

FACULTY–STUDENT INTERACTION AT THE COMMUNITY COLLEGE: A Focus on Students of Color

June C. Chang^{*,**†}

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The present study describes the level of faculty–student interaction on 2-year college campuses, examines student characteristics correlated with faculty contact, and considers how interaction may differ among racial subgroups of students. Using data collected from the Transfer and Retention of Urban Community College Students (TRUCCS) survey, a sample of 2500 students informed this research. The findings reveal generally low levels of interaction, and especially with Asian American/Pacific Islander and Latino students. Having positive perceptions of the college environment and interacting with other members of the institution, from students to academic counselors, glow the strongest positive association with faculty contact among all racial subgroups of students. Prominent among the differences is the negative relationship between perceiving racial difficulties and interacting with faculty for Asian American/Pacific Islander students. The findings provide insight in how to increase and enrich faculty interaction on these campuses to better retain underrepresented students in the educational pipeline.

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KEY WORDS: community colleges; faculty–student interaction; students of color; academic involvement; campus racial climate; racial differences.

REVIEW OF LITERATURE

Research has continually found faculty–student interaction to be integral to college student development and achievement (Astin, 1993; Lamport, 1993; Terenzini, Pascarella, & Blimling, 1999). Such interactions

*Graduate School of Education and Information Studies, Division of Higher Education and Organizational Change, University of California, Los Angeles.

**Tables containing descriptive statistics for each racial/ethnic group in Table 5 are available from author upon request.

†Address correspondence to: June C. Chang, Division of Higher Education and Organizational Change, University of California, 3019 Moore Hall, Mailbox 951521, Los Angeles, CA 90095-1521.

have been shown to positively influence students' degree aspirations, self-efficacy and esteem, academic success, satisfaction, goal development, and adjustment to college (Arredondo, 1995; Astin, 1993; Eimers, 2000; Lamport, 1993; McGlynn, 1992; Santos & Reigadas, 2000). The reasons for such potent influence are better understood when considering the multiple roles faculty members assume in relation to their students. They serve as instructors, role models, employers, advisors and sources of support and guidance. Through engagement with faculty members in these capacities, students can develop a deeper appreciation for the subject material, be exposed to new opportunities for learning, and receive encouragement socially and toward a future career (Arredondo, 1995).

Furthermore, faculty–student interaction has traditionally been conceived of as a form of involvement. Astin (1984) defines involvement as the “quantity and quality of the physical and psychological energy that students invest in the college experience” (p. 298). He asserts that student development and learning are dependent on how involved or invested a student is in her environment. Tinto (1975) explains that involvement is necessary for integration into the college environment, and integration increases the likelihood of persistence. Specifically, Tinto describes academic and social realms for involvement and the formal and informal dimensions of each. Most often, faculty–student interaction has been conceptualized as a form of academic involvement, consisting of both formal and informal aspects.

Much of what we understand about student involvement in general, and faculty–student interaction in specific, has come from research on students at 4-year institutions; very little attention has been paid to students attending 2-year colleges. For those who have examined student development at these campuses, low levels of involvement, especially social forms of involvement, have generally been observed (Hagedorn, Maxwell, Rodriguez, Hocevar, & Fillpot, 2000; Maxwell, 2000). For example, approximately 20% of students attending 2-year colleges participate in school clubs as compared to 50% and 67% of students at public and private 4-year institutions, respectively (Coley, 2000). The apparent discrepancy in student participation at 2- and 4-year institutions can be attributed, in large part, to the very different student bodies and environments of these two types of institutions (Cohen & Brawer, 2002; Maxwell, 2000). The majority of community colleges are commuter campuses where many students balance academics with commitments to family and off-campus employment. Furthermore, a large proportion of both students and faculty members are part-time and generally leave campus after class. Due to the nature of those institutions and their students, traditional notions and

measures of student involvement seem inaccurate and perhaps even incompatible for examining community college students (Hagedorn et al., 2000).

What matters to community college students then? While community college students seldom participate in social forms of involvement, they do engage in academic forms of involvement (Maxwell, 2000). Research indicates that “the classroom is the main point of student contact with the [community] college,” and community college students are primarily concerned with and motivated by curricular and academic issues (Hagedorn et al., 2000, p. 596). This tendency is witnessed when examining those activities that garner higher rates of student participation. In his survey of American community colleges, Coley (2000) reports that close to 50% of students participate in study groups for classes and approximately 70% of them speak with faculty outside of class. Therefore, examining the ways and effects of faculty-student interaction at these campuses is of particular importance.

Through a single-institution study, Hagedorn et al. (2000) present one of the only pieces of research on the topic of faculty-student interaction at 2-year colleges. In contrast to Coley’s (2000) results, the author found that students at a medium-sized, predominantly non-White campus rarely interacted with faculty outside of class, with approximately 80% of students indicating that they had neither discussed career matters nor socialized informally with a faculty member more than once a semester. At this same campus, only a third of the students sampled agreed with the posed statement: “It is easy to develop close relationships with faculty members on this campus.” This study utilized measures that focused more on the personal and social forms of faculty-student interaction as opposed to the purely academic, which may explain the discrepancy in findings to that of Coley’s work. More research is needed to flesh out the differences seen in types of interaction and also among institutions.

In addition, the level and effect of such interaction for ethnically diverse students also warrants investigation. Research has shown that ethnic minority students may exhibit a special need for frequent and meaningful interaction with faculty. In a study conducted by Terenzini et al. (1996), the authors found that minority students were more concerned with becoming academically integrated as compared to their non-minority peers who placed more emphasis on establishing friendships and peers while in college. Drawing upon Thompson’s (1995) conceptualization of faculty mentoring within the Social Network Theory perspective, Santos & Reigadas (2000) also posit that positive interactions with faculty members enlarge and diversify minority

students' social networks. Large and diverse social networks, in turn, increase chances for "resource mobilization, upward mobility and social adaptation" (Santos & Reigadas, 2000, p. 630). Santos and Reigadas explain that faculty members play important roles in minority students' social networks, for they "serve as roles models and offer information and contacts that students may not have available in their own social milieu" (p. 631). Furthermore, as is the case for other groups of at-risk students, faculty members can provide much needed support, encouragement, and guidance for underrepresented minority students (Arredondo, 1997; Santos & Reigadas, 2000).

Studies have also pointed to the increased benefits these students receive from such interaction. Mayo, Murguía, and Padilla (1995) reported that for Mexican-American, Black and Native American students at a large, Southwestern public university, finding a faculty or staff role model, meeting with instructors outside of class, and being satisfied with personal contact with instructors were linked to cumulative grade point average (GPA). Black students, in particular, were most likely to benefit from meeting with faculty outside of class. In a study of students attending a large 4-year university, Eimers (2000) found that for minority students, increased satisfaction with their level of interaction with faculty was associated with increases in intellectual and skill development higher than that witnessed for their White peers.

