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College Freshmen's Perceptions of Their High School Experiences

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Moving from high school to college is an important pathway for success in life; however, it is difficult to access or completely unavailable for many young people. Far too many high school graduates do not enroll in or complete higher education, resulting in a troublesome loss of talent. Among academically talented students, SES and racial group membership have proven to be powerful predictors of both college expectations and matriculation (Plank & Jordan, 2001; Trusty & Harris, 1999). Low SES doubles the risk that a talented student will not complete a 4-year degree (Hanson, 1994). Research on talent loss has primarily focused on economic and informational barriers for low-SES students. However, youth who are the first in their nuclear

summary

Among academically talented students, SES and racial group membership predict both college expectations and matriculation, and youth less often attend and complete postsecondary education if their parents did not go to college. For successful adjustment to college, significant adults during high school matter more than they might imagine. Talking to teachers and counselors had strong relationships with social and academic adjustment as well as with positive attitudes for all students. Interestingly, the more participants talked to teachers in high school, the more academically competent they felt in college, and this relationship was especially strong for first-generation students. Such findings suggest that "getting ready" experiences may prepare students to more effectively balance the multiple developmental tasks they face as college students on the threshold of adulthood. This preparation may be especially important for persistence among vulnerable populations, including first-generation students, who spend the least time of any group talking to teachers outside class. Students in low-income, urban communities may be in reasonable proximity to a community, vocational, or 4-year college; students in rural schools may more often see relatively few opportunities for higher education. An academically oriented high school peer group also may prepare students to become socially engaged on the college campus. These preliminary findings are a strong argument for policies and practices that bring all new college students together in personalized social interactions as quickly as possible rather than focusing on groups perceived to be "at risk."

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families to attend a 4-year institution face unique challenges in matriculating and completing a college education. Academically talented, low-SES students represent large numbers of first-generation college students (Choy, 2001), and their experiences have not been well examined in the literature.

Analyses of the National Education Longitudinal Study (NELS:88) have concluded that even after controlling for academic preparation and family income, youth less often attend and complete postsecondary education if their parents did not go to college (Choy, 2001). High school graduates whose parents never attended college enrolled in college within 2 years of completing high school at lower rates (59%) than graduates with two parents who completed college (93%). For those who qualified academically and matriculated at a 4-year institution, first-generation students left school at double the rate of non-first-generation students (28% vs. 14%) during their first 3 years (Choy, 2001).

Thus, first-generation college students less often attend and persist in 4-year institutions, even after controlling for high school academic achievement and family income. To understand processes that might influence college enrollment and persistence, our study investigated students' perceptions of schools, peers, and family support in high school. The analyses focused on psychosocial and interpersonal factors, variables that are not as well understood as academic and economic factors. Two overarching questions guided our exploration: What experiences in high school, with parents, peers, and school personnel, were related to indicators of adolescents' social and academic adjustment during the first year of college? How did perceived relationships differ for first-generation college students and their peers whose parents or siblings completed college?

The evidence linking high school academic preparation and SES to college enrollment for first-generation students is already quite compelling. While more than half (56%) of students with two parents who completed a bachelor's degree or better attained some combination of high school GPA and test scores (SAT, ACT) that placed them in the top quartile of applicants, 19%

of first-generation college students placed in the top quartile of applicants to 4-year colleges in 2004. In an almost exact reversal, 49% of first-generation students versus 15% of peers with two college-educated parents placed in the bottom quartile of college applicants (Berkner & Choy, 2008). Although the number is less than optimal, one in five first-generation college students is academically talented and competitive to attend a 4-year institution. For high school graduates, 50% from the lowest income households and 79% from the highest income households had enrolled in any college by the October immediately following graduation (National Center for Education Statistics [NCES], 2006). First-generation students are often from low-SES households. Financial constraints cannot be ignored; however, they are not a full explanation for the absence of a large pool of talented students from the nation's institutions of higher education.

Possible Psychosocial Moderators

The High School Environment

Although youth who are the first in their families to attend college are more often graduates of low-performing schools and members of low-SES households, the evidence is equally clear that first-generation status, above and beyond structural constraints, has a negative impact on college attendance and persistence. Research has made some progress in understanding the unique contributions of the high school environment to adolescents' adjustment during the transition to college. Early research on the effects of school desegregation, for example, found that African American adolescents who attended desegregated high schools more often enrolled in college and interacted socially across racial and ethnic boundaries at higher rates when compared to their peers attending mono-racial African American schools (Schofield, 1995, 2001). More recently, attendance at an ethnically diverse high school has been related to positive social experiences across ethnic groups in predominantly White univer-

sities for ethnic minority but not for White adolescents (Saenz, Ngai, & Hurtado, 2007), and positive inter-group contacts in college enhanced learning for all students (Antonio, 2001). Thus we might expect the racial/ethnic composition of high school to influence students' social and academic adjustment during their first year in institutions of higher education; however, this effect may vary by first-generation status and ethnicity.

Concerning experiences with high school staff, first-generation students spend less time in high school talking to teachers outside of class (Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996) and discuss their educational aspirations with teachers or college counselors less often than peers with college-educated parents (Horn & Bobbitt, 2000; McDonough, Korn, & Yamasaki, 1997). High school staff sometimes discourage college aspirations among certain groups of students and limit access to college prep classes (Howard, 2003).

More first-generation students reported receiving help from high school staff when completing a financial aid application compared to students with college-educated parents (51% vs. 34%, respectively); however, first-generation students also more often requested help in applying for aid (Choy, 2001). College preparation programs offered in high school benefit students, especially first-generation students, by providing important academic skills and social strategies that facilitate the transition and initial adjustment in college (Saunders & Serna, 2004). Although experiences with high school staff and specialized programs may differ for individual students, adolescents who often discuss their college plans with school staff should adjust more successfully during the transition to college.

