gain tacit knowledge, i.e., cultural capital that can contribute to students’ membership and sense of belonging in college. Accordingly, college structures should provide the means through which students can develop a sense of belonging, and that their belonging is

legitimate (Hurtado & Carter, 1997). Faculty and administrators need to be equity-minded, which is the awareness that actions and attitudes shape the educational opportunities of minority students, and to understand their role in promoting college success for all students (Bensimon, 2007). Systems and institutions are made to intentionally or unintentionally account for the kinds of membership individuals can access and the extent to which one belongs (Johnson et al., 2007). As many scholars have noted, colleges and universities are not “culturally neutral spaces” and should be understood as such when measuring or evaluating college student “engagement” (Dowd et al., 2011, p. 18). In light of this, it is important to take student culture and more extensive social and cultural history into account. To address this fact, we argue that online social media can be understood and positioned as institutional spaces in which productive and equitable student “engagement” can take place. As such, social media can be an institutional space in which “critical engagement” can take place because of social media’s essential characteristics.

“Critical engagement” for FGCS through online social networking has an “embedded” character. Norms are developed and social capital produced and accessed by attending to the conditions and context of relationships, not by a-historically derived norms or paradigms. For example, norms of social capital attainment processes by FGCS may not mimic traditional engagement processes exactly, but their objective is the same—student academic success. Though the social capital produced and achieved through “critical engagement” may produce positive outcomes comparable to traditional (positive) student outcomes—e.g., course completion, academic progress—these are processes and capital distinguished by the historical, social, economic and cultural contexts of being first-generation *individuals* on campus.

Online social media are sites in which user agency directs and determines the norms of the relationships and the communication and meaning making about educational and social decisions that results. College student's self-authorship is essential to these sites and it is through self-authorship that college students reveal cultural and campus norms, and construct counter-narratives (Baxter-Magolda, 2004). Students signal cultural and social cues that reflect economic and other social conditions that define their experiences on campus. As part of an ecology of student development that features identity development, social media sites present and highlight racial, ethnic and gender narratives. Among college students, self-presentation and communication on Facebook are bodied relations and exchanges; each communication can signal individual and group identities marked by the conditions of their lived experiences (Martínez Alemán & Wartman, 2009).

Thus, because social media are constituted by user autonomy and context, we can begin to see the potential in these sites for providing students with a space for critically engaging in productive academic relationships. Relying on Horkheimer's supposition that a "critical" theory can "dispel myths" and "overthrow fantasy with knowledge" (Horkheimer & Adorno, 2002, p.1), the critical framing of FGCS engagement through online social media can enable us to name and situate the ways in which FGCS cultures produce and conserve particular inequities. Because an individual's lived experience is significantly determined by the meaning that social and cultural values bear (overtly or implicitly), the meaning of academic productive relationships and communication can become inequitably regularized and standardized. Through social media, the autonomous, "impression-management" user can critically challenge, reinvent and/or appropriate meanings assumed 'natural' and/or 'normal' (Martínez Alemán & Wartman, 2009). By doing so, FGCS critically test the "regimes of truth" (Foucault, 1980) that script traditional norms of

college student “engagement” that are found problematic when assessing the experiences and performances of marginalized students (Dowd et al., 2011).

Social capital and social media

The conceptual framework described here is informed by the principles of social capital theories, and their intersection points with social media. Social capital theory, a theoretical framework that emphasizes the benefits of social networks, has been used by several researchers to illustrate the importance of relational support in preparing underserved students for college access and success (McDonough, 2005; Stanton-Salazar, 1997; Tierney & Venegas, 2006). Social network analysis is utilized to examine and appraise the use-value of real-life and online relationships and connections. The theoretical assumptions grounding social network analysis include the conviction that networks of relationships provide information and resources that are influential within and outside the network (Watts, 2004). These resources or “capital” are assumed to have an effect and impact on behavior at both the micro (individual) and the macro (group or niche) levels, and as well as shaping conduct and furthering communication between individuals and communities (Coleman, 1988; Portes, 1998). Social capital gained from the network connections can be tangible, such as resources or expertise.