Community colleges, which enroll close to 50% of ethnically underrepresented college students, including African Americans, Latinos, American Indians, and Southeast Asians, are of particular importance when examining faculty-student interaction for underrepresented students of color (Cohen & Brawer, 2002). Community colleges stand at a unique position along the educational pipeline and often serve as points of access and entry to continued higher education for underrepresented groups. Therefore, examining the level of faculty-student interaction and the potential for such interaction at these campuses is crucial. This study aims to address gaps in the literature on the general level of faculty-student interaction at 2-year institutions and specifically in examining the experiences of students of color.

The specific research questions under investigation are: What is the level of faculty-student interaction at community colleges? How does the level of interaction differ between African American, American Indian, Asian American/Pacific Islander, Latino and White students? What background characteristics and college environments lead students to interact with faculty and do these differ by students' race?

CONCEPTUAL FRAMEWORK

While the benefits of faculty-student interaction on a variety of student outcomes have been theorized and shown empirically, the factors promoting or hindering such interaction in general, and across racial subgroups in particular, have not been so readily conceptualized. However, research surrounding a diversity of topics including student involvement, organizational culture and climate, and the particular experiences of ethnic minorities on college campuses, can be pieced together as a framework for considering the factors that influence student engagement with faculty. In the following paragraphs, I draw from these strands in the literature and posit that students enter college with certain dispositions toward interaction, encounter the campus climate and institutional members, and accordingly develop perceptions of faculty-interaction that govern the level to which they will participate. For students of color, issues of racism and cultural mismatch may appear at each of these junctures, which work to affect their perceptions and influence their educational decision-making and patterns of interaction (see Fig. 1).

Individual Dispositions Toward Interaction

Students' previous knowledge of and affinity for faculty interaction influences their behavior once on the 2-year campus. Understanding the importance of utilizing resources and establishing relationships can be conceived of as a form of capital among entering community college students. This knowledge matched with a sense of confidence in interacting with those in positions of authority or power dispose certain students to engage more readily with their instructors. In an early piece of research, Astin (1977) concluded that the strongest predictor of interaction with faculty was students' interpersonal self-esteem upon entering college.

For ethnically underrepresented minorities, however, knowledge of the educational system may be limited and assertiveness in seeking interaction at odds with their native culture. In their study of Latino

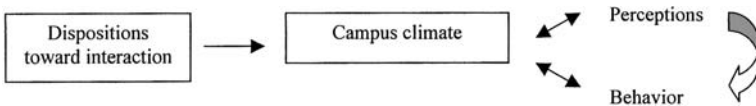


FIG. 1. Conceptual-framework for faculty student interaction.

students attending 2-year colleges, Rendón and Valdez (1993) found that immigrant families' lack of familiarity with the academic world inhibited students from asking questions or making key appointments. Johnsrud and Sadao (1998) also have suggested that Asian Americans experience cultural tension when participating in academic institutions, as interaction in these settings is often incongruent with their ethnic communication styles. The authors write, "Certain minority cultures value a non-aggressive communication style that involves deference to persons in authority and reticence to speak out...unless the response will clearly be perceived as making a substantive contribution to the group rather than being self-serving" (p. 325). These incoming dispositions students have toward faculty interaction can be reinforced or revised upon coming in contact with the college environment.

Perceptions of Institutional Climate

In recent years, various researchers have operationalized the term "campus climate", acknowledging the ways institutional members contribute and respond to it. Most scholars agree that climate is defined by the perceptions and attitudes of its members and exists as the tone, ambience and governing environment of an institution. Attinasi (1996) speaks of climate as the geography of a campus and describes its physical, social and academic/cognitive aspects. For this study, I borrow from his discussion of the social geography to understand how students respond to their environment in deciding whether to interact with faculty. Attinasi explains that students are confronted with the mass, distance, and complexity of the social geography. While mass describes the large numbers of people on campus and complexity the general ignorance of each others' lives, social distance speaks to the lack of contact between members within the institution. In his study, Attinasi found that participants frequently described distance as it pertained to the gap between students and instructors that prevented communication and close relationships. This distance was narrowed when students perceived their faculty members to be approachable and concerned about their learning.

For students of color, the distance experienced within the social geography may be complicated and augmented when also considering the racial dimensions of the climate of the campus. Acknowledging the potency of race in society at large and within our educational institutions, the climate of a campus inherently takes on racial overtones. Hurtado (2002) offers a model of racial campus climate that involves: the institutional history of inclusion or exclusion, numerical representation of

people of color, perceptions and attitudes, and behaviors and relations among racial subgroups on campus. While these components contribute to the climate, the racial climate, in turn, reinforces and promotes certain behaviors and beliefs. For instance, Eimers (2000) found that many minority students experience prejudice and a lack of association on college campuses, which in turn, negatively affects their level and quality of involvement. Students in the study experienced difficulty in identifying with predominantly White faculty members and felt less comfortable interacting with and seeking help from their professors. Thus, the social distance between minority students and their predominantly White teachers can be perceived as greater due to the social, economic, and cultural gap often separating them (Young, 2003).

In separate studies, minority students also convey a sense of marginality or being relegated to the periphery on college campuses (Cuadraz, 1996), and African-American students, in particular, report feeling invisible in college classrooms and to their faculty members (Solorzano, Ceja, & Yosso, 2001). In Pope's (2002) study of opportunities for minority mentoring on community college campuses, Asian American students were most skeptical of institutional support for faculty-student interaction. Institutions, however, that place students and their concerns at the center of their endeavors are least likely to have a climate characterized by racial tension and most likely to witness frequent interaction among members (Hurtado, 2002). Rendón (1994) customizes the idea of student-centeredness to the 2-year college by explaining that merely providing opportunities for interaction is not sufficient for minority students at these campuses. Instead, non-traditional students are more likely to get involved when faculty take an active role in assisting them rather than having to take the initiative themselves.

Therefore, the perceptions minority students have of the campus environment matched with their entering dispositions for interaction can greatly affect their level of engagement with faculty. In this study, I consider both these influences in examining the level and correlates of interaction for community college students.

Using this conceptual framework as a guide, I hypothesized that the general level of faculty-student interaction on 2-year campuses would be low, as compared to that more commonly reported for 4-year colleges. Moreover, I anticipated that interaction for students of color would be less frequent than that of White students. Because students of color are often also first-generation college students, and those at community college frequently of weaker academic backgrounds, their predisposition toward interaction and understanding of its benefits may be lower. While the representation of people of Color on 2-year campuses is

higher than that seen at 4-year schools, the other dimensions of racial campus climate are neither well characterized nor uniform for this segment of the American higher education system. Thus, I expected that students who are unaccustomed to interacting with faculty and perceive an unwelcoming campus climate would also be those who have the least contact with their community college faculty. Alternatively, students who have prior experience with faculty before coming to college and encounter a positive climate would be more likely to interact with their instructors.