Peers and Family

High school peers exert an important influence on academic outcomes. Work in the cultural ecological tradition (Ogbu, 1978) found that high school peers with an oppositional identity negatively affected adolescents' academic aspirations, achievement, and school adjustment. Low-income, ethnic minority adoles-

cents, as well as those who are the first in their families to attend college, were sometimes rejected or ridiculed by their high school peers because of their high academic aspirations (Fordham & Ogbu, 1986; Terenzini et al., 1994). Supportive peer relations have been linked to the pursuit of academic goals and school-appropriate behavior for all students (Horvat & Lewis, 2003; Hudley, 1995). Thus, all students, especially first-generation and ethnic minority students, should better adjust to college if they perceive their high school peers to support high academic achievement and aspirations.

Research on family influences has been more mixed. First-generation students have sometimes reported lower levels of parental support for their college aspirations and attendance (Terenzini et al., 1996), in part because parents expect them to work to help support the family or because their parents were pessimistic about educational opportunities (Crosnoe, Mistry, & Elder, 2002). According to self-report data from ethnic minority, first-generation college students, perceptions that parents discouraged college aspirations were related to college grades and intent to persist (Dennis, Phinney, & Chuateco, 2005). Unsurprisingly, parents who are not college educated may lack instrumental knowledge concerning college (Choy, 2001), including understanding high school requirements and financial aid information. Thus, first-generation college students may have to rely more on high school personnel for guidance and college information (Stanton-Salazar, 1997). However, as described earlier, discussions with school staff are less frequent and sometimes discourage aspirations for higher education.

In contrast, other research (Hurtado, Carter, & Spuler, 1996) has indicated that perceived encouragement from parents and family in high school was an important part of ethnic minority adolescents' support network during their transition to higher education. An earlier review of literature (Hossler & Stage, 1992) found that parental expectations and support for a college education were among the most important influences on all high school students' aspirations for higher education. Based on these findings, perceived parental support during high school should

be related to college freshmen's adjustment, although results might again differ by ethnicity or first-generation status.

Linking High School Experiences to College Adjustment

This study of the influence of high school experiences and characteristics on college adjustment is grounded in Attinasi's (1989) two-stage process of college-going. Attinasi's model conceptualized high school behaviors, attitudes, and experiences as the process of *getting ready*. Several variables of interest for the current research, including parent, peer, and teacher support; encouragement; and instrumental assistance, are consistent with "initial expectation engendering," a category of activities in the getting ready stage. Early input from significant others signals that a youth is expected to go to college, and this input engenders the student's general expectation that "I will be a college student." The second stage, defined as *getting in*, describes students' attitudes and experiences soon after they matriculate, including strategies for connecting with peers and faculty and achieving academically. According to the model, students "get in" by becoming adjusted to the social geography and the academic geography of the institution. Our variables assessing students' effective study strategies and social integration at the institution are "getting in" strategies consistent with Attinasi's model, while positive self-beliefs reflect students' confidence in their capacity to "get in." We were especially interested in how the *getting ready* stage might be differentially related to *getting in* strategies and self-beliefs for first-generation students and their peers with college-educated parents.

This two-stage process is also a useful developmental framework because it places the focus on the transition from high school to the earliest phase of college enrollment. The latter stage of adolescent development, often referred to as emerging adulthood, represents a period of transition that lays the foundation for continued development through the life span (Osgood, Ruth, Eccles, Jacobs,

& Barber, 2005). First-generation college students often lack family guidance in acquiring new competencies to succeed in college, while at the same time they are working to make a successful transition to adulthood. As discussed previously, first-generation students leave school at rates twice that of their non-first-generation peers over the course of their first 3 years (28% vs. 14%). A greater risk for departure is typically explained by difficulties in integrating academically and socially into the college milieu (Hurtado & Carter, 1997; Tinto, 1993). The multitude of developmental tasks faced by these adolescents may be too financially, emotionally, and socially demanding, causing them to eliminate some tasks they have taken on (i.e., college) as they move into adulthood (Zarrett & Eccles, 2006). Therefore, understanding first-generation students' high school and early college experiences can be especially useful for illuminating unique risks and strengths that may influence their college persistence and completion.

The Current Study

We used a mixed-methods approach to examine our overarching questions concerning high school experiences with parents, peers, and school personnel and their links to initial college adjustment. Five specific hypotheses guided our quantitative analyses. First, we hypothesized that first-generation students had attended a high school with a higher proportion of ethnic minority students than their non-first-generation peers. Second, we expected high school racial/ethnic composition to be related most strongly to academic and social adjustment for first-generation, ethnic minority students. Third, we hypothesized that the perceived academic engagement of the high school peer group would relate to college adjustment for all students. Fourth, we expected discussions with high school staff to positively relate to more effective strategies for academic adjustment for first-generation students. Finally, we expected perceived positive parental support in high school to relate to academic adjustment and intent to persist in college for all students.

Method

Sample and Setting

Participants were incoming freshman students, ages 18 and older, from 4 higher education institutions. A total of 6,560 students were invited via e-mail to participate in a Web-based survey. We received 1,539 valid responses, for an overall response rate of 24%. Response rates ranged from 18% to 29% at the 4 sites. We initially eliminated 200 responses from analyses based on a nonresponse to the item requesting first/non-first-generation status (n = 124) or uncategorizable responses to the question of racial/ethnic identification (n = 76). The results reported here are based on a final sample of 1,339 freshmen students.

The mean age for our sample was 18, and 42% of respondents were first-generation students (n = 562). With a gender balance of 74% female and 26% male, the sample had a greater overrepresentation of females relative to enrollment at any of the institutions (female enrollment ranged from 54% to 60%). The racial/ethnic distribution of the sample was somewhat consistent with the national estimate of student enrollment (NCES, 2006); however, compared to the national estimate, Asian/Pacific Islander students were overrepresented in our sample and African American/Black students were underrepresented (see Table 1).

