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The Role of Institutional Agents in Promoting Higher Education Success Among First-Generation College Students at a Public Urban University

Leigh S. McCallen and Helen L. Johnson
The Graduate Center, City University of New York

Ensuring success in public higher education among underrepresented students is integral to social equity in the United States today. The current research contextualizes proximal and structural characteristics shaping the opportunities of underrepresented students by drawing on multidisciplinary theoretical frameworks to consider the influence of social capital on the success of first-generation college students in the context of a large, public urban university. We collected survey and interview data with first-generation college students enrolled at three 4-year campuses of the City University of New York to analyze the association between student outcomes and perceived social support from institutional and protective agents. Convergent qualitative and quantitative findings indicate institutional agents, specifically college faculty, play a significant role in first-generation students' college success by imparting intellectual capital and institutional resources critical to navigating the higher education environment. We discuss implications for practitioners working with first-generation college students and for institutional change to better support these students at broad-access public colleges.

Keywords: public higher education, first-generation college students, underrepresented student success, mixed methods, social capital

An individual's family background continues to be a significant determinant of college access and success in the United States, despite dramatic expansion of higher education over the past several decades (Engle, 2007). Barriers are particularly salient for *first-generation college students*, defined in this article as those students whose parents did not attend or graduate college (Cataldi, Bennett, & Chen, 2018; National Center for Education Statistics, 2017). First-generation college students comprise a third of total college-goers nationwide (Skomsvold, 2015) and more than 20% of the over seven million undergraduates at 4-year institutions (Pappano, 2015).

These students are less likely to enter college, and when they do enroll, are more likely to leave and less likely to persist and earn a degree as compared to continuing-generation peers (those with college-educated parents; Cataldi et al., 2018). First-generation students typically enter the postsecondary landscape at broad-access public 4-year universities and 2-year community colleges (Cataldi et al., 2018). These institutions enroll the most students nationwide, have lower retention and graduation rates as compared to private universities, and serve disproportionate numbers of historically underrepresented students while simultaneously bearing the largest burden of shrinking federal and state support for public higher education since the 1980s, which has declined by 40% (Mettler, 2014; Stevens, 2015). First-generation college students are more likely to leave college without a credential after 3 years of enrollment, and 6 years after postsecondary entry, fewer remain enrolled compared to continuing-generation peers and nearly 90% fail to graduate (Cataldi et al., 2018; Lohfink & Paulsen, 2005).

However, the benefits of college completion for first-generation students cannot be understated: for those that do complete a bachelor's degree, postgraduate outcomes in terms of full-time employment and salary are found to be on par with peers with college-educated parents (Cataldi et al., 2018). We focus the current research on first-generation students because in addition to making up a sizable portion of total college-goers nationwide, they stand to benefit greatly from succeeding in college. Examining factors that contribute to the postsecondary success of first-generation college-goers provides a useful window into how practitioners, policymakers, and higher education institutions can create equitable opportunities for underserved students.

First-Generation College Students and Barriers to Postsecondary Success

Disparities in the outcomes between first-generation students and continuing-generation peers may be attributable in part to the fact that their status overlaps with other social and demographic factors shown to independently limit college success, such as being older than 24 years, working full-time, delaying postsecondary enrollment, attending college part-time, being financially independent, and/or supporting dependents (Engle, 2007; Greene, Marti, & McClenney, 2008; Lohfink & Paulsen, 2005). Possessing any one

Leigh S. McCallen, College Access: Research and Action, Department of Psychology, The Graduate Center, City University of New York; Helen L. Johnson, Department of Educational Psychology, The Graduate Center, City University of New York.

Correspondence concerning this article should be addressed to Leigh S. McCallen, College Access: Research and Action, Department of Psychology, The Graduate Center, City University of New York, 365 Fifth Avenue, New York, NY 10016. E-mail: lemccallen@gmail.com

of these characteristics, in addition to being first-generation in college, Black or Latino/a, and/or low-income, has been shown to greatly increase the chance of dropping out without a credential, and for those contending with two or more characteristics, only 25% will eventually earn a degree (Adelman, 2005).

Low-income status is an especially important intersecting factor. First-generation college students are more likely to come from low-income backgrounds, with 27% coming from households making $20,000 or less and 50% from households making between $20,001 and $50,000, as compared to 6% and 23% of continuing-generation students, respectively (Redford & Hoyer, 2017). Over four million low-income first-generation students are enrolled in postsecondary education, representing 24% of the undergraduate population (Engle & Tinto, 2008). More first-generation students (54%) than continuing-generation peers (45%) cite not being able to afford college as a reason for leaving without a credential (Redford & Hoyer, 2017), and loans make up a greater proportion of financial aid packages for low-income first-generation students (Engle & Tinto, 2008).

First-generation students' disadvantage in terms of college completion is not eliminated even as socioeconomic status increases because of factors such as family stressors (Wilbur & Roscigno, 2016). First-generation college students must cope with unique challenges related to their parents' limited postsecondary knowledge: for example, these students may not know that resources such as faculty office hours are available and can help them be successful, while continuing-generation peers come to college with a more innate sense of how to take advantage of existing supports (Winograd & Rust, 2014). First-generation students may also experience greater social alienation and marginalization in college as compared to peers with college-educated parents, and also tend to have lower ratings of sense of belonging and satisfaction (Jehangir, 2010; Stebleton, Soria, & Huesman, 2014). Johnson and colleagues (2007) found African-American, Latinx, and Asian-American Pacific students reported a less strong sense of belonging than White students. The significance of belonging for college students is conceptualized in Tinto's (1993) integration model, which holds that being academically and socially connected to an institution makes students more likely to persist (1993). Research by Karp (2011) supports Tinto's model, finding that students who do not become connected to their college struggle to remain enrolled.

Conceptual Frameworks

The public image of higher education continues to be shaped by a handful of affluent and historically White selective institutions, including the Ivy League and liberal arts colleges (Bailey, Jaggars, & Jenkins, 2015). Prevailing research about student success, in turn, has been influenced by this elite image, to the detriment of theorizing about the persistence of disadvantaged students attending broad-access institutions (Perna & Thomas, 2008). A problematic consequence is research about higher education equity tends to be constructed around stereotyped comparisons to the "traditional college student": middle- or upper-class White individuals aged 18–24 attending college full-time away from home—and who have college-educated parents (Stevens, 2015). This holds true for the predominant research literature examining first-generation students' belonging in college, which has tended to focus on these students' experiences in the context of highly selective or elite university settings.