METHODS

Sample

In order to look at faculty–student interaction at 2-year institutions, I conducted a quantitative study using data gathered from the Transfer and Retention or Urban Community College Students (TRUCCS) Community College Student Survey. The survey was designed to explore factors promoting the retention and perseverance of urban community college students. Among the 47 questions on the survey, items examining students' demographic characteristics, college course-taking patterns, engagement in campus activities, and attitudes and views are included. The survey was administered to a representative sample of 5000 students at the nine campuses of the Los Angeles Community College District during the spring of 2001. The response rate was close to 100% as surveys were hand-distributed, completed, and returned in the classroom setting. Pertinent to this study's focus on the experiences of students of color, the sample consisted of 779 African-American, 112 American Indian, 797 Asian American/Pacific Islander (API), 2830 Latino students, and 730 White Caucasian students. The sample sizes for each racial subgroup decreased in the regression analyses, reflecting the actual number of students who responded to all of the items included in the analysis. American Indian students were not included in the analyses due to the small number respondents in that group.

Variables

The dependent variable, faculty–student interaction, is a composite variable created from four items on the TRUCCS survey. The items asked students how many times in the past 7 days they had talked with an instructor before or after class or during office hours and how many times they had asked instructors questions or spoken up during class

discussion in the course in which they completed the survey. The construction of the dependent variable acknowledges a variety of settings and contexts in which interaction may occur. The exact wording and factor loading weights of all the survey items are included in Appendix A.

Recognizing the unique characteristics of the community college student body and how these qualities may affect students' entering dispositions toward interaction, I selected several demographic and background variables. In addition, variables looking at the perceptions students hold toward the campus climate and institutional members were also included. Initial exploratory analyses employing 27 student background, college activity and attitudinal variables were conducted. Among the background variables considered were gender, age, highest parental education, socioeconomic status (SES), foreign schooling and reasons for attending a community college. Literature has found that females, non-traditional aged, first-generation, low SES, and immigrant students are overrepresented at 2-year colleges (Cohen & Brawer, 2002). These background characteristics have been shown to affect students' academic persistence and involvement, and further, their effects often interact or overlap with the influence of race or ethnicity (Allen, 1996; Portes & Rumbaut, 2001). In particular, items assessing parental education, SES and foreign schooling were included to help understand the familiarity students and their families have for the education system. Variables that examine students' academic self-confidence at the time they completed the survey were also included (Astin, 1977).

Next, various behavioral and attitudinal variables were selected. The variable gauging the amount of time that students spend on campus was pertinent to this inquiry, as research has suggested that a lack of student presence on campus after class negatively influences the frequency of faculty-student interaction (Lind, 1997). In addition, to examine the perceptions that students hold of their college environment, variables that ask students about their interactions with other members of the institution, from peers to academic counselors, and perceptions of personal racial difficulties, sense of belonging, and support from faculty were examined. As posited earlier, the perceived racial climate and student-centeredness of a campus may affect students their decisions of whether and how frequently to interact with faculty members.

Analyses

In order to answer the first and second research questions regarding the level of faculty-student interaction at community colleges, descriptive analysis of students' mean participation in such interaction and

cross-tabulations how interaction varied across racial subgroups were performed. In addition, cross-tabulation of student engagement in the four separate components of the faculty–student interaction variable was also conducted. I used a chi-squared measurement to evaluate whether differences observed were statistically significant.

Ordinary least squares regression analyses were conducted to isolate background characteristics and college environments associated with seeking interaction with faculty. Initial exploratory regression analysis on the aggregate sample included entering 27 variables in 4 blocks: student background, academic self-confidence, college activity, and attitudinal variables. Key to the examination of how experiences might differ by students' race, I then ran separate regression analyses for each of the four racial subgroups. From these analyses, I isolated a total of 20 variables that added significantly to the prediction of faculty–student interaction in at least one of the four regression equations. To compare the influence of these factors across subgroups, the variables were then force entered in separate analyses for each subgroup and also for the aggregate. I examined the data for multicollinearity, the degree to which independent variables are correlated with one another, in order to better interpret the size of the final beta coefficients produced. No pair among the variables entered showed a correlation value greater than 0.5 (see Appendix C for correlations). In addition, multicollinearity was also considered by calculating the tolerance levels of each of the independent variables in the regression analyses. Tolerance levels ranged from 0.59 to 0.94. Levels in excess of 0.4 reflect low degrees of multicollinearity (Varnitan, 2004).

Final analyses involved examining both the standardized and unstandardized beta weights within each equation for the different subgroups of students. The standardized coefficient indicates each variable's influence on the dependent variable within a particular subgroup of students. Including the unstandardized weights allows comparison of a given variable across racial subgroups. To determine if the regression coefficients corresponding to each variable were significantly different between subgroups, *t* tests were performed between all samples.

LIMITATIONS

Several limitations exist in the selection of variables and interpretation of results due to the construction of the survey instrument. First, while the instrument contains an array of items examining numerous student characteristics and experiences, all variables were assessed at one time point. Therefore, the temporal order or causal relationship between

variables is difficult to discern. Next, items specific to the conceptual framework posited by this study were not fully available. In particular, items assessing students' past experiences with faculty interaction in high school or interpersonal self-esteem before entering college were not a part of the survey. However, students' sense of academic self-confidence at the time of completing the survey was measured. Also, a limited number of questions asking students about their perceptions of faculty and climate of the campus existed. Finally, I did not match student data to the institutions they attended, such as the racial composition of the student and faculty populations on each campus. Such an examination would be beneficial in understanding aspects of the racial climate that may influence students' level of interaction with faculty.

RESULTS

The results presented address the following research questions: What is the level of faculty-student interaction at community colleges? How does the level of interaction differ among racial subgroups of students? What background characteristics and college environments lead students to interact with faculty and do these differ by students' race?

The mean frequencies of faculty-student interaction for the aggregate sample and among racial subgroups are presented in Table 1. Values for the composite variable, faculty-student interaction, range from 0 (no interaction with faculty in the last 7 days) to 20 (interaction with faculty in all four contexts and settings more than 5 times a week). As observed in Table 1, the mean value of interaction for the aggregate sample is relatively low (5.2). The most frequent response describing the amount of faculty-student contact is zero, indicating that a significant proportion of students (11.5%) had not interacted with faculty within the last 7 days.

The distribution of responses of the aggregate sample further reveals the general lack of student involvement with faculty at these campuses (see Fig. 2.) Only around 4% of the students reported a 15 or above on the faculty-interaction scale.