We also conducted semistructured interviews with a subset of students (n = 16) from the only institution in our sample that granted permission in a timely manner (Suburban Public University; see below). We examined the qualitative meaning of perceived peer and parental support during high school and the influence of high school experiences on the transition to a 4-year institution. Our sample size for the qualitative data allowed us to oversample first-generation students (56%) and ethnic minority students relative to the full sample. The ethnic distribution was 44% Latino, 31% White, 19% Asian, and 6% African American.

Each of the 4 higher education institutions enrolled an economically and ethnically diverse student body. We purposefully selected these 4 sites to represent a mix of public and private

Table 1

Comparison of Current Sample and National 4-Year Institution Percentage Enrollment

	Current sample	National Sample[a]
African American/Black	6%	12%
Asian	12.3%	7%
European American/White	68%	66%
Latino/Hispanic	13.7%	11%

Note. [a]Percents do not sum to 100% due to other ethnicities in the national sample (NCES, 2006).

institutions, rural and urban students, and relatively large and small campuses. For confidentiality, we have identified our sites with pseudonyms. Big City University (BCU) is a relatively large (15,000 students) private school on the East Coast located in a dense, urban setting. Suburban Public University (SPU) is a large (20,000 students) public campus located on the West Coast with a student body drawn primarily from the surrounding regions (urban, suburban, and semirural). Rural University (RU) is a medium-sized (10,000 students) public campus in the Southeast with a primarily undergraduate student body, virtually all of whom come from rural areas or small cities in the region. Liberal Arts College (LAC) is a small (1,100 students), private, undergraduate institution in the South with a residential student body drawn largely from rural communities in a tri-state area.

Procedure

Survey questions were posted on a secure, password protected site maintained by the information technology staff at the SPU. E-mail invitations were sent to all incoming freshmen students in the first month of the academic year at each of the 4 institutions. Each invitation, containing a unique password for that particular student, allowed access to the site for 6 weeks after the initial invitation; two follow-up reminders were sent to all freshmen students. The survey took 20–30 minutes to complete,

and participants were required to complete the survey in a single sitting. Participants who completed the survey were entered in a raffle for a $50 bookstore gift certificate at each of the participating institutions.

Each individual interview was conducted by a trained graduate assistant at a location convenient for the participant. Interviews lasted approximately 55–75 minutes. As all interviews were audio recorded, each interview began with an explanation of the purpose of the interview, and participants then signed an additional consent form.

Instruments

The self-report, Web-based survey was comprised of 39 substantive questions plus demographic questions that assessed age, gender, racial group membership, work status, first-generation status, languages spoken, and family income. The 39 substantive questions asked about students' experiences in the following three areas: (a) factors that affected participants' college choices, (b) participants' high school experiences, and (c) participants' college experiences. The analyses undertaken for this study were explicitly concerned with data on high school experiences and college adjustment.

We collected three measures of college adjustment. Academic achievement was measured with a self-reported estimate of adolescents' midterm GPA. Academic adjustment, defined as use of resources to achieve academically, was measured with three questions tapping study strategies (e.g., "How often do you study with classmates?") and four questions assessing preference for seeking help from faculty, TAs, college classmates, and academic advisors ("To whom do you go for help with coursework?"). Each of these questions was analyzed at the item level. Social adjustment, defined as strategies and attitudes that demonstrate integration into campus life, was assessed with five questions tapping attitudes toward the institution and toward classmates (e.g., "I feel I belong at this college socially."; "How often do you socialize with college classmates?"). Each question was also analyzed at the item level. Persistence, defined as attitudes about

pursuing higher education, was measured with four items tapping expectations about college and students' future ("How likely is it that you will graduate from college?"). Again, each question was analyzed at the item level.

High school diversity was measured with a single item querying the amount of racial/ethnic diversity in high school ("How diverse was the racial/ethnic composition of your last high school?"). Perceived parental support was assessed with an 8-item scale for mother ($\alpha = .79$) and father ($\alpha = .83$; or "primary caregiver") that tapped both academic ("S/he encouraged me to try harder.") and emotional ("S/he spent a lot of time just talking with me.") support. A 10-item scale ($\alpha = .82$) measured perceptions of high school peers' positive attitudes toward both classroom behavior ("Answer teacher's questions in class"; "Get good grades") and college aspirations ("Plan go to college"). All items were rated on 4-point Likert scales, ranging from *strongly disagree* to *strongly agree*, *not important* to *very important*, *none* to *a great deal*, or *never* to *very often*, according to the wording of the question. Responses were coded so that, unless indicated otherwise, higher numbers represent more positive responses. Finally, we also offered students a list of resources that they might access on campus for help (e.g., professor office hours, TA office hours, campus tutoring services, academic advisors) and asked them to choose as many as they had used thus far on campus.

Our interview protocol consisted of 15 questions that addressed the three topics covered in our survey measure. High school experiences with parents, peers, and teachers were addressed with two questions each about perceived support from parents (or caretakers), separately for mother and father, as well as from teachers and from peers (e.g., "What did your mother or primary female caregiver do to help you succeed in high school?"). Three questions, designed to measure college selection, asked about school characteristics that were important to the respondent. Four questions measured college attitudes and strategies for adjusting by asking who and what was most helpful (e.g., "What people, offices, or programs have been most helpful to you in college?").