Online social networks function in much the same ways as “real life” networks (Ellison, Steinfield & Lampe, 2007; Katz & Rice, 2002). Ties vary and information and social capital can be shared across “loose connections” as well as across close, emotional connections (Ellison, et. al. 2007). As noted by Martínez Alemán & Wartman (2009) in their study of undergraduate student culture and Facebook use, a user’s social graph—her network of association—can be interpreted as a reflection of social capital in that it signals to others the user’s connections within and between social groups. As the means for the transmission of social

capital, there is implicit value in a student's network of associations because it is in and through these networks that students engage in and communicate the culture of the campus and the ecology of self-development. The value of associations networked is the cornerstone of online social networking sites and given students' accounts of their Facebook use, college students recognize this and capitalize on it. Martinez Aleman and Wartman note that "[w]hether using the social graph to reinforce real-world relationships or using the social graph to vet new associations or group membership, college students use Facebook as a conduit of social capital on college campuses today" (p.88).

As a mechanism for interconnected social relations, online social networks become a medium where culture is produced, monitored and deciphered and where the sharing of information as capital becomes ritualized (Jones, 1998; Martínez Alemán & Wartman, 2009). We must amend Martínez Alemán & Wartman's (2009) account of the social network or graph as social capital. It is the social connections that constitute social networks that provide the *means* for social capital *processes*—communication and delivery of information as capital. Within online social networks, individuals exchange culturally important information across relationships. The processes that develop social capital within social networks are contextual and conditional and will vary (Bankston & Zhou, 2002). Across and within networks, "cliques" (groups of nodes/individuals connected by more than one node/individual) (Watts, 2004) or between individual users, the conditionality and context of the relationships will inform what constitutes social capital, the process by which social capital is transferred, and what form of capital is produced. Consequently, social network analysis takes into account that *social capital can be produced differently across relationships and within networks*.

The socio-cultural niche that is the college or university informs online networked relationships and communication, so that social capital is produced across users as a consequence of their aggregation. Because individuals pay attention to the behaviors and decisions of other individuals in the network, social capital takes on the qualities of a “contagion” in the network. Information or decision-making becomes a form of “social contagion” that is passed on to network users. The “public” nature of relationships in online networks, i.e.; that they are observed by all others in the network, verify the identity of the user and in doing so, behaviors and decisions are given cultural weight and value. Behaviors and decisions have use-value to others in the network in that these behaviors and decisions have some general utility. But because the social network is contextual and conditional (e.g. the user’s gender and race) its utility is not necessarily fungible. For example, among FGCS decisions about course taking, study habits, and internships can be modeled by peers in the network, thereby providing users with use-value information that can be acted upon. In the network, FGCS can observe and discuss positive decision-making by peers in the areas of finances and faculty-student communication. Social capital produced within online social networks, then, is informed by the conditions, circumstances and contexts of the college campus generally and specifically to individuals or groups of individuals.

Online social networking on campus, therefore, is a means for the production of social capital that should be assessed by taking into account the context and conditions of the network and its users. Like research on the use of social networking technologies as means to access social capital in the form of social support systems and economic opportunities among women (Burgess, 2009), researchers have begun to consider the salient nature of user identity (her context and conditionality) when examining the utility of online social networking for the

production of social capital. Within higher education, Ellison et al. (2007) attempted to ascertain the production and maintenance of social capital among Facebook users in college and determined that “Facebook appears to play an important role in the process by which students form and maintain social capital” (p. 23). Their results implied that contextual and conditional factors (or in their terms, “demographic factors”) have some bearing on the kind of capital produced. For example, they suggested that white students are somewhat more likely to have a particular form of social capital (“bridging capital”) than non-white students and that this type of social capital was strongly correlated with students’ satisfaction with life on campus. Other researchers such as Hargittai (2007) have attempted to assess the effects of socio-cultural context (e.g. race and ethnicity) on the nature of social network use, while others like Dawson (2008) have endeavored to assess the relationship between student social networks and sense of community. In sum, the production of social capital through online social networking, and to some extent, the effects of that production on college students, have been acknowledged by researchers but none have framed the production as a means to the production of social capital for equitable ends.

Implications

The conceptual framework described in this paper has implications for improved practice and new avenues for research (Figure 1). “Critical engagement” unites FGCS with institutional “engagement” structures through online social media technology. By integrating research on engagement with critical theory, we argue that online social media will help FGCS build trusting relationships with institutional actors and peers, thereby increasing information exchanges and enabling peers to set college-staying expectations.

In the practice realm, this framework provides important insight for designing and implementing developmental interventions that use social media to promote positive academic outcomes for FGCS. Doing so leverages the benefits of social media to construct spaces for social capital to be built and shared across communities of students and faculty and university administrators. More specifically, interventions that intentionally utilize social media have the potential to establish positive norms, and share college knowledge and institutional know-how. Further, in light of the role that peers play in students' lives, we argue that social media oriented interventions create a foundation for a college-staying that becomes embedded in structured, critical social processes such as advising, mentoring, and academic support. In addition to relationship building and information sharing, the social media site also becomes a platform for students to set peer expectations for college staying.