Conceptual approaches looking at variation of individual pathways based on intersecting identities is necessary to inform policymakers and practitioners interested in creating more equitable opportunities in higher education (Perna & Thomas, 2008; Perin, 2013). To this end, our research draws on frameworks from sociology and psychology to elucidate factors that constrain and promote the success of first-generation college students.

Social Capital

The very nature of profiling underserved students' success within the U.S. education system risks overlooking injustices inherent to it (Morales & Trotman, 2011). This concern is particularly salient in the case of first-generation college students, who by definition embody the concept of upward social class mobility in breaking the intergenerational inheritance of their parents' educational level, a phenomena researchers commonly tie to the availability of social and cultural capital (Perna & Thomas, 2008). Social capital encompasses the norms, information channels, and relational trust within a social organization that, through social networks, influence individuals' capacity to navigate institutions (Coleman, 1988; Putnam, 1995). In the context of social inequality, it is theorized that the cultural capital of the upper classes (knowledge, norms, attitudes) are more valuable within the hierarchy of society, and thus contribute to maintaining the prevailing structure through intergenerational transmission (Bourdieu, 1986).

There is a long history of theorizing around social capital and higher education that places students into dichotomous typologies, where working-class students are characterized as "careerists," focused on how their college experience relates to future job prospects, and upper-class students are classified as "intellectuals," seeking knowledge for knowledge sake (Hurst, 2013). For example, in her in-depth ethnographic account of 100 Yale and Southern Connecticut State University students, Ann Mullen (2010) concluded Yale students pursued academics and other activities for "personal enrichment, centering their college years on the aim of crafting an enhanced self" (p. 206), whereas "the Southern students' approach may be best characterized as *earning* a degree . . . select[ing] fields not for what they wanted to study, but for the kinds of occupations they hoped to enter" (p. 207, emphasis in original). Although scholars such as Mullen locate these differences in the accumulation of economic, social, and cultural resources associated with students' family backgrounds, the narrative nonetheless casts working-class students' approach to their education as a deficit. Hurst (2013) suggested researchers focus their attention instead on the role of higher education in maintaining the prevailing class structure, especially in the current climate of rising tuition costs, as "both working class and more elite students are primarily using college to gain access to [professional and managerial] occupations; the difference lies in their differential understanding of how this process works" (p. 57).

As Yosso (2005) argued, it is presumed in studies such as Mullen's that the academic and social outcomes of lower class and/or people of color are rooted in these groups' "lack" of the cultural capital necessary for social mobility. Drawing on research in education using critical race theory, Yosso summarized six forms of cultural capital nurtured within marginalized

communities that, in fact, promote social mobility: *aspirational capital*, defined as the capacity to maintain optimism and motivation in the face of real and perceived barriers; *linguistic capital*, the skills developed through experiences in more than one language; *familial capital*, the cultural knowledge of families; *social capital*, the networks of people who provide instrumental and emotional support; *navigational capital*, or skills of moving through and coping with social institutions; and *resistant capital*, the attitudes developed through oppositional behavior to challenge inequality.

Stanton-Salazar (1997) is another scholar that has used social and cultural capital theory to conceptualize social networks within educational institutions can convey resources in ways that encourage the social mobility of low-status young people. Specifically, he described two types of social networks conveying resources found to impact racial/ethnic minority students' educational trajectories: protective agents, such as family or community members, and institutional agents, defined as individuals who have status, authority, and access to resources within institutions, such as teachers or counselors. *Institutional agents* "transmit directly, or negotiate the transmission of, institutional resources and opportunities . . . [so that] a segment of society gains the resources, privileges, and support necessary to advance and maintain their economic and political position in society" (Stanton-Salazar, 1997, p. 6). Institutional agents deliver *institutional support*, which refers to

> Key forms of social support that function to help children and adolescents become effective participants within mainstream institutional spheres, particularly the school system . . . [enabling] young people to become successful consumers and entrepreneurs within the mainstream marketplace, to manage effectively the stresses of participating in mainstream settings, and, in general, to exercise greater control over their lives and their futures. (p. 10)

Similar to Yosso's forms of cultural capital, Stanton-Salazar outlined the types of institutional support that institutional agents convey, including specific funds of knowledge (such as institutionally sanctioned discourses or knowledge of labor markets), connections to gatekeepers, role modeling, and emotional support.

Like Stanton-Salazar's conception of protective agents, Gofen (2009) used the framework of "family capital" to consider the relationship between the academic success of first-generation Israeli college students and various forms of nonmaterial capital imparted by families using a semistructured interview approach. The study found the socially and culturally situated family psychosocial resources such as habits, educational priorities, emotional support, belief systems, and educational values promoted students' success in college. In another qualitative study, Dowd, Pak, and Bensimon (2013) examined the role of institutional agents in promoting the successful transfer of low-income students, students of color, and/or first-generation students from a community college to selective 4-year colleges. The authors found institutional agents, particularly 4-year college faculty members, were instrumental in providing a sense of psychological security and validation through their relationship with these students, which in turn supported students' formation of an "elite" academic identity.

Educational Resilience

The theoretical framework of *educational resilience* represents an applied model of historically underserved student success in higher education that specifically attends to promoting educational equity in socially meaningful ways (Morales & Trotman, 2004). A resilience framework considers interactions between student strengths and protective factors in the schooling environment that lead to positive educational outcomes among populations encountering risk factors or cumulative stressors typically associated with low achievement and school failure (Gayles, 2005; Morrison, Brown, D'Incau, O'Farrell, & Furlong, 2006; Sosa & Gomez, 2012). Educational resilience is also consistent with contemporary models of student success in higher education that consider how multiple layers of context—such as psychological characteristics and college institutional environments—interact to determine student development (Perna & Thomas, 2008; Perna & Jones, 2013).

In one study guided by an educational resilience perspective, Gonzalez and Padilla (1997) compared profiles of academically successful and nonsuccessful Mexican American high school students experiencing challenges and stressors due to minority status, discrimination, alienating schools, economic hardship, difficulty understanding the English language, and/or having parents who are unfamiliar with the U.S. education system. Using both regression modeling and analysis of variance procedures, study results indicated a supportive academic environment, sense of belonging in school, family/peer support, and value placed on school were consistent educational protective factors among Mexican American high school students. Teachers' and peers' academic support and students' sense of belonging to school were particularly dominant in explaining resilient students' achievement, confirming other educational research demonstrating the academic success of low socioeconomic status (SES) minority students, as compared to White or higher SES students, is more strongly affected by school-level factors (Borman & Overman, 2004).