Table 2

Percent of First-Generation Students by School and Ethnicity

	Asian	African American	Latino	White
SPU: F Gen	51	73	81	25
NOT	49	27	18	75
RU: F Gen	41	64	29	42
NOT	59	36	71	58
LAC: F Gen	33	28	0	23
NOT	67	72	100	77
BCU: F Gen	52	38	23	35
NOT	48	62	77	65

Results

Descriptive analysis (see Table 2) revealed that the distribution of first-generation and ethnic minority students was not entirely consistent across the four campuses. At SPU, more first-generation students were also from underrepresented minority groups, while far fewer LAC respondents of all ethnicities were first generation compared to the other three campuses. Thus, in our initial analysis of each hypothesis, we included school as a control variable. See Tables 3 and 4 for descriptive statistics.

High School Diversity

An initial ANCOVA assessed Hypothesis 1 using four levels of ethnic status (Asian, African American, Latino, and White), institution attended, and first-generation status as independent variables; perceived amount of high school diversity as the dependent variable; and family income as a covariate. A marginally statistically significant 2-way interaction ($F[3, 1147] = 3.20$, $p < .06$; $\eta^2 = .12$) of ethnicity and first-generation status provided only partial support for the hypothesis. First-generation ethnic minority students across all campuses attended relatively more

Table 3

Descriptive Statistics

	First Generation (n = 562)	Not First Generation (n = 777)
GPA	3.18 (.85)	2.90 (.87)
How often study with college classmates?	2.15 (.93)	2.25 (.91)
How often discuss coursework with classmates?	2.45 (.90)	2.52 (.85)
How often discuss coursework with friends in college?	3.41 (.73)	3.53 (.71)
How often socialize with classmates?	3.00 (.87)	3.12 (.86)
How much enjoy socializing with classmates?	3.12 (.84)	3.25 (.80)
How many personal friends?	1.55 (.73)	1.58 (.76)
I feel I belong at this college socially.	2.80 (.94)	2.97 (.93)
I was nervous about "fitting in."	2.76 (1.03)	2.63 (1.01)
How likely graduate college?	3.77 (.53)	3.84 (.45)
How likely leave college?	1.13 (.52)	1.10 (.46)
How likely go to grad school?	3.12 (.94)	3.03 (.88)
How likely complete grad school?	3.01 (.97)	2.92 (.89)
How diverse was high school?	2.01 (.94)	2.68 (.57)
Prefer help from professors.	38% (n = 214)	43% (n = 334)
Prefer help from TAs.	30% (n = 169)	29% (n = 225)
Prefer help from classmates.	64% (n = 360)	68% (n = 528)
Prefer help from tutoring service.	35% (n = 197)	24% (n = 186)

ethnically diverse high schools than their non-first-generation peers, while White students, irrespective of their generation status, attended high schools that were considerably more monoracial White (see Table 5).

We initially examined Hypothesis 2, the relationship between high school ethnic diversity and academic and social adjustment in college, with a series of item-level correlations computed separately by first-generation and ethnic group membership (see Table 6). Interestingly, perceived high school diversity related positively

Table 4

Descriptive Statistics for Parent Support

	Mother Support		Father Support	
	First Generation (n = 556)	Not First Generation (n = 783)	First Generation (n = 556)	Not First Generation (n = 783)
Helped with schoolwork.	2.30 (1.03)	2.69 (1.04)	2.37 (1.07)	2.81 (1.03)
Encouraged me to try.	3.40 (.81)	3.41 (.84)	3.29 (.87)	3.34 (.84)
Pressured me to do my best.	3.25 (.91)	3.31 (.83)	3.24 (.93)	3.34 (.84)
Made life miserable if grades bad.	1.73 (.95)	1.80 (1.03)	1.83 (1.01)	1.82 (.98)
Pressured me to be independent.	3.17 (.87)	3.20 (.86)	3.14 (.95)	3.19 (.89)
Count on help with problems.	3.02 (1.04)	3.20 (.97)	2.79 (1.08)	3.02 (.97)
Knew my friends.	3.38 (.80)	3.43 (.75)	2.86 (.97)	2.88 (.95)
Talked to me.	3.12 (.93)	3.16 (.90)	2.76 (1.02)	2.77 (.99)

Table 5

Perceived High School Diversity by First-Generation Status and Ethnicity

	Asian	African American	Latino	White
First Generation (n = 556)	2.83	3.38	3.28	1.42
Not First Generation (n = 783)	2.59	2.78	2.86	1.31

Note. **Higher numbers indicate greater perceived diversity.**

to self-reported GPA for Asian, Latino, and White first-generation students; perceived diversity related to GPA only for non-first-generation Asian students, who revealed the strongest relationship of all groups. Perceived high school racial/ethnic diversity was related to frequency of studying with college classmates only for first-generation African American students. Students' frequency of talking with professors showed a statistically significant positive relationship to perceived diversity for first-generation Latino and White students and was negatively related to diversity for non-

Table 6

Correlations Between Perceived High School Diversity and College Adjustment

	GPA	Study w/ classmates	Talk to professors	Socialize w/ classmates
			First Generation (n = 561)	
Asian	.30*	.09 *ns*	.07 *ns*	.02 *ns*
African American	.14 *ns*	.31*	.14 *ns*	.21 *ns*
Latino	.19*	.12 *ns*	.23**	.11 *ns*
White	.14*	.07 *ns*	.16**	.02 *ns*
			Not First Generation (n = 773)	
Asian	.33**	.06 *ns*	.06 *ns*	.24*
African American	.09 *ns*	.22 *ns*	.12 *ns*	.03 *ns*
Latino	.10 *ns*	.15 *ns*	.17 *ns*	.29*
White	.02 *ns*	.01 *ns*	-.09*	.03 *ns*

Note. * $p < .05$, 2-tailed. ** $p < .01$, 2-tailed.

first-generation White students. Finally, frequency of socializing with college classmates related to perceived diversity only for non-first-generation Asian and Latino students. No other statistically significant correlations emerged.