The mean frequency of interaction varies somewhat across racial subgroups, with African American students reporting most frequently interacting with their instructors, followed by White, Latino and API students, respectively (see Table 1). In order to further compare across subgroups, I designated levels of faculty-student interaction based on the quartile distribution of responses from the aggregate sample (Table 2). Low-moderate interaction corresponded to a response of 0 to 2 on the faculty-interaction composite scale, moderate included 3 and 4,

TABLE 1. Means of Variables Used in Regressions Analyses by Racial/Ethnic Subgroup

<i>Dependent Variable</i>	Aggregate (<i>n</i> = 2700)	African American (<i>n</i> = 340)	API (<i>n</i> = 427)	Latino (<i>n</i> = 1438)	White (<i>n</i> = 484)
Faculty-student interaction	5.2	6.6	4.5	4.8	5.4
<i>Background Traits</i>					
Gender: female	1.6	1.7	1.5	1.6	1.5
Age	6.2	6.8	6.1	6.0	6.2
Average high school GPA	5.5	5.2	6.0	5.3	5.6
Highest parental education	2.7	3.2	3.3	2.1	3.5
Foreign schooling	1.2	1.1	1.5	1.1	1.1
Reason for attending college: outside influences	14	12.5	15.2	14.5	11.9
Reason for attending college: something to do	4.9	4.5	5.7	5.0	4.3
Reason for attending college: practical	39.9	40.4	39.4	40.7	37.5
Reason for attending college: distance	9.1	8.8	9.0	9.4	8.8
<i>Academic Self-confidence</i>					
Positive attitudes towards school	9.1	9.4	8.8	9.1	8.9
Views: determined and confident	55.4	56.2	54.8	55.6	54.8

<i>College Activities</i>					
Attended orientation at this college	1.5	1.5	1.4	1.6	1.5
Time spent on campus	5.3	4.9	5.7	5.3	5.5
Study with others	8.8	8.9	9.4	8.7	8.2
Speak with academic counselor	1.4	1.7	1.3	1.4	1.3
Study alone	6.3	6.0	6.9	6.2	6.0
<i>Attitudes and perceptions</i>					
Obstacles in college	12.3	11.7	12.5	12.7	11.3
Teachers encourage me in my studies	5.1	5.4	5.1	5.1	5.0
Sense of belonging at this college	5.0	5.1	4.7	5.1	4.8
Views: things are harder because of race/ethnicity	2.8	3.1	3.4	2.8	2.0

Note: See Appendix A for scales on all variables.

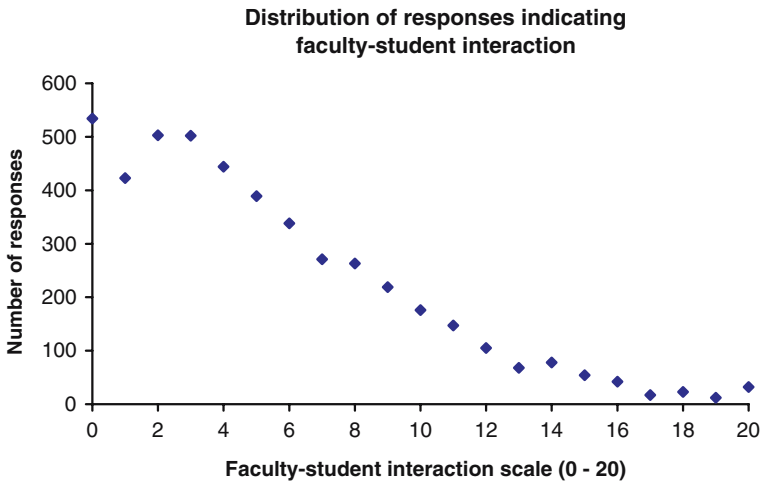


FIG. 2. Distribution of responses indicating faculty–student interaction.

TABLE 2. Level of Faculty–Student Interaction by Students’ Racial Background

Percentage of Students	Level of Faculty–Student Interaction ^a				
	<i>N</i>	Low-Moderate	Moderate	Moderate-High	High
African-American	649	19.4	18.2	29.7	32.7
Asian-American/Pacific Islander	591	37.9	21.3	26.2	14.6
Latino	2317	35.8	20.9	26.4	16.9
Caucasian/White	638	27.8	20.5	28.7	23.0
Aggregate	4640	31.5	20.4	27.2	20.9
Pearson Chi-Square	146.240	$p < 0.001$			

^aThe levels of faculty–student interaction are normalized according to the quartile distribution of responses from the aggregate sample.

moderate-high 5–8, and high 9–20. African American students most commonly occupy the moderate-high and, high levels of interaction. In fact, their representation in the high level of interaction (32.7%) exceeds that seen for any of the other racial subgroups and also the aggregate sample (20.9%). In contrast, Latino and Asian American/Pacific Islander students are more often found in the lower levels. White students are fairly evenly distributed across the four levels of faculty–student

interaction. Overall, based on the chi-squared result, the racial subgroups of students show statistically significant differences in their frequency of contact with faculty members.

When examining the specific ways in which students interact with faculty members, certain patterns emerge (see Table 3). Regardless of racial subgroup, students most frequently interact with faculty by speaking up and engaging during class discussion. Students also commonly ask instructors questions or speak with them before or after class. To a lesser degree, students meet with faculty during their scheduled office hours. The pattern observed may reflect the nature and opportunity for these types of interaction. For example, most instructors offer between one and two sets of office hours a week; therefore, the proportion of students who meet with faculty during office hours three or more times a week can be expected to be low. Across racial subgroups, African American students tend to show the greatest participation in each of these forms of faculty-student interaction followed by White and then Latino and Asian American/Pacific Islander students.

Table 4 depicts the background, college activity and attitudinal characteristics associated with students who interact with faculty. The final beta coefficient reveals each variable's influence on the dependent variable after having controlled for the contribution of the other independent variables. Among the student background variables, age and highest parental education are positively related to the dependent variable. Therefore, older students and students with highly educated

TABLE 3. Participation in Types of Faculty-Student Interaction by Students' Racial Background

	Percentage of Students Who Interact with Faculty in the Following Ways 3 or more Times a Week			
	Speak up During Class Discussion	Ask Instructor Question	Talk with Instructor before or After Class	Talk with Instructor During Office Hours
African-American	45.5	35.4	26.5	8.2
Asian-American/ Pacific Islander	20.8	18.2	17.5	4.3
Latino	22.8	22.2	17.5	5.1
Caucasian/White	36.2	22.3	20.3	3.2
Chi-square	210.6*	77.2*	52.5*	28.2*

* $p < 0.001$.