In another study using a similar framework but situated in a postsecondary setting, Morales (2012) conducted a prospective longitudinal qualitative study to identify resilience-promoting influences over the course of 15 racially diverse first-generation students' initial college semesters at a private 4-year university. As an analytic method, Morales operationalized educational resilience in terms of students' end-of-semester academic performance, defining successful students as those with a minimum 2.75 grade point average (GPA) and nonsuccessful students as those with a GPA lower than 2.75. Comparing interviews with successful and nonsuccessful participants, key dispositional attributes were found to be the strongest indicators of success, such as a willingness to seek help from a variety of resources, acknowledgment of potential academic issues in the first semester of college, and students' self-imposed study habits.

In contrast to Morales' (2012) findings regarding the importance of dispositional attributes in determining first-generation college students' academic success in the context of a private 4-year university, other research in higher education has presented findings more similar to Gonzalez and Padilla (1997), where institutional supports such as faculty mentors and tutoring services are found to be pivotal to the academic goal progress of first-generation college goers as compared to peers with college-educated parents (Garriott & Nisle, 2018). Engagement on campus

is associated with increased academic motivation, persistence, and college completion (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008; Price & Tovar, 2014). For students of color and low-income students, relationships and support within the academic environment are particularly important to academic success (Syed, Azmitia, & Cooper, 2011).

Similarly, previous research conducted by McCallen (2016) demonstrated that after controlling for demographic and educational characteristics such as race, low-income status, and full-time enrollment, the quality of first-generation college students' interactions on campus (e.g., with peers and faculty) was a significant resilience-promoting influence in terms of being negatively related to psychosocial maladjustment, whereas the teaching and learning environment (such as the frequency of interactions with faculty) was a significant resilience-demoting influence in terms of contributing to stress. By comparison, results indicated the teaching and learning environment, campus interactions, and overall campus climate consistently supported positive outcomes among students with college-educated parents. These findings are based on a regression analysis using student survey data collected at a large, public urban university to examine the interaction effects between students' background characteristics and dispositional, interpersonal, and institutional support factors.

The Current Study

Following the findings from a previous study conducted by McCallen (2016) as outlined above, we hypothesize the success of first-generation college students attending broad-access public colleges is shaped by access to campus actors who convey institutional resources. To this end, we chose to analyze the subsample of first-generation college students from the previous study using a social capital framework to explore more deeply how these students' perceptions of (a) significant social relationships and the types of cultural capital imparted through those relationships shape their success in college, and (b) experiences with faculty and other campus actors affect their academic achievement and college experience. We seek to extend contemporary research on diverse student populations by investigating these questions within the context of a broad-access university.

Institutional Setting

We conducted this research at the City University of New York (CUNY), the largest urban public university system in the United States. The university is comprised of eleven 4-year colleges and seven community colleges, enrolling more than 270,000 undergraduates each year. CUNY formally upholds a mission of responsiveness to the needs of its urban setting and continues to serve a socially and racially diverse undergraduate student population. According to data reported by the CUNY Office of Institutional Research and Assessment (2017), 41.5% of undergraduates at 4-year colleges are first-generation in college, 37.1% report household incomes less than $20,000, 57.7% are Pell Grant recipients, and 26.7% work for pay more than 20 hr per week. Black students comprise 24.2% of the undergraduate study body, Hispanics 27.2%, Whites 24.5%, and Asian students 23.9%.

Further, CUNY is representative of the national context of higher education settings that serve first-generation, low-income, and students of color. At the 4-year colleges, the average 4-year completion rate is 23.1% and the average 6-year completion rate is 54.8% (CUNY Office of Institutional Research and Assessment, 2016b), compared to a 59% 6-year completion rate nationally (National Center for Education Statistics, 2017). In addition, the macrolevel systemic decline of fiscal support for public higher education in the United States is magnified at CUNY. Since tuition was introduced in 1976, the cost of attending CUNY has increased to more than $6,000 per year at the 4-year colleges (Ellefson, 2015). During the same period, state funding declined by more than 20% whereas the share of student tuition revenue comprising CUNY's budget increased by 25% (Chen, 2016; Integrated Postsecondary Education Data System, 2014). In the wake of the 2008 recession, even steeper budget cuts combined with a 12% enrollment increase accelerated tuition hikes to $300 per year over 5 years (Yee, 2016).

Method

We conducted a mixed-methods study using convergent quantitative and qualitative data collection and analytic procedures (Mertens, 2007; McCoy & Rodricks, 2015). Institutional review board approval for conducting research with human subjects was obtained prior to commencing data collection procedures.

Instrumentation

Survey. The survey included two Likert-rating scales adapted from the National Survey of Student Engagement (2013) and two open-ended question items. One scale measured participants' self-reported frequency of different types of interactions with faculty (four items; $\alpha = .80$): talked about career plans, worked on activities other than courses, discussed topics outside of class, and discussed academic performance. A second scale assessed the quality of interactions with different campus actors (five items; $\alpha = .81$): students, academic advisors, faculty, student services, and other administrative staff. The open-ended items asked participants to make a list of people who supported their college access and success. From these lists, participants were asked to pick one person and describe the way that person supported their college access or college success. This item design was adapted from a format used in developmental psychology to measure peer social networks (Galván, Spatzier, & Juvonen, 2011).

Interviews. The question protocol for interviews with first-generation college students addressed (a) the nature of barriers to college success experienced by students, and (b) the role family, peers, high school teachers, counselors, college faculty, and academic advisors played in students' educational lives. Questions were written in a semistructured fashion with open-ended stems and optional specific probing questions (Galletta, 2013).

Data Collection

We recruited first-generation college students at CUNY to participate in a cross-sectional survey and individual interviews as part of a larger study. We used a stratified sampling approach combining purposive and snowball recruitment at three 4-year college campuses.