We next examined a series of regression equations to further clarify the unique contribution, if any, of high school diversity to academic and social adjustment. Our first equation tested academic adjustment using self-reported midterm GPAs as the dependent variable. We entered family income and college of attendance in the first step as control variables; first-generation status, ethnicity, and perceived high school diversity in the second step; and two interaction terms (high school diversity by first-generation status and high school diversity by first-generation status by ethnicity) in the third step. Our final model was statistically significant ($F[7, 1088] = 12.91$, $p < .001$; $R^2 = .06$); the interaction of first-generation status and high school diversity remained as a predictor in the equation ($\beta = .10$, $p < .01$). For

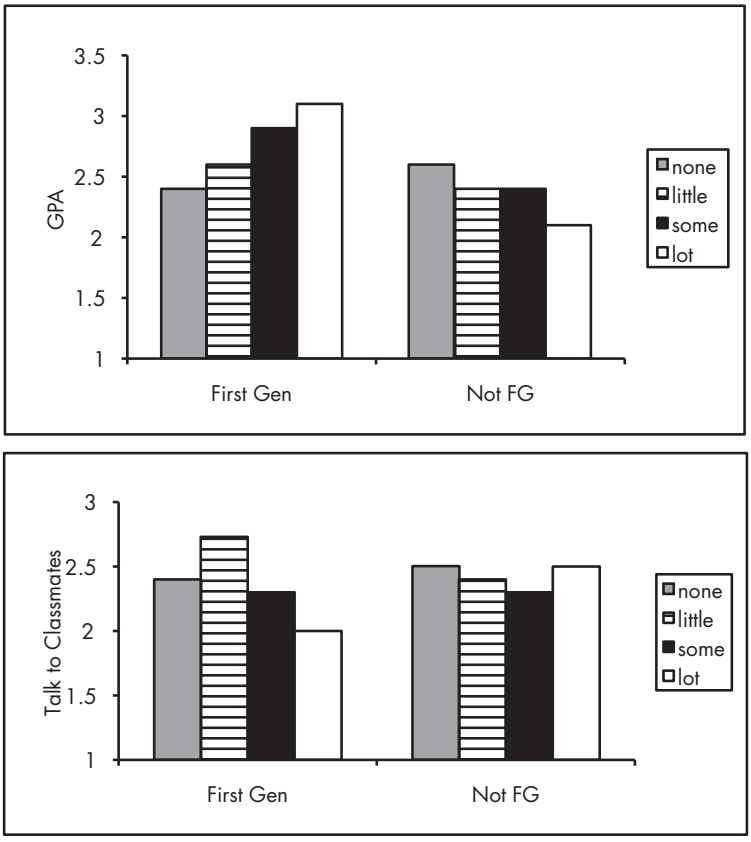

Figure 1. **Academic and social adjustment by high school diversity.**

first-generation students of all ethnicities, self-reported GPA increased as the ethnic diversity of the high school increased. For non-first-generation students the reverse was true; GPA decreased slightly as high school diversity increased (see the top panel of Figure 1). Our hypothesis was partially supported, as high school diversity benefited all first-generation adolescents, not just ethnic minority adolescents.

We used a similar model to examine social adjustment, using discussions with college classmates as the dependent variable. Again our final model was statistically significant (F[7, 1161] = 6.86, $p < .01$; $R^2 = .04$), and the interaction of first-generation status and high school diversity was statistically significant (β

= -.11, $p < .05$). For all first-generation students, talking with college classmates was greater when the high school was less diverse, enrolling a larger proportion of White students. High school diversity did not influence the amount of discussions with college classmates for non-first-generation students (see bottom panel of Figure 1).

The Peer Group

To examine the effects of an academically engaged high school peer group, we first collapsed the 10 items measuring perceived behavior and attitudes of high school friends (e.g., get good grades, plan to go to college, ask questions in class) into a single scale ($\alpha = .82$). A series of regression analyses examined how well perceived high school peer behavior predicted academic and social adjustment strategies in college. Items assessing studying with college classmates, positive attitudes about one's own ability, and help-seeking behaviors were our measures of effective strategies for academic adjustment; social adjustment strategies included socializing with college classmates and attitudes about socializing with college classmates (see Table 7 for regression results). We entered gender, school, and family income in the first step as control variables; ethnicity, high school peer behavior, and first-generation status in the second step; and the interaction of first-generation status and peer behavior in the final step. The high school peer behavior scale was the only statistically significant predictor of studying with classmates and expectations of doing well in college. Predictors of feeling that one belonged academically included the high school peer scale, family income, and race/ethnicity. The majority of variables in the equation predicted measures of social adjustment; however, the high school peer scale was the strongest predictor. Neither the interaction term of first-generation status and high school peer behavior nor the main effect of first-generation status were statistically significant predictors in any of the equations. Thus, our third hypothesis was only partially supported by these analyses: High school peer behavior was a statistically significant

Table 7

Standardized Regression Coefficients for High School Peer Influences

	Study w/ classmates	Expect to do well	Belong academically	Socialize w/ peers	Enjoy socialize
Ethnicity	.02	.01	.10**	.09**	.07*
Gender	.02	.04	-.03	.07*	-.06*
School	.05	.01	.03	.01	.01
Income	.03	.04	.07*	.08**	.07*
First generation	-.04	-.01	-.04	.05+	-.04
H.S. peers	.13**	.26***	.21***	.19**	.11***
H.S. peers X FG	.07	-.09	-.08	.03	.02

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

predictor of social adjustment and students' aspirations for all students, irrespective of generational status.