This conceptual framework also advances the scholarly field of engagement and persistence. Social network analysis can be used to both understand and assess the normative and emergent outcomes associated with using social media. As stated previously, colleges and universities are not culturally and socially neutral spaces. Therefore, assessments of any intervention designed to improve student success should take student culture and more extensive social and cultural history into account. Such interventions might target short-term outcomes (increased student-faculty interaction, increased access to social and cultural capital, increased student engagement, increased student belonging, and improved academic performance); students' discernment of the effects of their network communications and interactions; the extent and duration of communications; the theme of communications; the types of capital exchanged, etc. Likewise, social network analysis metrics can be adapted to conduct the varied analyses. For example, researchers might use "degree centrality" to ascertain the salience of connections to a

peer mentor. The network's "density" can be a means determine levels or degrees of intimacy and support among network users. Patterns of connections between student and faculty and between students and students can be assessed using a "socio-centric" analysis, i.e. the configuration of the entire network can give us a more meaningful view of the use-value of the interactive space (Scott, 2000). We anticipate that future research might gather data from online observations, focus groups, ethnographic interviews and quantitative analysis to design an institutional or structural sociograph, which can be constituted by an originating nodal point and numerous edges and their node connections that serve as conduits of college-staying information, reinforcement, assistance and sponsorship.

In light of the fact that institutions shape the ways in which and with whom FGCS become socially and academically involved on campus, it is important for higher education officials to identify opportunities for first generation students to form virtual spaces for belonging, validation, and intercultural/social capital transmission. Together with faculty and staff who continuously reflect critically on institutional practices and cultures, social media have the potential to promote equity. Connecting students through online social networking technologies can create an online culture to enhance FGCS sense of membership and belonging, and can serve to provide an institutional structure for connection to the services and relationships that mediate college-staying culture and belonging. This conceptual framework provides a model for how to do this, especially at a time research is needed to examine low-cost, scalable strategies to improve first generation college students' college experiences and success.

References

- Astin, A.W. (1993). *What matters in college: Four critical years revisited*. San Francisco: Jossey-Bass.
- Author (forthcoming).
- Bankston, C.L., & Zhou, M. (2002). Social capital as a process: The meanings and problems of a theoretical metaphor. *Sociological Inquiry*, 72, 285-317.
- Baxter Magolda, M. B. (2004). Self-authorship as the common goal of 21st century education. In M. B. Baxter-Magolda & P. M. King, (Eds.), *Learning partnerships: Theory and models of practice to educate for self-authorship*, (pp. 1-36). Sterling, VA: Stylus.
- Baum, S., & Ma, J. (2007). *Education pays: The benefits of higher education for individuals and society*. Washington, DC: The College Board.
- Bensimon, E. M. (2007). The underestimated significance of practitioner knowledge in the scholarship on student success. *The Review of Higher Education*, 30(4), 441-469.
- Burgess, K. R. (2009). Social networking technologies as vehicles of support for women in learning communities. *New Directions for Adult and Continuing Education*, Summer, 63-71.
- Chen, X. (2005). *First Generation Students in Postsecondary Education: A Look at Their College Transcripts* (NCES 2005-171). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.
- Chen, P. S. D., Lambert, A. D., & Guidry, K. R. (2010). Engaging online learners: the impact of web-based learning technology on college student engagement. *Computers & Education*, 54(5), 1222-1232.

- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, 95-120.
- Davis, J. (2010). *The first generation student experience*. Sterling, VA: Stylus.
- Dawson, S. (2008). A study of the relationship between student social networks and sense of community. *Educational Technology & Society*, 11 (3), 224-238.
- Dowd, A. C., Sawatzky, M., & Korn, R. (2011). Theoretical foundations and research agenda to Validate measures of intercultural effort. *The Review of Higher Education*, 35 (1), 17-44.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer Mediated Communication*, 12(4), article 1.
<http://jcmc.indiana.edu/vol12/issue4/ellison.html>
- Engle, J., Bermeo, A., & O'Brien, C. (2006). *Straight from the source: What works for first generation college students*. Washington, DC: The Pell Institute.
- Engle, J. & Tinto, V. (2008). *Moving beyond access: College success for low-income, first-generation students*. Washington, DC: The Pell Institute.
- Foucault, M. (1980). *Power/knowledge: Selected interviews and other writings, 1971-1977*. New York: Pantheon.
- Harper S.R., & Quaye, S.J. (2009). *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations*. New York: Routledge.
- Heiberger, G., & Harper, R. (2008). Have you Facebooked Astin lately? Using technology to increase student involvement. In R. Junco, & D. M. Timm (Eds.), *Using emerging*

technologies to enhance student engagement. New Directions for Student Services, Issue 124 (pp. 19–35). San Francisco, CA: Jossey-Bass.