Survey. Students were eligible to participate in the survey if they were older than 18 years. The survey was distributed online

using Survey Monkey through recruitment emails sent directly to students and indirectly through classroom instructors; it was also distributed in hard-copy form during in-person classroom recruitment visits. As part of a larger study, we distributed the survey to 552 eligible students and 252 of these students took the survey, yielding an overall response rate of 46%. The current study includes only those survey participants who reported their parents' education level as high school or less and self-identified as being a first-generation college student, thus comprising 17.1% of the larger survey sample.

Interviews. Interview participants were recruited through online and classroom distribution of the survey. At the end of the survey, respondents were shown a screen or page inviting first-generation college students to participate in an individual interview session and were informed of the reward for participation, a $25 Amazon.com gift card. Interested students were asked to e-mail the first author for more information. Twelve students contacted Leigh by e-mail. Through e-mail correspondence, we confirmed student eligibility to participate (older than 18 years and first-generation), explained more about the interview, and communicated with the student to arrange a meeting time and place for the session. A total of 10 interviews were completed. Interviews were conducted by Leigh and held in a private space (usually an office) at the participant's college campus or at the CUNY Graduate Center. Student consent was obtained prior to commencing each interview. Sessions were audio recorded and lasted, on average, 1 hr and 15 min. Pseudonymous names are used in the interview transcripts and throughout this article to protect participant confidentiality.

Table 1
First-Generation College Student–Participant Characteristics

Characteristic	Survey participants *n* (%)	Interview participants *n* (%)
Sociodemographic factors		
Black/African American	7 (16.3)	0 (0)
White	8 (18.6)	1 (10)
Middle Eastern	2 (4.7)	1 (10)
Latino/a	19 (44.2)	6 (60)
Asian/South Asian/Pacific Islander	7 (16.3)	2 (20)
Women	37 (86)	8 (80)
Age 24+	11 (25.6)	3 (30)
Non-U.S. born	14 (32.6)	4 (40)
Supporting dependents	16 (37.2)	2 (20)
Pell grant/TAP recipient	17 (39.5)	4 (40)
Working more than 25 hrweek	13 (30.2)	4 (40)
Educational factors		
Transfer students	22 (51.2)	3 (30)
Bilingual/multilingual	30 (69.8)	8 (80)
Enrolled full-time	36 (83.7)	9 (90)
Attended public urban high school	27 (62.8)	7 (70)
Attended private religious high school	9 (20.9)	2 (20)
Attended public suburban/rural high school	6 (13.9)	1 (10)
Mentoring program participant	4 (9.3)	1 (10)
Academic major disciplines		
Social Sciences	18 (41.9)	3 (30)
Education	26 (60.5)	6 (60)
STEM	7 (16.3)	1 (10)
Arts and humanities	8 (18.6)	2 (20)
Total	43 (100)	10 (23.3)

Note. STEM = science, technology, engineering, and math.

Participants

We analyzed survey ($n = 43$) and interview responses ($n = 10$) from first-generation college student participants. Table 1 displays participants' sociodemographic characteristics, education background, and academic major. Women comprised the majority of survey (86%) and interview (80%) participants. In terms of racial/ethnic representation, Latino/a students made up the most significant portion of the participants, comprising 44.2% of the survey sample and 60% of the interview sample. White participants were overrepresented in the survey respondents (18.6%) as compared to interview respondents (10%) and Black/African American students comprised 16.3% of the survey sample but none participated in the interviews. Participants supporting dependents and those that were transfer students from community colleges were overrepresented in the survey as compared to the interviews, whereas bilingual/multilingual and students working more than 25 hr per week were overrepresented in the interview as compared to survey sample. In terms of academic achievement (see Table 2), the average GPA reported by survey participants was 3.15 and all interview participants reported their GPA as a 3.0 or higher. The proportion of participants who were Middle Eastern, Asian/South Asian/Pacific Islander, nontraditional college age (older than 24 years), non-U.S. born, financial aid recipients in the form of Pell and/or TAP grants, enrolled full-time, and who attended a public urban, religious, or suburban/rural high school was largely consistent between the survey and interview samples. Students' academic major in terms of broad disciplines was also consistent among survey and interview participants, with the largest proportion reporting a major in the field of education, followed by the social sciences, arts and humanities, and STEM disciplines (science, technology, engineering, and mathematics).

In terms of comparison to the CUNY population, first-generation students comprise a sizable proportion of 4-year undergraduates (over 40%) and 100% of the analytic sample for the current study. Information regarding the demographic breakdown of the population of first-generation students at CUNY 4-year colleges is not available, thus restricting our ability to describe the representativeness of the current sample. Taking this limitation into consideration, we are able to note that Latino/a and Asian students are overrepresented in our sample as compared to all CUNY undergraduates at 4-year colleges, and Black, Pell grant recipient, and working students are underrepresented in our sample as compared to all CUNY undergraduates at 4-year colleges.

Analysis

We used qualitative analytic methods to investigate first-generation college student participants' perceptions of how social relationships and the types of cultural capital imparted through those relationships shaped their success in college. We used quantitative methods to analyze how students' perceptions of experiences with faculty and other campus actors affect their academic achievement and college experience.

Table 2
Means for College Outcomes and Campus Experiences

Variable	*M*	*SD*	Min–Max
College outcomes			
College GPA	3.15	.70	1.7–4.0
College experience	3.24	.86	2.0–5.0
Student–faculty interactions			
Talked about career plans	1.81	.98	1.0–4.0
Worked on activities other than coursework	1.42	.85	1.0–4.0
Discussed course topics outside class	1.88	.91	1.0–4.0
Discussed academic performance	1.77	.81	1.0–4.0
Quality of campus interactions			
Students	3.28	1.14	1.0–5.0
Academic advisors	2.49	1.06	1.0–5.0
Faculty	3.02	1.01	1.0–5.0
Student services	2.67	1.11	1.0–5.0
Other administrative staff	2.58	1.14	1.0–5.0

Note. GPA = grade point average.