Given the quantitative findings of the importance of the high school peer group, we next sought a finer grained understanding of peer group influences by examining our qualitative data. All names used in these transcripts are pseudonyms to protect the confidentiality of our respondents. Our 9 first-generation college students were either Latina/o (n = 5) or White. All of our Latina/o respondents mentioned at least one friend, and some mentioned many more, who shared their college aspirations. For example, Beatriz mentioned her high school best friend.

> I wasn't like the type who would hang out with big groups. I had like one best friend, and we did not fit in with all of that. She was the one I could relate to the most. We both had the same kind of ambition and goals to get to college, but we didn't come to the same school. She had what she wanted to do, and I had what I wanted to do, so obviously, we parted for college, but we are still in touch. (Individual interview, December 5, 2007)

In contrast, Jorge discussed a cohort of very supportive friends who served as a protective factor against a negative peer environment in high school and came to college together.

> I came from a few bad neighborhoods, and most of the people from my high schools are either in jail or started working really early. I'm pretty happy I stayed with my career goals. Most of my friends, though, were going to college, and we decided to go to a UC system. There's seven of us here now; we came together. We came down on a field trip here, and everyone sent in their intent to register together. (Individual interview, November 29, 2007)

Our White first-generation students were not so unanimous in the positive influence of high school peers. The respondents came largely from areas within 150 miles of the campus, and they split evenly on the aspirations of their friends in high school. For example, Brandy came from a small rural town in the central valley of California.

> I come from a really poor—not too poor, but a school that was apathetic toward college. No one much went to college, and people in my classes didn't know much about college. I decided to just come here, and I didn't know anyone. I knew I wanted to go to college. (Individual interview, December 3, 2007)

In contrast, Matthew described his high school peers more broadly and more positively.

> All of my friends were in honors with me, so we all like decided we were going to college. We had different majors in mind, and some had different beliefs and went to Christian colleges, I guess maybe their parents expected them to. But we all pushed each other—like motivated each other in high school, because we all knew we wanted to go to college. (Individual interview, December 5, 2007)

Turning again to our quantitative data, we next examined academic help-seeking behaviors toward professors, teaching

assistants, students in the same classes, and campus tutoring services. Because help-seeking behaviors were coded as dichotomous variables, we conducted logistic regression analyses using ethnicity, gender, college attended, and family income in the first step as control variables; high school peer behavior and first-generation status in the second step; and the interaction of first-generation status and peer behavior in the final step. Only perceived high school peer behavior predicted seeking help from professors (Wald = 3.94, $p < .05$; odds ratio = 2.55; model R^2 = .27). Thus, for every unit increase in the peer behavior scale, the odds that any student would seek help from a professor more than doubled. Similarly, perceived high school peer behavior was the only predictor for seeking help from teaching assistants (Wald = 4.69, $p < .05$; odds ratio = 3.08; model R^2 = .31) and from campus academic assistance services (Wald = 3.69, $p < .05$; odds ratio = 2.51; model R^2 = .17). Help-seeking behaviors directed toward college classmates were not predicted by any of our variables of interest.

We again went back to our qualitative data to gain a more nuanced interpretation of help-seeking behaviors. We found that our first-generation participants unanimously identified TAs and campus services as the people they looked to for guidance. For example, Xavier immediately stated:

> I like my TAs a lot. They help me a lot. I didn't really know anything until I talked to the TA. The people at CLAS [the campus tutoring service] help me a lot too. I didn't know about that either when I first got here. (Individual interview, November 30, 2007)

Similarly, Jorge was starting in the engineering school and mentioned a TA by name as well as the engineering program for underrepresented students.

> They have a program to help out new freshmen. I also have a good relationship with John [pseudonym for a TA], and I can just walk up to him and tell him, "I don't

> understand it at all, and I have no idea how to do this." Even though he's busy he'll put everything aside and work with you, or he'll team you up with other engineering students who're either senior year or junior year. And then he has tutoring sessions, so he helps in anything, and he helps you out. [When asked about classmates, however, Jorge stated] . . . you don't see much of your people here especially in engineering. You don't know if you say something that might make them mad. I didn't learn how to speak proper English in high school . . . so it's really hard to have a stable conversation. (Individual interview, November 29, 2007)

Interestingly, 10 of our 16 interview participants specifically mentioned going to professors, but the experience was not equally appealing to all. For example, Hector, a first-generation student stated: ". . . more now I go to my professors and talk to them instead of being afraid of them" (Individual interview, November 30, 2007). However, Anna, a non-first-generation student stated:

> I've actually gone to professors' office hours, but like I don't really . . . it's kinda intimidating, like what am I gonna say? I feel a lot more comfortable talking to the TAs than the professor, but I will go if I need their help. (Individual interview, December 4, 2007)

Perceived Support From School Staff

Hypothesis 4 posited that discussions with high school staff would positively relate to academic adjustment for first-generation students. We analyzed academic behavior using partial correlations, separately for first-generation and non-first-generation students (see Table 8). Controlling for ethnicity, gender, school, and family income, discussions with teachers and counselors in high school showed a statistically significant relationship with talking to professors, talking to TAs, talking to academic advi-

Table 8

Partial Correlations of High School Staff Contact With College Adjustment

	First Generation		Not First Generation	
	HS Teachers	HS Counselors	HS Teachers	HS Counselors
Talk to professors	.10*	.09 *ns*	.12***	.12***
Talk to TAs	.20***	.15***	.10**	.08*
Study with classmates	.17**	.16***	.04 *ns*	.11**
Use tutoring service	.12***	.18***	.10**	.12***
I expect to do well	.13***	.11*	.15***	.12***
I expect to graduate	.11*	.04 *ns*	.14***	.10**
Belong academically	.14**	.09*	.09*	.07 *ns*
Reach goals	.20***	.18***	.22***	.11**
Help later in life	.14**	.07 *ns*	.15***	.12**

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

sors, and studying with classmates for first-generation students. For non-first-generation students, all relationships also were statistically significant with the exception of the frequency of using college tutoring services. A similar analysis examining academic attitudes (i.e., "I expect to do well.", "I expect to graduate.", "I feel I belong academically.", "I am determined to reach my goals.", "Doing well in college will help me later in life.") found that talking to teachers about college while in high school was more strongly related to academic attitudes in college than was talking to high school counselors for all of our participants. Again, our hypothesis was only partially supported, as teacher and counselor communication while in high school were related to effective academic strategies and attitudes for all of our participants.