TABLE 4. Characteristics Related to Faculty–Student Interactions ($N=2700$)

Variable	Unstandardized Beta Coefficient	Final Beta Coefficient
<i>Background Traits</i>		
Gender: female	-0.94	-0.11**
Age	0.24	0.09**
Average high school GPA	-0.02	-0.01
Highest parental education	0.23	0.08**
Foreign schooling	-1.30	-0.11**
Reason for attending college: outside influences	-0.03	-0.04*
Reason for attending college: something to do	0.00	0.00
Reason for attending college: practical	0.01	0.03
Reason for attending college: distance	-0.03	-0.02
<i>Academic Self-confidence</i>		
Positive attitudes towards school	0.17	0.08**
Views: determined and confident	0.05	0.07**
<i>College activities</i>		
Attended orientation at this college	0.08	0.01
Time spent on campus	0.22	0.08**
Study with others	0.31	0.29**
Speak with academic counselor	1.10	0.25**
Study alone	0.15	0.08**
<i>Attitudes and Perceptions</i>		
Obstacles in college	0.03	0.03
Teachers encourage me in my studies	0.31	0.11**
Sense of belonging at this college	-0.03	-0.01
Views: things are harder because of race/ethnicity	0.00	0.00

* $p < 0.05$, ** $p < 0.01$.

parents tend to interact with faculty members more frequently. On the other hand, females, students who attended some secondary school in a foreign country, and students who enrolled in college for external reasons (such as where a parent or spouse wanted the student to enroll) show lower levels of faculty–student interaction. As expected, students who spend more time on campus also engage more with faculty. Conceivably, those students who leave campus right after class due to work or family obligations have less time to meet with their instructors outside of class.

The variables showing the strongest positive correlation with the dependent variable are studying with others and speaking with an academic counselor. While those students who study more may also be the

more academically dedicated who further their learning by meeting with instructors, it is interesting to note that the act of studying with others ($\beta = 0.291$) is more closely associated with faculty interaction than studying alone ($\beta = 0.08$). Among the attitudinal characteristics, having positive attitudes towards school, being determined, and feeling that instructors offer encouragement are positively correlated with the frequency of contact with faculty. However, the temporal ordering between these attitudes and interacting with faculty cannot be resolved. For example, it is not clear whether students have positive feelings about their instructors and therefore seek interaction with them or whether frequent interaction leads students to feel that their instructors offer encouragement. In the aggregate sample, perceptions of obstacles, personal racial difficulties, and sense of belonging do not show a significant correlation with faculty interaction.

In order to examine whether differences exist among racial subgroups in those characteristics associated with faculty-student interaction, separate regression analyses were performed. The results of these analyses are presented in Table 5. *T*-tests were performed between all subgroups of students for each variable to see if the observed regression coefficients differed significantly between groups. Significant differences among groups are indicated with the letter corresponding to the group held in comparison. For example, the correlation of high school GPA to level of faculty contact differed significantly between White and African American students (see third row of Table 5).

Several variables differ in their association with the dependent variable among the racial subgroups of students. While these differences may be statistically significant ($p \leq 0.05$), their practical significance is not assumed. First, with regards to the demographic variables, a gender difference exists for all groups but is least pronounced within the African-American student sample ($\beta = -0.03$). Older students, who perhaps perceive less social distance between themselves and faculty or have experience in the work sector interacting with a variety of people tend to engage more with faculty regardless of the students' race; however, this tendency is not significant among API students.

While previous academic achievement in high school does not show a significant correlation with the dependent variable for any of the samples of students, only among African American students is the correlation negative ($\beta = -0.07$). This relationship and additional cross-tabulation analysis suggest that within the African American population, those students who are struggling or doing poorly in school may engage most with faculty for extra help and support. Within the African American population and among those designated in the moderate-high to high

TABLE 5. Forced Regression Analysis for Faculty-Student Interaction by Race/Ethnicity

Variables	Final Beta Coefficients and <i>t</i> tests ^a (Unstandardized b Coefficients)			
	White [A] (<i>n</i> = 492)	Asian-American [B] (<i>n</i> = 432)	African-American [C] (<i>n</i> = 351)	Latino [D] (<i>n</i> = 1462)
<i>Student Demographic Variables</i>				
Gender: female	-.11** (-0.954)	-0.14** (-1.1)	-0.03 (-0.26)	-0.12** (-0.98)
Age	0.15** (0.32)	0.05 (0.14)	0.13** (0.35)	0.07** (0.19)
Average HSGPA	0.06 (0.12)C	0 (-0.01)	-0.07 (-0.18)A	0.01 (0.01)
Highest parental education	-0.01 (-0.03)	-0.07 (-0.23)C,D	0.06 (0.25)B	0.06** (0.20)B
Foreign schooling	-0.19** (-2.2)B,D	-0.10* (-0.79)A	-0.10* (-1.9)	-0.06* (-0.81)A
Reason for college: outside influences	-0.06 (-0.04)	-0.01 (0)	0.04 (0.03)	-0.03 (-0.01)
Reason for College: Something to do	0.12* (0.18)B,C,D	-0.02 (-0.02)A	-0.03 (-0.05)A	0 (0)A
Reason for college: practical	0.09 (0.04)D	-0.01 (0)	0.04 (0.02)	-0.02 (0)A
Reason for college: distance	-0.12** (0.04)B,D	0 (0)A	-0.06 (-0.08)	0.03 (0.03)A
<i>Academic Self-confidence</i>				
Positive attitudes towards school	0.05 (0.09)	0.09 (0.18)	0.11* (0.27)	0.06* (0.14)
Views: determined and confident	0.09 (0.06)	0.10* (0.07)	0.07 (0.05)	0.04 (0.03)

<i>College Activities</i>				
Attended orientation at this college	0.02 (0.17)	-0.08* (-0.67)C	0.09* (0.86)B	0.01 (0.05)
Time spent on campus	0.16** (0.55)B,D	-0.02 (-0.04)A,C	0.12* (0.33)B	0.08** (0.22)A
Study with others	0.23** (0.28)C	0.23** (0.21)C	0.38** (0.45)A,B,D	0.28** (0.29)C
Speak with an academic counselor	0.16** (0.89)	0.32** (1.5)C,D	0.22** (0.87)B	0.24** (1.0)B
Study alone	0.08 (0.14)	0.11* (0.17)	0.07 (0.15)	0.12** (0.21)
<i>Attitudes and Perceptions</i>				
Obstacles in college	0.13** (0.13)D	0.06 (0.05)	0.04 (0.04)	0.02 (0.02)A
Teachers encourage me in my studies	0.17** (0.46)	0.12* (0.30)	0.07 (0.21)	0.12** (0.30)
I feel that I belong at this college	-0.08 (-0.21)B	0.05 (0.14)A	-0.08 (-0.239)	0
Things are harder because of race/ethnicity	0.03 (0.08)B	-0.13** (-0.27)A,C,D	0.06 (0.15)B	0.01 (0.03)B
	$R^2 = 0.343$	$R^2 = 0.363$	$R^2 = 0.419$	$R^2 = 0.332$

*Results of *t* tests shown by letters (e.g., B) denotes an effect that is significantly different from that found for group B.
 ** $p < 0.05$, *** $p < 0.01$.

levels of faculty interaction, 34% reported achieving a C or below average high school while only 11% were A students in high school. In comparison, 27, 14, and 19% of students expressing high frequency of interaction reported an A average in high school within the Asian, Latino, and White populations, respectively.