Qualitative Analysis

For each open-ended question set on the survey, the number of sources of social support was coded by role type. For example, a response listing parents and three high school teachers as sources of support would be coded as two sources (family and high school teachers). These role types were then deductively classified according to Stanton-Salazar's (1997) categorization of different social networks as institutional (e.g., teachers) or protective (e.g., family). The second layer of analysis looked at the forms of support provided by significant social capital agents chosen by the student. These descriptions were first analyzed inductively beginning with discrete codes capturing concepts interpreted from the surface meaning of each response, such as actions and attitudes (Braun & Clarke, 2006; Galletta, 2013; Miles, Huberman, & Saldana, 2014). Building on Yosso's (2005) work, the responses were then deductively classified according to four types of cultural capital conveyed by each institutional or protective agent: aspirational (capacity to maintain motivation in the face of real and perceived barriers), navigational (skills of moving through institutions), intellectual (defined here as knowledge and skills important to academic success), and emotional (defined here as psychosocial resources such as self-esteem, self-regulation, and relational bonds). Our convergent analysis of individual interviews looked more deeply at how forms of cultural capital conveyed by significant institutional and protective agents supported the college success of participants. The same analytic procedure for the open-ended survey items was used for the interviews to inductively code the forms of support (action, attitude) and deductively code the types of cultural capital discussed by participants.

Quantitative Analysis

We then conducted an analysis of the survey responses using Pearson correlations to examine whether there are statistically significant relationships among participants' college outcomes, the frequency of student–faculty interactions, the quality of campus interactions, and the number of sources of social capital coded as being supportive of college success.

Findings

Qualitative findings across the open-ended survey responses and the interviews indicate institutional agents, in particular college faculty, are perceived as significant sources of support in students' college success through the transmission of aspirational, intellectual, emotional, and navigational capital. Similarly, in our quantitative analyses, we found a consistent pattern of positive relationships between first-generation survey participants' reported college outcomes and variables indicative of the perceived influence of faculty on students' college success. Some survey and interview participants also highlighted the aspirational and emotional capital protective agents, particularly peers, provided as a foundation for the success in college.

Social Capital and College Success

Table 3 displays a breakdown of the coding of the sources of social capital described by survey participants as being supportive of their college success. Nine students wrote "none" or "N/A" to the question (20.9%), 27.9% listed one source of support, 25.6% listed two sources of support, 18.6% listed three sources of support, and 7% of the sample listed four sources of support (M = 1.65, SD = 1.27).

Of the 34 students listing at least one source of support, the majority cited institutional agents: faculty (88.2%), academic advisors (52.9%), and student services (14.7%). Some students also listed protective agents in the form of peers (35.3%) or family (8.8%). When asked to pick one person they considered the most significant influence on their college success, the majority of respondents (70.6%) picked an institutional agent by citing a professor (55.9%) or an academic advisor (14.7%), whereas a third of respondents described a protective agent as their most significant sources of support (peer, 23.5%; parent, 5.9%).

Table 3
Sources of Social Capital Supportive of College Success

Source	*n* (%)
Number of sources listed	
None	9 (20.9)
One	12 (27.9)
Two	11(25.6)
Three	8 (18.6)
Four	3 (7.0)
M (*SD*)	1.65 (1.27)
Type and role of sources listed	
Institutional agents	
Faculty	30 (88.2)
Academic advisor	18 (52.9)
Student services	5 (14.7)
Protective agents	
Peers	12 (35.3)
Family	3 (8.8)
Type and role of most significant source	
Institutional agents	24 (70.6)
Professor	19 (55.9)
Academic advisor	5 (14.7)
Protective agents	10 (29.4)
Peer	8 (23.5)
Parent	2 (5.9)

Cultural Capital Conveyed by Significant Institutional Agents

Table 4 displays the forms of cultural capital conveyed by the institutional agent survey participants cited as the most significant influence on their college success. Of the 19 respondents who cited a professor as their most significant source of support, more than half described a professor who imparted aspirational and intellectual capital by holding high academic expectations. Professors also provided aspirational, intellectual, and emotional capital by treating students with care and respect (26.3%), relating academic material to the real world (10.5%), and being available outside of class (31.6%). One student wrote that their professor "pushed me to do my best work by providing extensive feedback." Another stated, "[this professor] realizes the human in you that will make mistakes." Survey participants, in particular those in the field of education, recounted the support of an influential college faculty member who further provided navigational capital by serving as a teaching career role model and mentor (36.8%). Students that picked an academic advisor as their most significant source of support all described advisors as providing intellectual and navigational capital through guidance in course selection to meet academic requirements: "my advisor was able to explain to me what I have to do in order to achieve my academic goals."

Similarly, interview participants described faculty, particularly full-time professors, as significant institutional agents due to the aspirational, intellectual, and emotional capital resources transmitted through faculty's high academic expectations, capacity to support academic and career interest through effective teaching, respect for students, emotional closeness, and availability outside of class. Inez, a 24-year old recent graduate with a degree in psychology of Guyanese (South American) background, found the professors at her college instrumental to her success in several of these ways.

> I love the professors. They're very intimate, they're not in a rush. They have that time, you can find them if you need to outside of class hours. I like the fact that teachers are willing to help you. I didn't know about the research lab or anything. but I started talking to a professor in her office and it came up, and she was like, "Are you interested in doing that," and I was like, "No, I never thought of it." I was nervous but she encouraged me to get involved.

For Sangeeta, a 20-year old double major in education and sociology born in Afghanistan, the interactive lecturing style of one particular professor piqued her interest and inspired her to continue in her studies.

> I think he really had an impact on making me see sociology in a whole other way. Because the way he taught it, he did lecture and he wanted to hear what other students had to say . . . the way he explained it, it was as if you weren't reading off a textbook. You were listening to what he was saying as if you were in a conversation with him. So that was really like what . . . I gained lots of knowledge from him. I even kept the book, which is something I do not do.

Elena, a 22-year old secondary math education major born in Mexico, viewed two math professors' emotionally sensitive teaching style and availability outside class as important models of math teaching to emulate in her future profession.

> One of my math professors—I liked the way he communicated with students. The way he would interact with everyone, like he was a friend, someone you can always go for help. And he was always available. I really enjoyed that, his office hours weren't restricted. You could go to him whenever, you ask him a question, he will help you out and he will try to explain things to you as clear as possible. I felt myself participating a lot in that class and he would recognize that and he would tell me after class, "I like that you're participating," and praise my effort. He would also offer help.

Chiara, a 22-year old psychology major of White (Italian American) background, also referenced the interactive lecturing style and intellectual nature of one of the professors she encountered in taking a religion class, which motivated her to declare a minor in religious studies.