Our qualitative data again were completely consistent with our quantitative data, in that 12 of our 16 interview participants spoke positively about teacher communication in high school, and 9 of our participants spoke positively about counselor communication.

Table 9

Correlations of College Adjustment With Parental Support

	Mother Support		Father Support	
	First Generation	Not First Generation	First Generation	Not First Generation
GPA	.01	-.06	.03	.12**
GPA satisfaction	-.11*	-.08*	-.09+	-.10*
Talk to professors	.03	.12*	.13*	.14*
Belong academically	.16**	.22**	.13*	.20**
Enjoy social	.09*	.24**	.11*	.24**
Frequent social	.09*	.12*	.07	.19**
Expect do well	.14**	.15**	.07+	.20**
Determined	.14**	.18**	.16**	.20**
Help later	.13**	.15**	.16**	.15**

Note. * $p < .05$. ** $p < .01$.*** $p < .001$. + $p < .10$.

Perceived Parental Support

We examined perceptions of parental support with the 78% of respondents (n = 1,028) who reported living in a dual parent (or caretaker) household in high school using correlations, computed separately by first-generation status. We collapsed six items relating to support from mothers and the same items relating to support from fathers in high school (e.g., help with schoolwork, help with problems, spending time talking) into a single scale for each parent (α = .79 and .83 for mother and father scales respectively). Results provided mixed support for the hypothesis. Both parent support scales related to communicating with professors for non-first-generation students, but only father's support was related for first-generation students. Self-reported GPA was unrelated to either scale for first-generation students and only to father support for non-first-generation students. Finally, as expected, beliefs about persistence were consistently related to parental support for all students, although father support was minimally related to beliefs about personal success in college (see Table 9).

Discussion

High school effects are related, albeit in more complex ways than anticipated, to college adjustment. Consistent with early research on school desegregation, a more diverse high school was related to studying with college peers, and only for first-generation African American participants. Other student groups benefited academically from diverse high school peers in several ways, including greater comfort speaking to professors and higher self-reported GPAs. The relationship to GPA was especially strong for all Asian students. These findings point out the benefits of integrated secondary schooling for ethnic minority students' academic adjustment in higher education institutions with relatively few ethnic minority students. Interestingly, for most non-first-generation students, high school diversity had very little effect on initial academic adjustment. A speculative interpretation suggests that academically talented students in underserved high schools that enroll children with non-college-educated parents (e.g., low-income rural and urban schools) may have greater access to special college preparation efforts that yield greater academic benefits in college. Schools in relatively more affluent and suburban areas may incorrectly assume that parents provide specific preparation for college. Of course, our data, although suggestive, cannot speak to such an interpretation.

Consistent with prior research with a variety of populations, participating in an academically orientated peer group in high school supported initial academic success for all students, not just first-generation students. Our measures of perceived high school peer attitudes and behavior predicted positive attitudes and aspirations, effective study strategies, and instrumental help seeking from appropriate institutional sources. However, our qualitative data suggest possible differences by types of communities. White residents from poor rural communities, a population that is understudied (see Moschetti & Hudley, 2008), may face unique challenges based on the isolation of their communities. Unlike low-income, urban communities that may be in reasonable proximity to a community, vocational, or 4-year col-

lege, students in rural schools may more often see relatively few opportunities for higher education.

An academically oriented high school peer group also may prepare students to become socially engaged on the college campus. Our data revealed that all students with a more academically engaged peer group in high school reported spending more time and having a more enjoyable time socializing with peers in college. However, first-generation students from highly diverse high schools had the least social interactions with college classmates, an unsurprising finding given that race, ethnicity, and social class are sometimes determinants of social comfort (Gottdiener & Malone, 1985; Joseph, 2008). Positive high school peer experiences may prepare students to become socially engaged on the college campus; however, first-generation students from low-income, rural high schools and urban high schools enrolling relatively few White students may restrict their social interactions once in college to a personal and familiar group of similar friends. Such interactions may not be captured by our measure, "talking to college classmates," a relatively broad level of interaction.

This finding draws an important contrast with recent research (Antonio, 2001) suggesting that attending an ethnically diverse high school positively related to social engagement at predominantly White institutions for ethnic minority but not for White students. By incorporating social class as a variable in the analyses, our study presents a more nuanced understanding of institutional diversity and points to intra-group variability in White college students that has yet to be explored. Because research often confounds first-generation status with demographic variables, further research to tease out the impact of first-generation status from demographic variables such as race and social class is clearly warranted.

For successful adjustment to college, significant adults during high school matter more than they might imagine. Talking to teachers and counselors had strong relationships with social and academic adjustment as well as with positive attitudes for all students. Perceived parental support in high school was influ-

ential in somewhat surprising ways. Fathers' direct support and encouragement apparently matters more than prior research has described. Research has documented the unique impact of father's level of education on college enrollment (Carpenter & Fleishman, 1987) and aspirations (Yang, 1981). Qualitative research has sometimes captured the unique contributions of general encouragement from mothers and fathers (Ceja, 2004).