Higher Education Research Institute. (2007). College freshmen and online social networking sites. Retrieved March 1, 2011 from. <http://www.gseis.ucla.edu/heri/PDFs/pubs/briefs/brief-091107-SocialNetworking.pdf>.

Horkheimer, M., & Adorno, T. W. (2002). *Dialectic of enlightenment: Philosophical fragments*. Stanford, CA: Stanford University Press.

Hargittai, E. (2007). Whose space? Differences among users and non-users of social network sites. *Journal of Computer-Mediated Communication*, 13(1), article 14.
<http://jcmc.indiana.edu/vol13/issue1/hargittai.html>

Hurtado, S., & Carter, D. F. (1997). Effects of college transition and perceptions of the campus racial climate on Latino students' sense of belonging. *Sociology of Education*, 70, 324-345.

istrategylabs. (2011). Facebook demographics and statistics report. Retrieved from <http://www.istrategylabs.com/2010/01/facebook-demographics-and-statistics-report-2010-145-growth-in-1-year/>

Jenness, S. E. (2011). Rethinking Facebook: A tool to promote student engagement. *The Journal of Technology in Student Affairs*. Retrieved October 1, 2011 from http://studentaffairs.com/ejournal/Summer_2011/RethinkingFacebook.html

Johnson, D., Soldner, M., Brown Leonard, J., Alvarez, P., Inkelas, K., Rowan-Kenyon, H.T & Longerbeam, S. (2007). Examining sense of belonging among first-year undergraduates from different racial/ethnic groups. *Journal of College Student Development*, 48, 525-542.

- Jones, S. (1998). *CyberSociety 2.0: Revisiting computer-mediated communication and community*. Thousand Oaks, CA: Sage.
- Junco, R. (2011). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. *Computers and Education*, 58, 162-171.
- Junco, R., & Timm, D. (2008). *Using emerging technologies to enhance student engagement. New directions for student services. Issue #124*. San Francisco, CA: Jossey-Bass.
- Karp, M. M., Hughes, K. L., & O'Gara, L. (2008). *An exploration of Tinto's Integration Framework for community college students* (CCRC Working Paper No. 12). New York: Columbia University, Teachers College, Community College Research Center.
- Katz, J. E., & Rice, R. E. (2002). *Social consequences of internet use: Access, involvement, and interaction*. Cambridge, MA: The MIT Press.
- Kindon, S., Pain, R., & Kesby, M. (Eds.) (2010). *Participatory action research approaches and methods: Connecting people, participation and place*. NY: Routledge.
- Kinzie, J., & Kuh, G.D. (2004). Going deep: Learning from campuses that share responsibility for student success. *About Campus*, 9(5), 2-8.
- Kuh, G.D., Kinzie, J., Buckley, J.A., Bridges, B.K., & Hayek, J.C. (2007). *Piecing together the student success puzzle: Research, propositions, and recommendations*. ASHE Higher Education Report (Vol. 32, No. 5). San Francisco: Jossey-Bass.
- Kuh, G.D., Kinzie, J., Schuh, J., Whitt, E.J., & Associates. (2005). *Student success in college: Creating conditions that matter*. San Francisco: Jossey Bass.
- Lenhart, A., Purcell, K., Smith, A., & Zickuhr, K. (2010). Social media and mobile internet use among teens and young adults. Retrieved May 24, 2010 from

http://www.pewinternet.org/~media/Files/Reports/2010/PIP_Social_Media_and_Young_Adults_Report.pdf

Lohfink, M., & Paulsen, M.B. (2005). Comparing the determinants of persistence for first-generation and continuing-generation students. *Journal of College Student Development*, 46, 409-428.

Martínez Alemán, A. M., & Wartman, K. L. (2009). *Online social networking on campus: Understanding what matters in student culture*. NY: Routledge/ Francis Taylor Group.

McClafferty, K.A., McDonough, P.M., & Nuñez, A-M. (2002). *What is a college culture? Facilitating college preparation through organizational change report. (Report No. ED471504)* New Orleans, LA: Annual Conference of the American Educational Research Association.