Table 4
Types of Cultural Capital Conveyed by Significant Institutional Agents

Role	*n* (%)	Description of support	Types of cultural capital	Representative response
Professor	10 (52.6)	High academic expectations	Aspirational Intellectual	She pushed me to do my best work by providing extensive feedback.
	7 (36.8)	Career role model/mentor	Aspirational Intellectual Emotional Navigational	He motived me so much on continuing my career in teaching.
	5 (26.3)	Treat with care and respect	Emotional	She realizes the human in you that will make mistakes.
	2 (10.5)	Relate academic material to real-world	Intellectual	He opened my eyes to many things that occur in the public school system that I was not aware of.
	6 (31.6)	Available outside of class	Intellectual Emotional	She challenged me to visit her office hours as frequently as possible and paved the way for me to get feedback.
Academic advisor	5 (100)	Guidance with course selection	Intellectual Navigational	My advisor was able to sit down with me and plan out my future classes. She was able to explain to me what I have to do in order to achieve my academic goals.

> He's excellent teacher because he runs his classroom like it's not a wise scholar imparting wisdom onto his pupils. It's an interactive conversation about what we're reading and he makes us write papers but he also just lets us know that if it were up to him there would be no assignments. You have to get a grade because that's the way the system works but if it were up to him we would just sit and talk about these books. It just created this environment where I actually wanted to do the readings. If they were difficult I came in with questions and things that really should be happening in every class but do not always depending on, I guess, the subject or your own personal interest. But yeah. He was just great and he's hilarious and he would draw on these incredible personal stories to help us out in understanding the literature. So that's what made him really great. So I took all of his classes and essentially wound up with a minor in religion.

Some interview participants identified college faculty who facilitated career guidance by directly conveying navigational resources in addition to aspirational, intellectual, and emotional capital. For Maritza, a 27-year old sociology major whose parents immigrated from Ecuador and Puerto Rico, one particular professor was important to connecting her interests to a future career.

> I want to go to graduate school, maybe a masters' of social work. I hadn't really thought about it until taking the capstone course this semester. It was a small class, a seminar on career counseling and professional issues. We did professional portfolios for class, and she had different guest speakers who are in the field come to speak- child lawyers and advocates, and we also took a trip to a center that provides social services for foster care kids, and I learned that a lot of the people that work there have social work degrees. The professor is very encouraging and says she can be a resource to us after we graduate too.

Cultural Capital Conveyed by Significant Protective Agents

Table 5 shows the forms of cultural capital conveyed by the protective agent survey participants cited as the most significant influence on their college success. All eight students who chose a peer saw their friend as a source of aspirational and emotional capital in terms of receiving encouragement: "My friend motivated me and supported my decision to proceed on my goals." A couple of students also saw their peer as a source of intellectual and emotional capital through collaborating on projects and studying for exams. For the two students that chose a parent, the parent's influence was described as aspirational and emotional capital. As one student wrote, "my dad is my motivation and I want him to be proud of me. He may not be able to help me with homework, but he helps me in everything he can."

Similar to the open-ended survey responses, the role of protective agents in supporting interview participants' success in college was less prevalent as compared to their discussion of institutional agents. A couple of interview participants discussed how interactions with peer networks affected their college success through the transmission of emotional, intellectual, and aspirational capital. Adriana, a 23-year old psychology major of Mexican background, recounted how studying with a friend in a challenging science class helped her succeed.

> I was a little full on myself at the time and I thought, "Oh, it can't be that hard" and I would study and I would memorize it. But then, at the time of the test, especially at the labs, in the practicals, you have to go around and name all the areas in the model, and I would just blank out. And then for Anatomy/Physiology II, I was taking it with microbiology. So, for that time, I felt it was easier 'cause I became friends with someone and she also happened to be in both my classes, the lecture and the lab for microbio and the lecture and the lab for Anatomy/Physiology II. So, we also always studied together.

> Me and my friend, we helped each other study and, yeah, I ended up . . . getting a B in the microbio lecture and lab.

Participants that highlighted the role of their families viewed parents sources of aspirational and emotional capital, which was communicated though high academic expectations and values placed on education as a vehicle for social mobility. Alonso, a 22 year-old secondary education language teaching major, whose parents immigrated from Ecuador and El Salvador, viewed their psychosocial support as a foundation for his successful trajectory.

> My mom has always been like, "I work so you can have what you need to. And I'm always there supporting you." And same with my father. They both supported me and continue to support me.

Carmen, a 32 year-old secondary education major, was raised in Colombia by her grandparents and viewed their work ethic, educational values, and encouragement of social mobility as integral to her moving to the United States to pursue better educational opportunities and a career oriented toward public service.

> My grandmother and my grandfather . . . they were such strong people. My grandmother never went to school, but she encouraged my curiosity. Like when I asked her a question she would say "figure it out, what do you think?" She always kept me asking myself about things and knowing what do they really mean. I think she plays a major part in me being persistent. I come from a very poor family, but we have worked hard for what we have today.

Table 5
Types of Cultural Capital Conveyed by Significant Protective Agents

Role	*n* (%)	Description of support	Types of cultural capital	Representative response
Peer	2 (25)	Academic support	Intellectual navigational	We often form study groups or meet up to plan something we want to do together.
	8 (100)	Encouragement	Aspirational emotional	My friend has motivated me and supported my decision to proceed on my goals.
Parents	2 (100)	Encouragement	Aspirational emotional	My dad has always helped me in everything he can. He is my motivation and I want him to be proud of me.

Some interview participants discussed their family's aspirational and emotional capital specifically in terms of culturally situated educational values and expectations. Nayva, a 23-year-old psychology major, saw her parents' high expectations for achievement in college as part of their Indian (South Asian) culture.

> The culture where my parents grew up in, that everybody in India in my generation will do their bachelor's. Like, any Tom, Dick and Harry on the street is gonna do their bachelor's in college because everybody there goes to college now. So everybody there does it. They expect us both, me and my brother, expect us to become doctors.

College Outcomes and Campus Experiences

Table 2 shows the means, standard deviation, and range for survey respondents' reported college outcomes (college GPA and college experience) and campus experiences (frequency of different types of student–faculty interactions and perceived quality of campus interactions). Table 6 displays the Pearson correlations among these factors in addition to the number of sources of social capital listed as supporting college success derived from the qualitative analyses of survey responses.