Our quantitative data indicate that father's monitoring, supervision, and availability are uniquely related to self-reported GPA for non-first-generation students and to interactions with professors for first-generation students. Given that the majority of professors at the institutions used for this study are men (66% at SPU, 65% at LAC, 62% at RU, and 60% at BCU), it is unsurprising that relationships with fathers would influence students' comfort in approaching professors, particularly first-generation students who are learning to navigate an unfamiliar environment. Father influence on GPA is perhaps a reflection of a broad finding in the family socialization literature that fathers often assume the traditional role of disciplinarian (Finley & Schwartz, 2006; Holland, 1994). Although mother's support was important across a broad range of our measures of attitudes and adjustment, students may be more sensitive to the possibility of negative sanctions from fathers for poor grades.

These data do not uniformly support previous findings that parental support plays a unique role for ethnic minority or first-generation students; our data revealed the importance of both parents for first-generation students and their non-first-generation peers. Differences in findings perhaps result from the manner in which "parent support" is operationalized and measured across various studies. The data presented here provide specific operationalizations of parent support as monitoring behavior and friends, supervising homework and other academic progress, and being available for advice and consultation. Our analyses also provided separate estimates of the effects of mothers and fathers for students living in dual parent households, contrary to many analyses that examine mothers only or more generally assess "parents" or "family."

Getting Ready: Preparation for Getting in

The data support our hypothesized links between Attinasi's (1989) conceptualizations of *getting ready* and *getting in*, and most of our linkages turn out to be as important for non-first-generation students as they are for first-generation college students. Several variables in our study were consistent with "initial expectation engendering," a part of Attinasi's getting ready stage, and reflect early input from significant others that leads a youth to the expectation to attend college. Our quantitative and qualitative data indicate that input in high school from parents, peers, and school staff related to students' positive self-beliefs, effective study strategies, and social integration at the institution. These outcome variables, measures of participants' getting in strategies, reflect the means by which students became acclimated to the social and academic geography of the institution. Talking to professors and TAs, sharing knowledge by studying and socializing with classmates, and developing positive beliefs and expectations about one's own competence are important means for students to come to know and feel comfortable navigating the institution. Our data strongly support the importance of parents, peers, and school staff as contributors to students' getting ready, which lays a firm foundation for students' successfully getting in.

Strong relationships between high school experiences and self-beliefs also indicate that the tasks of getting in have not yet been so developmentally stringent as to discourage these respondents or cause them to doubt their role as a college student. Descriptive data revealed that all students felt strongly that they would complete college and are slightly more comfortable than nervous about fitting in. These attitudinal variables also reveal some of the strongest relationships with input from parent, peer, and school staff in high school. Interestingly, the more participants talked to teachers in high school, the more academically competent they felt in college, and this relationship was especially strong for first-generation students. Such findings suggest that getting ready experiences may prepare students to more effectively balance the multiple developmental tasks they face as

college students on the threshold of adulthood. This preparation may be especially important for persistence among vulnerable populations, including first-generation students, who spend the least time of any group talking to teachers outside class.

Limitations

Although these findings provide insights into the types of support from high school experiences that are important as students' transition into higher education, several limitations of this study constrain us to interpret our findings with caution. It is completely unclear how our results might generalize to institutions with greater numbers of ethnic minority students (e.g., HBCUs, HISs, Tribal Colleges). Our sample has small numbers of minority respondents, particularly African Americans, owing to the relatively small numbers of ethnic minority students at the participating institutions. The numbers of Native American students were too small to be included in this comparative study. Due also to small cell sizes, we were not able to differentiate our broad groupings by ethnicity (e.g., Chinese vs. Cambodian Asian students). These sample limitations have perhaps compromised the power of our statistical tests and caused us to ignore possibly substantial within-group variability. Measurement issues and the operationalization of the variables of interest may prove to be a limitation of this study, as many of our variables were single items. Finally, because of procedural delays that extended beyond the students' first semester of attendance, our qualitative data were confined to a single institution. Much work on the links between high school and higher education remains to be completed, with economically, geographically, and ethnically diverse samples.

Implications

These preliminary findings are a strong argument for policies and practices that bring all new college students together in personalized social interactions as quickly as possible rather than

focusing on groups perceived to be "at risk." We must remember that developmental tasks for adolescents in higher education, although more complex for first-generation students, are daunting for all students and especially for ethnic minority students in predominately White institutions.

College preparation programs would do well to harness the power of peer influence in academically talented peer groups to staunch talent loss. Programs such as the Posse Foundation, an organization that identifies low-income, underserved public high school students with extraordinary academic potential and sends them to highly selective institutions that provide full scholarships (e.g., Vanderbilt, Bryn Mawr, Carleton), has developed a sustainable model. The foundation sends students to participating institutions in multicultural groups, or "posses" of 10, to provide support, encouragement, and help for one another. To date, the Foundation reports a more than 90% college graduation rate for its scholars (Bial, 2004). So much research has been done on the negative effects of peer pressure in adolescence that the benefits of peers can be overlooked. A positive, supportive peer group can be one important element of a successful transition from high school to college, a finding supported by data from students as early as eighth grade (Trusty & Harris, 1999). Collectively, these results indicate that middle school might be a more appropriate starting point for the development of peer support for high achievement and college aspirations.

And, lest we forget, adult involvement is not something that should stop as children reach adolescence. There is sometimes a tendency to foreground the adolescent's search for an independent identity and downplay the value of adult guidance and direction. Granting age-appropriate privileges and privacy must not be confused with the withdrawal of parental advice and guidance as youth prepare for their future lives. Teachers will do well to develop supportive relationships with all students that comprise both emotional warmth and academic validation. Prior research (Hudley & Daoud, 2007) suggests that a warm relationship with teachers is surprisingly important for high school students' academic motivation. As students move from

high school to college, guidance and direction from supportive adults must not stop if all youth are to successfully navigate this period of emerging adulthood.

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