McDonough, P. M. (2005). Counseling matters: Knowledge, assistance, and organizational commitment in college preparation. In W. G. Tierney, Z. B. Corwin & J. E. Colyar (Eds.), *Preparing for college: Nine elements of effective outreach*. Albany, NY: State University of New York Press.

Morris, J., Reese, J., Beck, R., & Mattis, C. (2009). Facebook usage as a predictor of retention at a private 4-year institution. *Journal of College Student Retention*, 11, 311-322.

Munoz, F.M., & Strotmeyer, K.C. (2010). Demystifying social media. *Journal of Student Affairs Research and Practice*, 47, 123-127.

Nagele, C. (2005). Social networks research report. Wildbit, LLC. Retrieved May 22, 2010 from <http://wildbit.com/wildbit-sn-report.pdf>

Nora, A., Crisp, G., & Matthews, C. (2011). A reconceptualization of CCSSE's benchmarks of student engagement. *Review of Higher Education*, 35 (1), 105-130.

- Nuñez, A., & Cuccaro-Alamin, S. (1998). *First-generation students: Undergraduates whose parents never enrolled in postsecondary education*. Washington, DC: NCES.
- Pascarella E.T., Pierson, C.T., Wolniak, G., & Terenzini, P. (2004). First-generation college students: Additional evidence on college experiences and outcomes. *The Journal of Higher Education*, 75, 249-284.
- Pempek, T. A. , Yermolayeva, Y. A., & Calvert, S. L.(2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, 30, 227–238.
- Pike, G. and Kuh, G.D., (2005). First- and second-generation college students: A comparison of their engagement and intellectual development. *The Journal of Higher Education*, 76, 276-300.
- Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology*, 24, 1-24.
- Scott, J. (2000). *Social network analysis: A handbook*. London: Sage.
- Rendón, L. I., Jalomo, R. E., & Nora, A. (2000). Theoretical considerations in the study of minority student retention. In J. Braxton (Ed.), *Rethinking the departure puzzle: New theory and research on college student retention* (pp. 127-156). Nashville: Vanderbilt University Press.
- Scott, J. (2000). *Social network analysis: A handbook*. London: Sage.
- St. John, E. P., Hu, S., & Fisher, A. S. (2010). *Breaking through the access barrier: Academic capital formation informing policy in higher education*. New York: Routledge.
- Stanton-Salazar, R.D. (1997). A social capital framework for understanding the socialization of racial minority children and youths. *Harvard Educational Review*, 67(1), 1-39.

- Stoller, E. (2011). Using social media to enhance engagement, yield, and retention. *Inside Higher Education*. Retrieved October 2, 2011 from http://www.insidehighered.com/blogs/student_affairs_and_technology/using_social_media_to_enhance_engagement_yield_and_retention
- Terenzini, P. T., Springer, L., Yaeger, P. M., Pascarella, E. T., & Nora, A. (1996). First-generation college students: Characteristics, experiences, and cognitive development. *Research in Higher Education*, 37(1), 1-22.
- Tierney, W.G., & Venegas, K.M. (2006). Fictive kin and social capital: The role of peer groups in applying and paying for college. *The American Behavioral Scientist*, 49, 1687-1702.
- Tinto, V. (1993). *Leaving college: Rethinking the cause and cures of student attrition* (2nd Ed.). Chicago, IL: University of Chicago Press.
- Tym, C., McMillion, R., Barone, S., & Webster, J. (2004). First-generation college students: A Literature review. Research and Analytical Services. Retrieved October 4, 2011 from http://www.tgslc.org/pdf/first_generation.pdf
- Valenzuela, S., Park, N., & Kee, K. F. (2009). Is there social capital in a Social Network Site?: Facebook use and college students' life satisfaction, trust, and participation. *Journal of Computer-Mediated Communication*, 14(4), 875-901.
- Walpole, M. (2003). Socioeconomic status and college: How SES affects college experiences and outcomes. *The Review of Higher Education*, 27(1), 45-73.
- Watts, D. J. (2004). The "new" science of networks. *Annual Review of Sociology*, 30, 243-270.
- Watts, D. J. (2003). *Six degrees: The science of the connected age*. NY: Norton.

Yazedijian, A., Toews, M., Sevin, T., & Purswell, K. (2008). It's a whole new world: A qualitative exploration of students' definitions of and strategies for college success.

Journal of College Student Development, 49, 141-154.

Figure 1. Critical Engagement Utilizing Social Networking Technologies