Participants' college GPA ($M = 3.15$, $SD = .70$) varied, ranging from a minimum of 1.7 (equivalent of a C) to a maximum of 4.0 (equivalent of an A). College GPA was positively and significantly correlated with how frequently students reported talking about career plans with a faculty member ($M = 1.81$, $SD = .98$, $r = .517$, $p < .01$), how frequently they worked on activities other than coursework with a faculty member ($M = 1.42$, $SD = .85$, $r = .327$, $p < .05$), and how frequently they discussed course topics outside of class with a faculty member ($M = 1.88$, $SD = .91$, $r = .383$, $p < .05$). The strongest relationship between college GPA and the variables we measured was found with the number of sources of social capital participants cited as being supportive of college success ($M = 1.65$, $SD = 1.27$). This correlation explained a large (27.5%) proportion of the variance in GPA, $r = .524$, $p < .01$, and from the qualitative analysis (see Table 3), we know the majority of participants listed faculty as a source of social capital. Furthermore, we found this variable to be positively and significantly related to all of the student–faculty interaction variables measured, particularly how frequently students talked about career plans with a faculty member ($M = 1.81$, $SD = .98$, $r = .424$, $p < .01$) and how frequently students discussed their academic performance with a faculty member ($M = 1.77$, $SD = .81$, $r = .474$, $p < .01$). Having more sources of support in college was also positively related to perceived quality of interactions on campus with institutional agents in the form of both faculty ($M = 3.02$, $SD = 1.01$, $r = .321$, $p < .05$) and academic advisors ($M = 2.49$, $SD = 1.06$, $r = .326$, $p < .05$).

We found students' perception of their overall college experience ($M = 3.24$, $SD = .86$) also varied, ranging from 2.0 (*fair*) to 5.0 (*excellent*). Global quality of college experience was positively and significantly related to every quality of campus interaction variable measured, particularly the quality of interactions with faculty ($M = 3.02$, $SD = 1.01$, $r = .571$, $p < .01$), which explained a large proportion of the variance in college experience (32.6%). We also found strong positive relationships between college experience and how frequently participants talked about career plans with a faculty member ($M = 1.81$, $SD = .98$, $r = .455$, $p < .01$) and the number of sources of social capital supportive of college success ($M = 1.65$, $SD = 1.27$, $r = .343$, $p < .05$).

Discussion

As first-generation college students enrolled at a large broad-access urban public university, all survey and interview participants experienced similar levels of disadvantage due to limitations on social and cultural capital associated with their family's educational history and with institutional constraints on availability of faculty and student support personnel. However, despite these shared challenges, students demonstrated differing levels of suc-

Table 6
Pearson Correlations Among College Outcomes, Campus Experiences, and Sources of Social Capital

Factor	1	2	3	4	5	6	7	8	9	10	11	12
College outcomes												
1. College GPA	1											
2. College experience	.376*	1										
Student–faculty interactions												
3. Talked about career plans	.517**	.455**	1									
4. Worked on activities other than coursework	.377*	.222	.494*	1								
5. Discussed course topics outside class	.383*	.152	.350*	.559*	1							
6. Discussed academic performance	.275	.141	.452**	.385*	.578**	1						
Quality of campus interactions												
7. Students	.336*	.356*	.302*	.220	.263	.123	1					
8. Academic advisors	.073	.433**	.480**	−.021	.161	.330*	.201	1				
9. Faculty	.203	.571**	.388*	.182	.211	.297	.469**	.525**	1			
10. Student services	.082	.363*	.184	−.130	−.039	.020	.489**	.486**	.539**	1		
11. Other administrative staff	.139	.427**	.227	−.159	−.095	−.108	.312*	.531**	.587**	.626**	1	
12. Sources of social capital	.524**	.343*	.424**	.358*	.337*	.474**	.135	.326*	.321*	.188	.160	1

Note. GPA = grade point average.
* $p < .05$. ** $p < .01$.

cess and adaptation, as evidenced in the range of college outcomes they reported in terms of GPA and overall quality of experience. Qualitative and quantitative findings across the survey and interviews indicate institutional agents, in particular college faculty, can serve as significant sources of support in students' college success through the transmission of aspirational, intellectual, emotional, and navigational capital that in turn impact their academic achievement and quality of campus experience. Although some of our findings point to the role of other institutional agents (such as advisors) and protective agents in the form of emotional capital imparted by peers and family, the role of faculty emerged as being the most significant source of social capital in relationship to first-generation student participants perceptions of their college success.

Those faculty perceived by students as having a significant effect on their college success played a pivotal role by conveying not only encouragement, but also navigational and intellectual resources that together facilitated students' access to academic support, sense of institutional belonging, and solidified their academic/career identities. These findings contribute to a large research literature suggesting that student–faculty interactions are associated with a range of positive outcomes for first-generation students (Soria & Stebleton, 2012). Our findings further point to the influence of faculty rank on first-generation students' quality of experience: full-time faculty, as discussed by students, have greater capacity to support their success because of increased availability for mentoring and more consistent contact through office hours or teaching multiple classes in an academic major.

It is important here to point to the structural factors constraining the ability of faculty to engage in the effective teaching and mentoring practices described by our study participants, namely the fact that CUNY students are not frequently taught by full-time faculty. Since 2009, the number of full-time faculty has remained the same while the proportion of adjuncts has risen by 23% (Chen, 2016). Across CUNY 4-year colleges, full-time professors comprise only 45% of the teaching workforce, and at the three colleges sampled, the proportion of annual instructional hours delivered by full-time faculty averages 42% (CUNY Office of Human Resources Management, 2016). Exacerbating part-time faculty members' capacity to engage first-generation students in the ways that our study participants found helpful are the poor labor conditions that exist for contingent instructors, including low pay, restricted access to faculty resources, and limited availability outside of class due to competing demands, such as teaching a high volume of courses at multiple campuses (Bickerstaff & Chavarin, 2018; Bousquet, 2008). Umbach (2007) has also found that part-time instructors spend less time preparing for class and use less effective teaching practices as compared to tenure-track faculty.

When the first-generation students in our study did encounter full-time faculty, those instructors were perceived as being highly influential to students' success. In many cases, a faculty member's status as a person of color was also noted as being an integral aspect of that person's effectiveness in conveying all dimensions of cultural capital. According to data aggregated across all CUNY 4-year colleges, over 62% of total instructional staff identified as nonminority White and 41.7% were from racial minority groups: 15.3% Black/African American, 11.9% Asian/South Asian/Pacific Islander, 10.2% Latino/Hispanic, and 0.2% Native American (CUNY Office of Human Resources Management, 2016). Taken together, it can be deduced CUNY students, including the first-generation participants in our study, are more typically taught by instructors who do not represent their racial backgrounds and are not in a position to provide the highest level of support, particularly outside of class.