Similarly, only among API students is the relationship between parental education and faculty–student interaction negative ($\beta = -0.07$). That is, API students who have well-educated parents interact less frequently with their instructors, or conversely, API students with poorly educated parents engage with their faculty members more often. As API students report lower levels of faculty interaction in general, it could be that these students are seeking academic guidance outside of school and from their parents instead of from faculty members. However, in those cases where the parents do not possess strong educational credentials, students may then turn to their instructors for academic interaction. Interestingly, having attended secondary school in a foreign country is most negatively associated with the dependent variable for White students. An understanding of which countries and what types of educational systems these students came from would be helpful in interpreting this finding.

Among the variables assessing students' reasons for attending college, the experiences of White students appeared different from their peers. White students who are enrolled in school in order to have something to do, or as an alternative to having nothing to do, tend to interact more with their instructors, but students attending college for location reasons (such as nearness to residence and work) show lower levels of faculty contact. These findings may reflect the presence or absence of out-of-school distractions and responsibilities that influence time availability to meet with faculty. However, the reason why these forces are more prominent in the experiences of White students is not clear.

College activity variables also show differing associations with the dependent variable in the analyses of racial subgroups of students. The experience of attending orientation at the community college shows a positive correlation with faculty interaction for African American students and no significant relationship for White and Latino students. Unexpectedly, a modest, though significant negative association between this variable and the dependent variable ($\beta = -0.08$) is observed for API students. Likewise, API students also appear different from their peers when considering how amount of time spent on campus relates to contact with faculty ($\beta = -0.02$). As evidenced by the data, API students' decision to interact with faculty is not related to the amount of time they spend on campus; therefore, API students who spend more

time on campus do not appear to be using that time to meet more frequently with faculty. Interacting with other members of the institution, (i.e. students and counselors) around academic issues, however, shows the strongest positive association with faculty contact for all subgroups. However, some distinctions are observed with these variables in the different analyses. African American students who studied with other students and API students who met with academic counselors are more likely to engage with faculty as compared to their peers.

Similar to the aggregate sample, having positive attitudes towards school and confident and determined views are positively associated with faculty interaction among all groups. Compared with their peers, being concerned about obstacles in college, from parking hassles to family and job responsibilities, shows the strongest positive correlation ($\beta = 0.13$) with the dependent variables for White students. It could be that those students who are more cognizant of obstacles they may encounter seek help and guidance from provided resources on ways to overcome difficulties.

Lastly, the correlation between variables assessing students' perceptions of the campus climate and its members and the dependent variable provide interesting though somewhat ambiguous results. Across racial subgroups, the belief that teachers offer encouragement is positively related to the frequency of contact with faculty. This association is strongest for White, API and Latino students. Contrary to findings in past research, sense of belonging at the college does not show a significant correlation with faculty-student interaction for any of the racial subgroups. A particularly interesting finding in this set of variables lies in the item asking students about their views that "things are harder because of their race or ethnicity." This variable demonstrates a negative and significant association for only one of the subgroups, API students ($\beta = -0.13$). That is, API students who feel that things are harder because of their race or ethnicity tend to interact less frequently with their instructors. The fact that this variable continues to negatively correlate with the dependent variable even after controlling for the other independent variables suggests that API students' perception of racial tension or difficulty may hinder them from certain interactions on campus.

DISCUSSION

The results from this study provide evidence of the general and specific levels of faculty-student interaction on community college campuses for the general student body and students of color, respectively.

Consistent with the limited literature that exists on the topic of student involvement at these campuses, community college students generally show low levels of engagement with faculty. Students are more apt to interact with faculty in class and around topics specific to the course they are taking and less likely to meet with their instructors outside of class.

For the aggregate sample analysis, certain background traits and perceptions of the college environment are positively correlated with students' interaction with faculty members. In general, students who grew up in the American educational system, have highly educated parents, and possess positive and confident attitudes towards school are more disposed to engage with faculty. In addition, interacting with other members of the college community and feeling that teachers offer encouragement and support show strong positive associations with frequent interaction. These findings are in line with the framework presented: students entering with positive dispositions for interaction and perceive a supportive and welcoming campus climate tend to engage more with faculty.

Distinctions among Students

Several distinctions are revealed in the separate racial subgroup analyses. I discuss two as they highlight particular trends for the group under examination but also illuminate complexities and subtleties in the relationships and concepts that govern interaction in general. First, the high frequency of faculty–student interaction seen among African American students was contrary to my original hypothesis and also what is commonly documented in the extant literature. Examining the correlates of interaction for this group of students can help inform institutional practice in maintaining high levels of interaction for African American students and also bolstering contact for other groups. It appears that African American students of varying academic preparation and achievement levels approach their faculty members. In fact, African American students of lower academic preparation tend to interact more frequently with their instructors. These students may feel more at ease with asking questions about coursework or when in need of academic help. Further, they are the only group where attending orientation is positively associated with interaction. It could be that African American students, in particular, are receiving or responding to encouragement to seek out resources during orientation. Greater use and planning for these orientation sessions could help familiarize all students with the various resources on campus. In addition, stressing the benefits of talk-

ing with instructors in a variety of circumstances, from asking for a recommendation to seeking help on a homework assignment, may expand students' notions of the accessibility and approachability of their faculty members.

Also, the case of Asian American/Pacific Islander students is unique. Several factors that are positive correlates to faculty-student interaction among the other racial groups show no association for API students. For instance, being older, having highly educated parents, and even spending more time on campus have no effect or occasionally negative effects on the dependent variable. These findings speak to the possibility of cultural mismatch between ways of interaction in college settings and Asian ethnic communication styles (Johnsrud & Sadao, 1998). That is, API students may be comfortable and accustomed to not interacting with faculty before entering college, and therefore, even having knowledge of the benefits of such interaction or available time to interact do not lead them to do so. It could also be possible that API students are substituting benefits they would gain from interaction with faculty on campus with guidance and academic engagement they may be receiving from parents, family or community members outside of school. In their work on second-generation immigrants in the United States, Portes and Rumbaut (2001) explain that the academic achievement of API students is to a large degree attributable to the extensive ethnic communities and networks that support these students in their educational pursuits.

Also, unlike other racial subgroups, API students' perception of personal racial difficulties shows a negative and significant relationship with the level of interaction with faculty. API students tended to agree more strongly with the statement "things are harder for me because of my race or ethnicity" than their peers. On a 7 point-scale (with 7 indicating strong agreement), API students' mean response was 3.4, compared to responses of 3.1, 2.8, and 2.0 for African American, Latino and White students, respectively. Thus, API students may perceive a negative racial climate that hinders their interaction with faculty members. Findings from Pope's (2002) study of minority mentoring at 2-year colleges partially corroborate s assertion. Pope found that while Asian American students showed the highest level of agreement with the statement that "mentoring is important for success at this institution," they also felt least supported by the institution in terms of opportunities for faculty-student interaction and provision of faculty who could mentor a diversity of students. Pope surmises that institutions may be buying into the "model minority myth" and not actively

recruiting or offering as many services to Asian students, thus eliciting such perceptions.

Implications for Practice

From the findings, and the specific cases of African American and API students, the influence of predispositions toward interaction and what happens once on the 2-year campus in getting students to engage with faculty members is observed, but the relative import of these forces is difficult to discern. With regards to predispositions toward interaction, it appears that these inclinations can be dependent on previous academic preparation, academic self-confidence and familiarity with the educational system. These three elements are also interrelated and often tied to students' cultural and ethnic background. From this research and that of others, the need for college faculty to be culturally sensitive in their dealings with students is reaffirmed. In particular, for Asian American/Pacific Islander and Latino students who show the lowest levels of contact, instructors must consider different ways to incorporate students in class discussions and encourage them in interactions outside of class. Also, faculty members must specifically consider the unique challenges faced by recent immigrant students. Being educated in a foreign country was negatively related to faculty interaction for all groups of students. As research by Rendón (1994) has suggested, non-traditional students, including immigrant and underrepresented students, need to be validated by their faculty members. Because taking the initiative to engage with faculty is difficult and culturally foreign to many of these students, community college faculty members must be active in approaching and assisting them.

While 2-year institutions have less control over students' entering disposition toward interaction, they do play a key role in addressing the climate and student-centeredness of the campus. Due to the constraints of the survey items available and lack of data on institutional characteristics, the perceptions of campus racial climate and their relation to faculty contact require further and more focused investigation. From this study, we do see that for API students, experiencing racial difficulties is negatively associated with their frequency of interaction with faculty, while feeling that teachers offer encouragement is a positive correlate for all racial subgroups. Increasing the representation of ethnic minorities in the faculty body and institutional support for diversity programming can help bridge the social distance experi-

enced by minority students and also foster a more positive racial climate.

In addition to perceptions and attitudes, however, Hurtado (2002) also includes behaviors and relations among students as a characterization of the climate. Regression results indicate that the strongest positive correlates with interacting with faculty members across racial subgroups is interacting with other members on campus. These relations, including studying with other students and speaking with an academic counselor, help reveal the behavioral dimensions of the campus racial climate as conceived of by Hurtado. For instance, students who perceive a welcoming racial climate may also be those who more frequently study with other students. While the causal relationship between these variables cannot be resolved, it appears that interaction with members of the institution, whether other students, counselors or instructors, fosters more interaction.

Potential areas for improved interaction are suggested by these findings. Currently many 2-year colleges are employing a learning community approach to instruction, which fosters student-student interaction and collaboration. Increased interaction amongst students around academic matters may translate to increased interaction with faculty members either individually or as a group. Conceivably, interacting with faculty as a member of a study group rather than individually may be less intimidating and more appealing for students. The positive association between interacting with other students and engagement with faculty also speaks to the value of peer mentoring. For many minority students, the ability and presence of peers to serve as mentors is important and beneficial in their college experience (Pope, 2002). Milem (1994) has found that the "influence of faculty is frequently amplified or attenuated by the interaction students have with their peers" (p. 54). Further, work by Treisman (1992) highlights the power of collaborative group learning for minority students. According to Treisman, developing academic communities engages students more in the material, fosters a positive academic self-image, and allows students to share resources and benefit from each other's strengths. Although Treisman found these groups to develop more readily among certain ethnic groups, the benefits of this type of collaborative learning was observed for all racial subgroups. Faculty members can build upon the support and academic engagement students receive from each other in planning their curriculum and fostering interaction with their students. Thus, while students enter with certain predispositions and perceptions of interacting with faculty members, the institution and its members have the potential

to reinforce positive perceptions, alter disinclinations, and foster frequent and meaningful engagement.

CONCLUSION AND FUTURE DIRECTIONS

Understanding the characteristics associated with community college students who interact frequently with faculty and the differences that may occur depending on students' racial background is important for improving upon the generally low levels of faculty–student interaction at 2-year campuses. Further, this research sheds light on additional points of inquiry. First, the present study could be expanded to examine whether faculty–student interaction differentially affects educational outcomes for students by racial background. Using the TRUCCS database, involvement variables, such as faculty–student interaction, can be linked to transcript data to assess students' academic achievement. Also, qualitative research methods can be employed to more fully understand how students of color perceive and negotiate their interactions with faculty. While the present study recognizes a variety of contexts in which students may interact with their instructors, a qualitative approach can add depth in revealing the reasons for and content of these interchanges. Finally, a complete investigation into faculty–student interaction should consider not only the student perspective but also the faculty perspective on interaction. Other studies (Lind, 1997; Outcalt, 2002) have examined community college faculty and included variables on their teaching and engagement with students, but very few, if any, have matched both student and faculty data together to take a comprehensive look at their interactions.

In conclusion, this study rests on the foundation of past research that has shown faculty–student interaction to positively influence numerous student outcomes and be of particular benefit for the academic achievement and development of students of color. Increasing and enriching such interaction at 2-year colleges, which enroll the highest proportion of underrepresented minority and at-risk students, is crucial for retaining and promoting students in the educational pipeline.

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APPENDIX A. Description of Variables

Dependent variable

Faculty–Student Interaction Faculty–Student Interaction is a Composite Measure of Four Variables

Component	Factor Loading Weight
Number of times talked with instructor before or after a class in the past 7 days (0=0 times to 5= 5 or more times)	0.778
Number of times talked with an instructor during office hours in the past 7 days (0=0 times to 5= 5 or more times)	0.668
Number of times asked instructor questions for specific course in the past 7 days (0=0 times to 5= 5 or more times)	0.824
Number of time spoke up during class discussion for specific course in the past 7 days (0=0 times to 5= 5 or more times)	0.733
	$\alpha=0.74$

Student demographic variables

Gender: female	Dichotomous: 1 = no, 2 = yes
Age	Ranges from 1 = 16 years or younger to 10 = 55 years or older
Average high school GPA	Ranges from 1 = D or lower to 9 = A or A +
Highest parental education	A composite measure determined by highest level of education for either parent. Five-point: 1 = junior high or less to 5 = graduate degree
Foreign secondary or college education	Dichotomous: 1 = no, 2 = yes
Reason for attending college: outside influences	A composite measure of five variables that assess outside forces (parents; spouse, partner or other family; high school or other counselor; friends attending same college; employer) influencing students' decision to attend college. The five outside influences are measured separately on a seven-point scale; 1 = very unimportant to 7 = very important

APPENDIX A. (Continued)