This is further challenged by the way faculty demographics and labor structure intersect at CUNY: Among full-time faculty teaching at the three colleges sampled, on average, 74% are White and 52% are men (CUNY Office of Institutional Research & Assessment, 2016a). Therefore, although our findings point to the significant role of faculty in promoting first-generation students' success, the structural barriers at play in the context of a broad-access institution such as CUNY make it difficult for students to actually access effective, full-time faculty in an ongoing, sustained way, particularly faculty who closely match students' social and educational backgrounds.

Following from this point, we would argue that theorizing about first-generation students and their college success as it relates specifically to instructors' role in promoting belonging and engagement has not fully contended with the structural constraints that students at institutions such as CUNY deal with because research studies with this population are typically conducted in elite or better-resourced institutional settings, such as top-tier research universities (Soria & Stebleton, 2012) or private liberal arts colleges, where stigmatization emerges as a primary barrier for first-generation students (Warnock & Hurst, 2016). By contrast, at CUNY, there is a large population of students who are also first-generation in college, from low-income households, and/or are students of color; this is a very different peer context than being one of a handful of first-generation students on a campus.

Limitations

One limitation of the current study was the self-selecting sampling technique, which likely skewed the interpretation and findings toward favoring the experiences of more successful students; this is of particular concern for the interview participants, who were recruited through their participation in the survey. The selection of a sample of only first-generation college students, and the heterogeneity within this sample, presents a limitation in terms of drawing conclusions about whether the findings are specific to participants' status as first-generation students, or are driven by other features of students' social and educational backgrounds. Although we position the current study as an in-depth, qualitative follow-up to a previous study where findings for first-generation students were based on regression analyses that controlled for race, income, and other social and educational factors, we acknowledge the limitations inherent to our methodological choice.

The limitations of using self-report surveys in social science are well-known and include the risk of participants' socially desirable responding (Appleton, Christenson, Kim, & Reschly, 2006). Further, we chose to focus specifically on participants' perceptions of social supports that helped them succeed, which may not have provided a full picture of the spectrum of their support networks: in one study about the academic success of ethnic minority first-generation college students, the authors found that students who are doing well are less likely to feel a lack of support, and when support is not needed, it may appear less salient to the individual (Dennis, Phinney, & Chuateco, 2005).

Implications

Morales and Trotman (2004) contend educational research committed to social justice will (a) call attention to substantive structural improvements for underrepresented students due to unequal educational access and resources, and (b) highlight the conditions under which some groups or individuals manage to excel within dysfunctional or adverse educational systems. From this viewpoint, the authors suggest educational inequity can be addressed on two fronts: to demand more and better educational resources and improvements across systems, and to help students manage whatever resources are available in their existing environments.

For counselors and advisors who work with underserved student populations, our findings speak to the need for students to be prepared with skills to navigate the college environment in terms of both cultural norms and concrete navigational information. This is especially true for first-generation students who, as a group nationwide, are more likely to attend broad-access public institutions such as CUNY, environments where gaining access to faculty supports is difficult not only due to limits on cultural capital, but also because of structural constraints on faculty availability for academic help and mentorship. Students in high school and college need to be equipped to navigate both the cultural and the structural constraints. For those that attend broad-access institutions, they need knowledge about the importance of faculty office hours as well as preparedness to be persistent in the face of institutional conditions that may impede faculty availability. As Adriana, one of the interview participants, stated,

> I'm the first person in my family to go to college . . . basically I was the guinea pig of the family. So like if I had known better what to expect and what to do, what to focus on and someone telling me before I got here, "Go to office hours, work hard on something. Venture into this and that." A few little tricks, it would have made a big difference. Because even if you figure out you need those things once you're here [in college], you still have to try really hard to get those things. Like knowing that you can also do a specific concentration within the major that you were doing. Little stuff like that, that may not seem big but in the long run I feel like it could have helped me in some way.

For broad-access public higher education institutions such as CUNY, we suggest expanding Morales and Trotman's (2004) approach by differentiating actions related to the internal and external contexts of educational resources: the external economic-political context within which fiscal resources and credentialing are determined, and the internal context of how an institution organizes its funding, labor practices, academic priorities, and operations. Addressing the external context is a long-term and ongoing effort and is always subject to broader political and social realities. However, addressing the internal context should be more straightforward. Even amidst fiscal constraints, institutions such as CUNY can reframe its operations and allocation of resources to better address the needs of historically underserved students, including first-generation college students, through modifying (a) the institutional value placed on teaching in tenure and promotion, (b) the institutional commitment to supporting ongoing faculty development, and (c) the institutional structuring of courses and programs to foster students' engagement in formal and informal exchanges with faculty, advisors, peer mentors, and other potential sources of social and cultural capital on campus. Institutions such as CUNY should also continue to strengthen initiatives to hire faculty that more closely represent the student population.

It is possible for broad-access public institutions to focus on how higher education faculty can improve their own practices to benefit first-generation students, such as providing more opportunities for interaction, creating more spaces for mentorship, and actively working to enhance students' sense of belonging (Soria & Stebleton, 2012). As Kezar, Walpole, and Perna (2015) argue, institutions have not paid sufficient attention to the engagement of low-income and first-generation students, and they suggest strategies for meeting the needs of this population must focus on engagement in the classroom, instead of relying on activities outside the classroom. Given the trend of reliance on part-time contingent faculty, and the fact that they are essential to the success of students because of teaching the majority of courses, colleges should also pursue initiatives designed to forge part-time faculty connections to colleges and address labor conditions including part-time faculty compensation and opportunities for advancement (Bickerstaff & Chavarin, 2018).

Our findings indicate institutional practices designed to improve teaching quality and instructors' capacity to respond to the needs of first-generation students both pedagogically and emotionally are necessary to support these students' academic success, postcollege goals, and capacity to cope with the limited social, economic, and institutional resources available to them at broad-access public universities—the settings in which the majority of first-generation college-goers nationwide will find themselves pursuing postsecondary education.

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