Reason for attending college: practical	A composite measure of eight variables that assess practical attributes of the college (reputation; affordability; job-getting potential; transfer preparation; educational programs offered; job-related programs or certificates offered) and reasons (to get a college degree, to get a better job) for attending college. The eight practical influences are measured separately on a seven-point scale: 1 = very unimportant to 7 = very important
Reasons for attending college: distance	A composite measure of two variables that assess benefits of location (proximity to home; proximity to work) for attending college. The eight practical influences are measured separately on a seven-point scale: 1 = very unimportant to 7 = very important
<i>Academic Self-confidence</i> Positive attitudes towards school	A composite measure of two variables that measure students' positive outlooks (difficulty of classes; enjoy challenging class assignments) on school. The difficulty of classes variable is measured on a five-point scale: 1 = very large problem to 5 = not a problem. The enjoyment of challenging class assignments variable is measured on a seven-point scale: 1 = strongly disagree to 7 = strongly agree
Views: confident and determined	A composite measure of nine variables that measure students' views on their educational achievement (expectation to do well and earn good grades; importance of understanding what is taught; always complete homework assignments; continue to try despite frustration by task; importance of finishing courses; determined to reach goals; satisfaction with hard work and achievement; belief that success is due to effort; confidence in learning all skills taught). The nine variables are measured on a seven-point scale: 1 = strongly disagree to 7 = strongly agree

APPENDIX A. (Continued)

College Activities

Time spent on campus

Ranges from 1 = 0 h to 9 = 46 h or more in past 7 days

Study with others

A composite measure of five variables that measure students interaction with other students (study with students from specific course; study with students from other courses; help another student understand homework, study in small groups outside of class; telephone or e-mail another student to ask academic questions) within the past 7 days. The studying with students from specific and other course variables are measured on a nine-point scale: 1 = 0 h to 9 = 46 h or more. The other variables were measured on a six-point scale: 1 = 0 times to 6 = 5 times or more

Speak with academic counselor

Six-point scale: 1 = 0 times to 6 = 5 times or more in past 7 days

Study alone

A composite measure of two variables that measure amount of time students study alone (study alone at home; study alone in the college library). The two variables were measured separately on a nine-point scale: 1 = 0 h to 9 = 46 h or more

Attitudes and Perceptions

Obstacles in college

A composite measure of six variables that assess different obstacles students perceive (parking; transportation; family responsibilities; job-related responsibilities; financing college; scheduling classes for next semester). The six variables were measured separately on a five-point scale: 1 = not a problem to 5 = very large problem

View: teachers offer encouragement

Seven-point scale: 1 = strongly disagree to 7 = strongly agree

View: things are harder because of my race or ethnicity

Seven-point scale: 1 = strongly disagree to 7 = strongly agree

APPENDIX B. Descriptive Statistics of Variables used in Regression Analysis

Aggregate Sample (<i>n</i> = 2700)	Mean	Standard Deviation
<i>Dependent Variable</i>		
Faculty–student interaction	5.2	0.26
<i>Background Traits</i>		
Gender: female	1.6	0.49
Age	6.2	1.6
Average high school GPA	5.5	1.8
Highest parental education	2.7	1.4
Foreign Schooling	1.2	0.37
Reason for attending college: outside influences	14	6.8
Reason for attending college: something to do	4.9	3.1
Reason for attending college: practical	39.9	9.6
Reason for attending college: distance	9.1	3.5
<i>Academic Self-confidence</i>		
Positive attitudes towards school	9.1	1.9
Views: determined and confident	55.4	5.8
<i>College Activities</i>		
Attended: orientation at this College	1.5	0.50
Time spent on campus	5.3	1.5
Study with others	8.8	4.1
Speak with academic counselor	1.4	0.96
Study alone	6.3	2.3
<i>Attitudes And Perceptions</i>		
Obstacles in college	12.3	4.6
Teachers encourage me in my studies	5.1	1.6
Sense of belonging at this college	5.0	1.5
Views: things are harder because of race/ethnicity	2.8	1.9

APPENDIX C. Correlation Matrix for Variables Entered in Regression Analyses

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Faculty-student interaction	1.0	-0.07	0.10	0.05	0.07	-0.03	0.06	0.03	0.11	-0.01	0.22	0.22	0.08	0.16	0.44	0.38	0.27	0.03	0.25	0.11	0.04
2. Gender: female		1.0	0.07	0.15	-0.05	0.03	-0.04	-0.06	0.09	0.05	0.03	0.13	0.05	-0.04	0.03	0.06	0.03	0	0.04	0.06	-0.02
3. Age			1.0	0.01	-0.08	0.22	-0.09	0.07	0.14	0.14	0.22	0.15	0.05	-0.12	-0.06	0.04	0.10	0.04	0.21	0.22	0.06
4. HSGPA				1.0	0.10	0.25	0	0.01	0.01	0.01	0.15	0.15	0	0.11	0.11	0.06	0.15	0.04	0.05	-0.04	0.09
5. Highest parental education					1.0	0.09	-0.08	-0.09	-0.11	-0.06	0.01	-0.01	-0.08	0.08	0.01	-0.03	0.01	-0.06	0	-0.10	-0.06
6. Foreign schooling						1.0	0.09	0.17	0.05	0.01	0.07	0	-0.04	0.07	0.05	0.05	0.22	0.06	0.10	0.02	0.21
7. Reason for college: outside influence							1.0	0.50	0.45	0.20	-0.05	-0.02	0.05	-0.06	0.21	0.19	0.07	0.08	0.09	0.13	0.20
8. Reason for college: something to do								1.0	0.30	0.14	-0.06	-0.10	0.02	-0.05	0.10	0.14	0.09	0.13	0.03	0.05	0.25
9. Reason for college: practical									1.0	0.34	0.07	0.20	0.16	-0.04	0.15	0.14	0.09	0.08	0.18	0.28	0.12
10. Reason for college: distance										1.0	0.02	0.07	0.06	-0.04	0.01	0.01	-0.01	0.11	0.07	0.11	0.03
11. Positive attitudes toward school											1.0	0.43	0.04	0.01	0.12	0.08	0.16	-0.23	0.38	0.16	-0.06
12. Views: confident and determined												1.0	0.09	0.08	0.14	0.10	0.23	-0.06	0.28	0.31	-0.06

APPENDIX C. (Continued)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
13. Attended orientation												1.0	0.05	0.09	0.11	0.07	0	0.07	0.14	0.01	
14. Time spent on campus												1.0	0.18	-0.01	0.31	0.02	0.06	0.04	0.02		
15. Study with others										1.0											
16. Speak with academic counselor														1.0	0.36	0.35	0.08	0.15	0.08	0.09	
17. Study alone														1.0	0.18	0.05	0.11	0.08	0.13		
18. Obstacles in college														1.0	0.04	0.15	0.10	0.10			
19. Teacher encouragement in studies														1.0	-0.09	-0.05	0.17				
20. Sense of belonging															1.0	0.30	0.01				
21. Views: personal racial difficulties																1.0	0.03				
																	1.0				

Note. Shaded figures are significant at $p \leq 0.01$.

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